Winter 2023

Regional Water Resources Plan

South East

Strategic Environmental Assessment

Environmental Statement

Tionscadal Éireann Project Ireland 2040

Data disclaimer: This document uses best available data at time of writing. 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. In December 2022, the Water Services (Amendment) (No. 2) Act, 2022 was signed into law. This act provides that, from the 31 December 2022, Irish Water will only be known as Uisce Éireann. It also provides that, from that date, all references in any enactment, legal proceedings or other document to Irish Water shall be construed as references to Uisce Éireann only. The SEA Environmental Report and Appendices reflect this transition from Irish Water to Uisce Éireann.

Baseline data included in the RWRP-SE has been incorporated from numerous sources including but not limited to; National Planning Framework, Central Statistics Office, Regional Spatial and Economic Strategies, Local Authority data sets, Regional Assembly data sets and Uisce Éireann data sets. Data sources are detailed in the relevant sections of the RWRP-SE. The year 2019 was selected as the base year to align with the planning period (2019-2025) of the NWRP.

Limitation: This report has been prepared on behalf of, and for the exclusive use of Jacobs' Client (Uisce Éireann), and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

Table of Contents

1 Introduction and Background

1 Introduction and Background

1.1 Context

1.1.1 What is the National Water Resources Plan?

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.

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

Uisce Éireann'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 Uisce Éireann to integrate Government Policy, Legislation and external factors that have the potential to impact Uisce Éireann supplies into the planning and operation of its existing and future supply asset base.

The objective of a 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 Uisce Éireann to address needs across our water supplies in the most effective way over time, by identifying and in turn, prioritising what needs to be included in regulated investment cycles;
- 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 in other jurisdictions. Uisce Éireann knows things will change over the next 25 years so within the NWRP it has considered a range of possible futures, some more challenging than others. This approach is called adaptive planning and means Uisce Éireann is ready and flexible whatever the future holds and will formally update the NWRP every 5 years.

1.1.2 Development of the National Water Resources Plan

The National Water Resources Plan is being delivered in two phases, the first phase was the Framework Plan (Phase 1 of the NWRP) which included:

- A description of the methodology Uisce Éireann propose to use for Water Resources Planning:
- How Uisce Éireann assess quantity need through the Supply Demand Balance;
- How Uisce Éireann assess quality and reliability need through Uisce Éireann's Water Quality Risk Assessment - "The Barrier Assessment";
- How Uisce Éireann addresses Sustainability by ensuring that all new options for water supply must be based on conservative approaches to protecting water sources;
- Uisce Éireann Options Assessment Process;
- Uisce Éireann Preferred Approach Development Process; and
- An assessment of Need across Uisce Éireann asset base in terms of Quality, Quantity, Reliability and Sustainability for all of their supplies nationally.

The Framework Plan has been subject to SEA and AA processes and public consultation as required under the relevant regulations. The NWRP Framework Plan was adopted in Spring 2021 and the Plan, along with the SEA Statement and AA Determination, is available on https://www.water.ie/projects/strategic-plans/national-water-resources/

The Framework Plan focused on setting out the methodology to be applied through the Phase 2 Regional Plans. In order to manage the delivery of Phase 2, the public water supply is divided into four regional groupings. Each regional grouping has its own Regional Plan, which will apply the Options Assessment Methodology provided 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. The Regional Plans were each subject to a separate SEA and Appropriate Assessment (AA) process and public consultation. The first Regional Plan, Eastern Midlands, was adopted in September 2022, the Regional Plan for the South West was adopted in February 2023 and the Regional Plan for the North West was adopted in July 2023. The RWRP for the South East region, which this SEA Statement addresses, is the final region for the Phase 2 NWRP and has been consulted on and is expected to be adopted in Winter 2023.

1.1.3 Phase 2: RWRP-SE

The Regional Plan for the South East (RWRP-SE) is the fourth of the four regional plans to be taken forward. This plan was developed based on the methodology presented and consulted on in the Framework Plan. The draft RWRP-SE has been subject to SEA and AA processes and public consultation. In response to the assessments and consultation comments, the final RWRP-SE has been produced and is available from https://www.water.ie/projects/strategic-plans/national-water-resources/rwrp/ along with the consultation report identifying the comments made and responses to these comments.

1.2 The SEA and Phase 2 Regional Plan Process

Figure 1.1 sets the process for development of the NWRP Phases 1 and 2. This document is the SEA Statement for the Phase 2 South East Regional Water Resources Plan following the public consultation process and the finalisation and adoption of the plan.

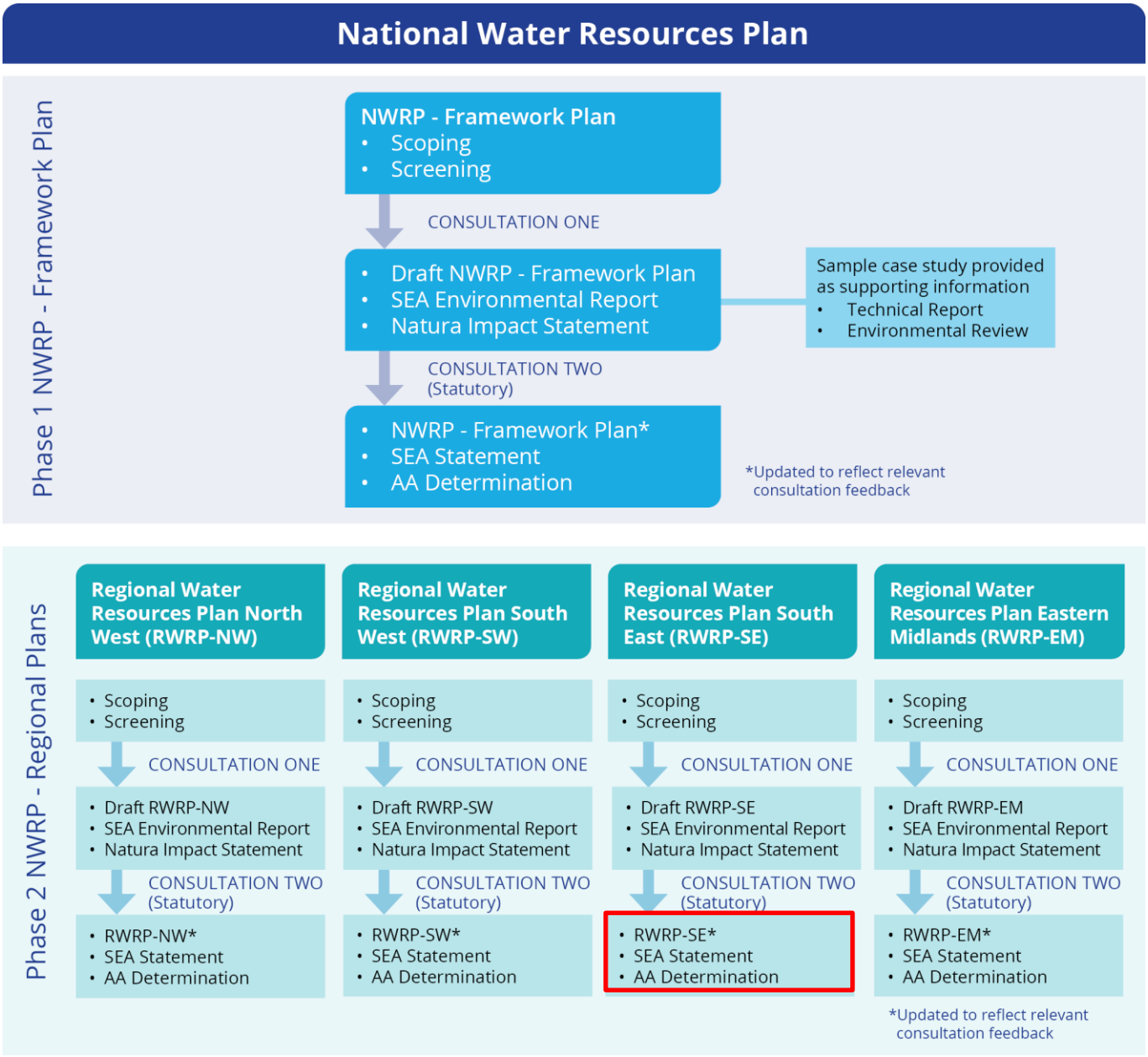

Figure 1.1 Components of the National Water Resources Plan

1.3 Purpose of this Post-Adoption Statement

The purpose of this Post-Adoption Statement, in accordance with Article 16 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) (as amended) (the "SEA Regulations") is to document how environmental considerations, the views of the consultees and the recommendations of the SEA Environmental Report have been taken into account in the final RWRP-SE. Therefore, this statement includes the following information in line with the Regulations:

- How the submissions and observations expressed in response to the consultation on the draft RWRP-SE and the SEA Environmental Report have been taken into account (chapter 3);
- How potential for transboundary impacts have been considered (chapter 4);
- How environmental considerations and the SEA Environmental Report's recommendations have been integrated into the final RWRP-SE (chapter 4);
- The reasons for choosing the final RWRP-SE as adopted, in light of the other reasonable alternatives dealt with (also in chapter 4); and

- The measures that are to be taken to monitor the significant environmental effects of the implementation of the RWRP-SE (chapter 5).

1.4 Strategic Environmental Assessment

1.4.1 This Report

This is the SEA Environmental Statement which has been prepared to document the environmental assessment of the Regional Plan. This report has been prepared having regard to the SEA Directive (2001/42/EC) and its provisions that are transposed into Irish law by the SEA Regulations. This SEA Environmental Statement will be published alongside the adopted Regional Plan and notice given in accordance with Article 16 of the SEA Regulations.

1.4.2 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 SEA Directive is applicable to the Framework Plan and each of the Regional Plans of the NWRP.

In accordance with the overall objective of the SEA Directive as set out in Article 1, 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/EEC[1]."

1.4.3 The Strategic Environmental Assessment Process

The purpose of SEA is to enable plan-making authorities such as Uisce Éireann 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 for each stage of the SEA process for the Regional Plan for the South East is summarised in Table 1.1.

[1] Replaced by 2011/92/EU as amended by 2014/52/EU

Table 1.1 Stages of the SEA for the South East Regional Plan

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 an SEA.	SEA Screening Statement – Uisce Éireann (as the responsible authority) determined that SEA was required for the NWRP when screening was carried out in August 2017 and was also included with the RWRP-SE SEA Scoping Report.
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 set the geographical and temporal scope of the Regional Plan and SEA, the baseline environment, and a proposed framework of SEA objectives to inform the Stage 3 assessment. Formal statutory consultation was carried out between the 22nd November 2022 and the 20th December 2022.
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 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 Regional Plan). Consultation took place alongside the Regional Plan consultation from the 11th July 2023 to the 3rd October 2023.
Stage 4: Consultation, Revision and Post-Adoption	Consultation with statutory consultees and the public. This may require changes to the Regional Plan and SEA Environmental Report in light of responses. Implementation of the monitoring plan.	This stage follows on from Stage 3 and involves responding to the consultation comments and incorporating into the Regional Plan, finalisation of the plan and publication of the Post-Adoption SEA Statement. **Current Stage in the SEA Process**

1.4.4 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) and the Birds Directive (79/409/EEC). The Habitats Directive and the Birds 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) (as amended) (the "Habitat Regulations"). 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 the “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 Habitat Regulations; and as a “competent authority”, Uisce Éireann must ensure that the NWRP meets these requirements.

The Regional Plan is not directly connected with or necessary for the management of European sites. The screening for AA (Stage 1) concluded that there was potential for significant effects on one or more European sites to occur as a result of the Regional Plan. Therefore, in accordance with Article 6(3) of the Habitats Directive, AA (Stage 2) of the Regional Plan was required. The AA screening focused on the potential for significant effects on European sites that may arise due to the implementation of the Regional Plan. A Natura Impact Statement (NIS) has been prepared and was published for consultation alongside the SEA Environmental Report (and was subsequently amended in response to submissions received during the consultation process); however, the SEA and AA processes are clearly distinguished.

2 Overview of the South East Region

2 Overview of the South East Region

Uisce Éireann is planning to develop a national programme of proposed solutions for reducing and eliminating the SDB deficits in its WRZs, meet water quality requirements and bring greater resilience to the water supply network. The aim of the programme is based around the following three pillars, as shown in Figure 2.1.

- **Lose Less:** reducing water lost to the system through leakage;
- **Use Less:** reducing water use through efficiency measures; and
- **Supply Smarter:** improving the quality, resilience and security of Uisce Éireann's supply through infrastructure improvements.

Figure 2.1 Three Pillar Approach to Reduce or Eliminate the SDB Deficits

Together these pillars will enable Uisce Éireann to optimise their capital and operational interventions to achieve the best outcomes and react to emerging issues.

There are 539 WRZs in Ireland. Due to their number, Uisce Éireann are having to deliver the Regional Plans (and associated environmental assessments) on a phased basis and have split the country into the four regional groups shown in Figure 2.2.

The South East Region was selected as the fourth regional group to be assessed as part of the NWRP. Three regional plans, the RWRP for the Eastern and Midlands region, the RWRP for the South West region and the RWRP for the North West region have been taken through the assessment and consultation process and have been finalised and adopted.

Further information on the "three pillars" is detailed in section 5 of the RWRP-SE.

2.1 South East Region

There are 143 Water Treatment Plants (WTPs) in the South East Region, which collectively serve over 369,237 people or 18% of the population of Ireland, via approximately 6,321 kilometres of distribution network. The size of these WTPs varies, with the largest two in the region producing on average 47% of the water supplied and the remaining 141 producing on average about 53% or 85 Ml/d of the total supply.

The WTPs feed water into supply areas known as Water Resources Zones (WRZs). Each WRZ is an independent water supply system serving a region, city, town or village and is governed by topography or the extent of the water distribution network in an area. Within a WRZ most customers receive the

same Level of Service (LoS), measured as a probability of interruption to services (for example one interruption to the supply in 50 years).

The RWRP-SE summarises key issues that impact the quality, sustainability and reliability of our existing water supplies, in this region, including:

- Levels of Service
- Treatment Capacity;
- Water Quality;
- Network Performance;
- Abstractions potentially at risk of exceeding sustainable abstraction thresholds and;
- Constrained Funding.

In addition, Uisce Éireann also face key challenges over the coming years, which have the potential to exacerbate the current problems in the region, including:

- A growing population;
- A changing climate;
- Changes in land use and emerging contaminants;
- Legislative changes; and
- An Environment in Need.

Addressing these challenges as part of the overall NWRP, ensures that future infrastructure development is proportionate to the identified need and is sustainable, reliable and resilient.

2.2 South East Study Areas

The South East Region is further subdivided into three study areas (SAs) based on Water Framework Directive (WFD) catchment and WRZ boundaries within the region, as shown in Figure 2.2.

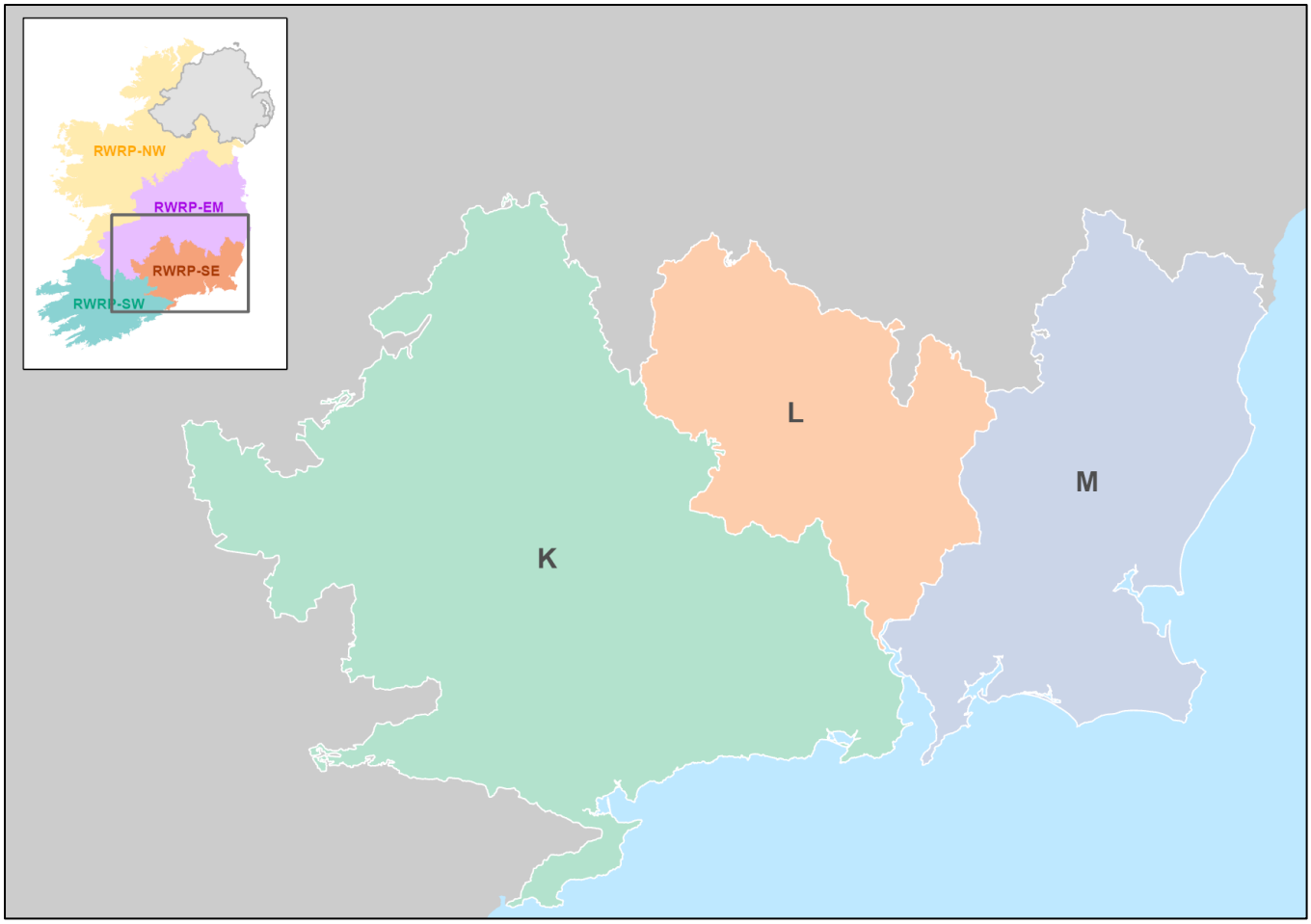

Figure 2.2 South East Region Study Areas

An overview of the three South East SAs is provided in Table 2.1.

Table 2.1 Overview of the South East Study Areas

Study Area	Description
SAK	Study Area K lies within the counties of Kilkenny, Limerick, Tipperary and Waterford, Laois, Wexford, and Cork, and its total area is approximately 5,056km^2. There are three principal settlements (with a population of over 10,000) within SAK. The largest settlement is Waterford City and suburbs, with a population of 53,504 (CSO, 2016).
SAL	Study Area L lies within the counties of Carlow, Kilkenny, Laois, Tipperary and Wexford and its total area is approximately 1,699km^2. There is one principal settlement (with a population of over 10,000) within SAL. The largest settlement is Kilkenny, with a population of 26,512 (CSO, 2016).
SAM	Study Area M lies within the counties of Carlow, Wexford and Wicklow and its total area is approximately 2,420 km^2. There are two principal settlements (with a population of over 10,000) within SAM. The largest settlement is Wexford, with a population of 20,188 (CSO, 2016).

3

How Consultation Responses were taken into Account

3 How the SEA Environmental Report and Consultation Comments were taken into Account

3.1 Purpose of Consultation and Engagement

Public consultation and stakeholder engagement is a key element in ensuring stakeholders and members of the public have an opportunity to contribute to the development of plans and projects in Ireland. Uisce Éireann is undertaking an accessible, meaningful, and accountable consultation and engagement process with stakeholders and members of the public throughout the development of the NWRP including the Regional Water Resource Plans. RWRP South East Public Consultation Roadmap is presented in Figure 3.1.

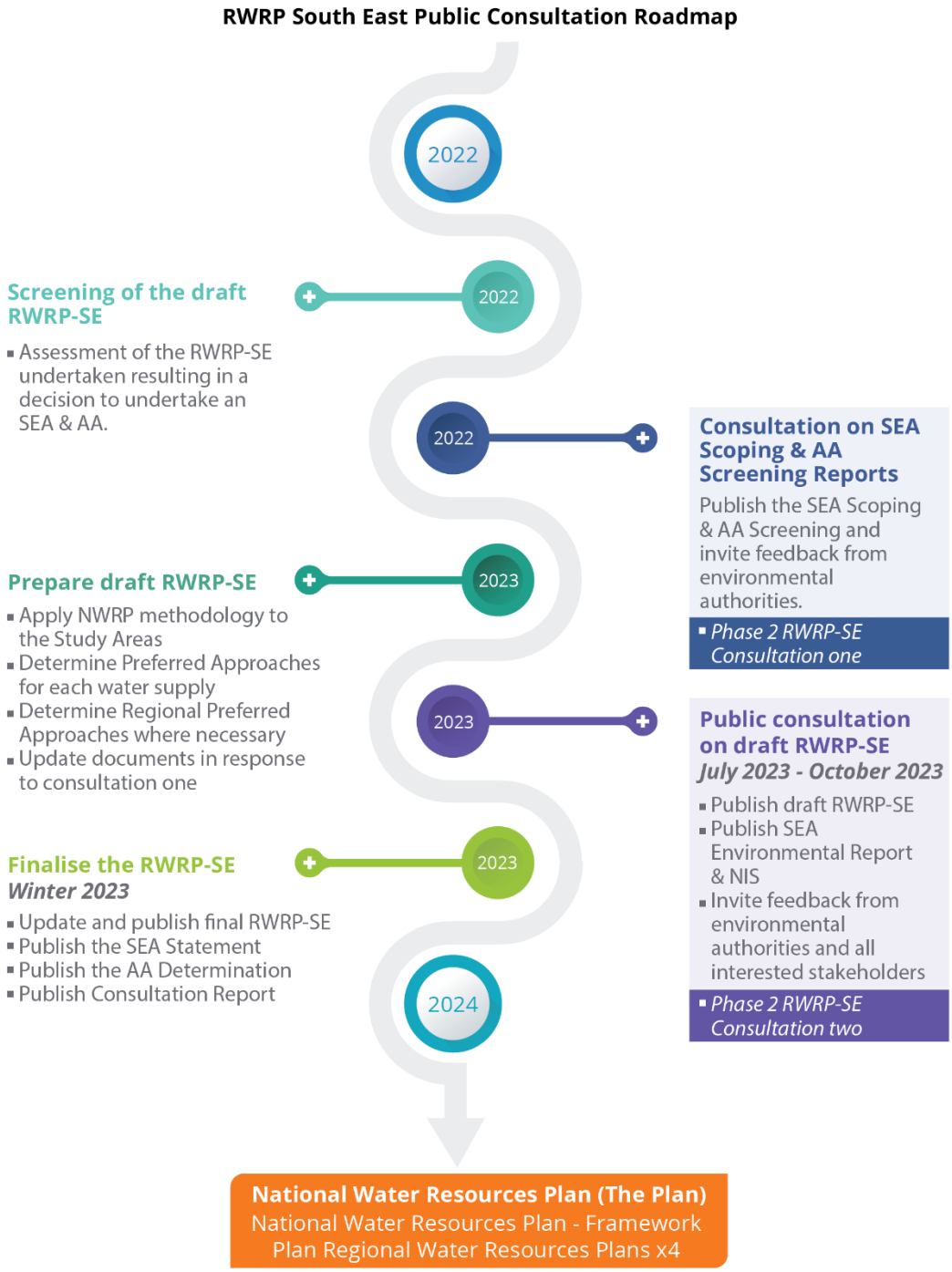

Figure 3.1 RWRP South East Public Consultation Roadmap

3.2 RWRP-SE Consultation

The RWRP-SE has been developed by applying the methodology from the adopted Framework Plan and SEA, taking account of the consultation received through that process so there is a closely linked although a separate formal process followed for each Regional Plan.

3.2.1 Consultation 1: Scoping Stage

A SEA scoping report was consulted on in-line with Article 9(5) of the SEA Regulations and was issued to the following authorities in November 2022:

- The Environmental Protection Agency (EPA);
- Department of Housing, Local Government and Heritage (DHLGH) - Development Applications Unit (DAU);
- The Department of Agriculture, Food and the Marine (DAFM);
- Department of the Environment, Climate and Communications (DECC); and
- For transboundary consultation, Northern Ireland's Department of Agriculture, Environment and Rural Affairs (DAERA).

The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTCAGSM) is no longer an environmental authority for the purposes of the SEA Regulations, as the relevant functions have transferred to the Minister for Housing, Local Government and Heritage. However, Uisce Éireann have updated the DTCAGSM as an interested body during consultation.

This SEA Scoping Report is available online at the following website: https://www.water.ie/nwrp.

The scoping consultation closed on the 20th December 2022 and comments received have been considered. The main themes from the comments received were:

- Need to consider Ireland's State of the Environment Report 2020 (SOER2020) including chapter 7 and water quality in the identification of deficiencies and needs in relation to water supply;
- Fisheries and marine environment – recognition of the impacts related to desalinisation options on fisheries and the marine environment;
- Identification of recently published or forthcoming policy, legislation, and other data sources, and consideration into aligning the RWRP with other key planning documents and strategies;
- Drinking water – recognition of the importance of raw water quality for the environment and reducing treatment and risk to supply; and
- Transboundary environment - a need for consideration of specific impacts relating to the transboundary environment, and whether there will be a significant impact

Comments received on the SEA scoping report were considered within the SEA Environmental Report (see Appendix G of the Environmental Report available at https://www.water.ie/projects/strategic-plans/national-water-resources/rwrp/).

4 How the SEA has Influenced the Regional Plan

4 How the SEA has Influenced the Regional Plan

4.1 SEA Process and Integration with Plan Development

The purpose of SEA is to enable plan-making authorities such as Uisce Éireann to incorporate environmental considerations into decision-making at an early stage and in an integrated way throughout the plan-making process. Figure 4.1 sets out how the SEA processes have been integrated into development of the Regional Plan. The objective of the SEA process is to ensure that environmental objectives and sustainability principles are integrated into the preparation of the Regional Plan as well as providing an overall assessment of the RWRP-SE's proposals. The approach to the SEA has aimed to:

- Contribute to the development of a preferred plan taking account of the full range of environmental protection and enhancement policy and regulatory requirements so that the plan provides a framework for meeting supply requirements while minimising environmental impacts;
- Embed principles governing sustainable abstraction, so the objectives of the RBMP and Uisce Éireann's biodiversity obligations can be achieved;
- Provide weight to the need to consider long term environmental resilience in water resource planning taking into account climate change; and
- Integrate environmental protection, enhancement and sustainability objectives into the plan implementation including the options assessment methodology to be applied through the Regional Plans.

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) and transposing legislation. 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 SAC or SPA), also referred to as the "Natura 2000" Network), either alone or in combination with other schemes, plans or projects, then it must be subject to AA. Figure 4.1 also shows how the development of the Framework Plan and the SEA of the Regional Plan was integrated with Stage 1 and Stage 2 of the AA process.

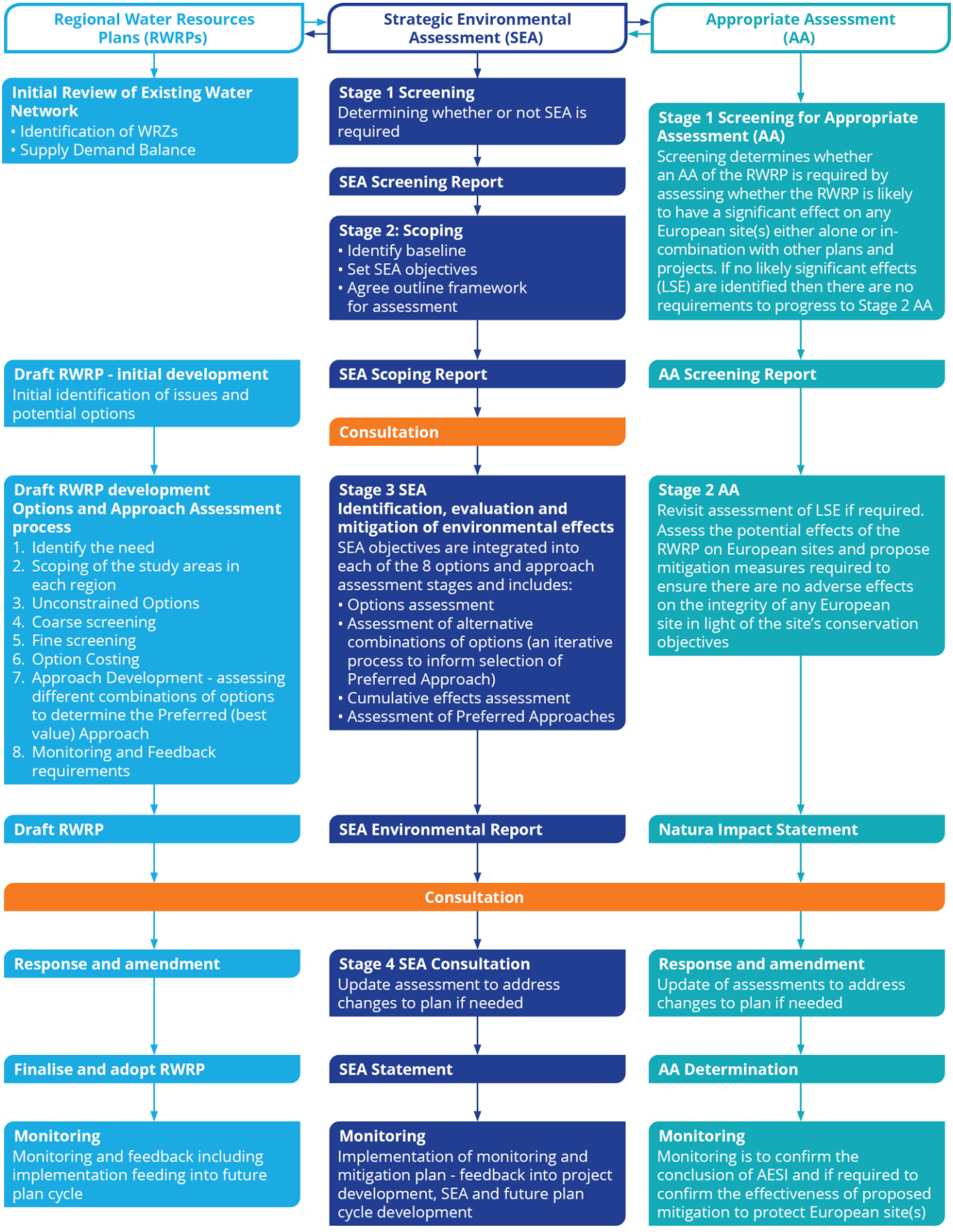

Figure 4.1 Regional Plan and Strategic Environmental Assessment Process

4.1.1 Consultation 2: Draft RWRP-SE and Environmental Report

Consultation 2 (statutory public consultation) took place between 11th July 2023 and 3rd October 2023.

The draft RWRP-SE and the SEA Environmental Report were published on the Uisce Éireann website alongside the NIS. The Environmental Report outlined the strategic environmental assessment of the draft RWRP-SE, including effects on the environment and proposed mitigation and monitoring proposals.

In accordance with Article 11 of the SEA Regulations, SEA environmental authorities, as well as any relevant transboundary authorities (for example, Northern Ireland Environmental Agency), were notified so that they could make a submission or observation in relation to the SEA Environmental Report or the draft RWRP-SE and NIS to Uisce Éireann. Various communications tools were used in addition to this to promote the consultation and raise awareness and participation from the public and interested parties (see section 4 of the Phase 2 RWRP-SE Post Consultation Report (Uisce Éireann, 2023a) for further details).

Responses to the consultation comments are set out in the RWRP-SE Post Consultation Report (Uisce Éireann, 2023a). A summary of comments and responses relevant to the SEA are set out in section 4.3.3 of this report. In addition, the SEA Environmental Report has been updated to account for amendments to the RWRP-SE and submissions received during consultation.

4.2 SEA and the Regional Plan Development

The Framework Plan includes an eight stage options and approach assessment methodology (see Figure 4.2) that is being used for option development, approach comparison and preferred approach selection during development of the four Regional Plans. This approach has been applied for the development of the RWRP-SE. The options and approach assessment methodology aligns with the seven standard steps set out in the Department of Public Expenditure and Reform (2019) guidance document "*Public Spending Code: A Guide to Evaluating, Planning and Managing Current Expenditure*".

The methodology is focused on ensuring that Uisce Éireann promote solutions that are resilient, environmentally sustainable, and flexible to the changing environment and demands. It is based around the five following criteria:

- Resilience;
- Deliverability and Flexibility;
- Progressibility;
- Sustainability (Environmental and Social Impacts); and
- Cost.

Figure 4.2 outlines how SEA requirements are integrated into each stage of this process, with further detail provided in Table 4.1. The SEA objectives identified at the scoping stage of the SEA process for each of the ten environmental topic area scoped in for assessment (as shown in Table 4.1) are used as a basis for assessing the beneficial and adverse impacts on the environment at all stages of the options and approach development process.

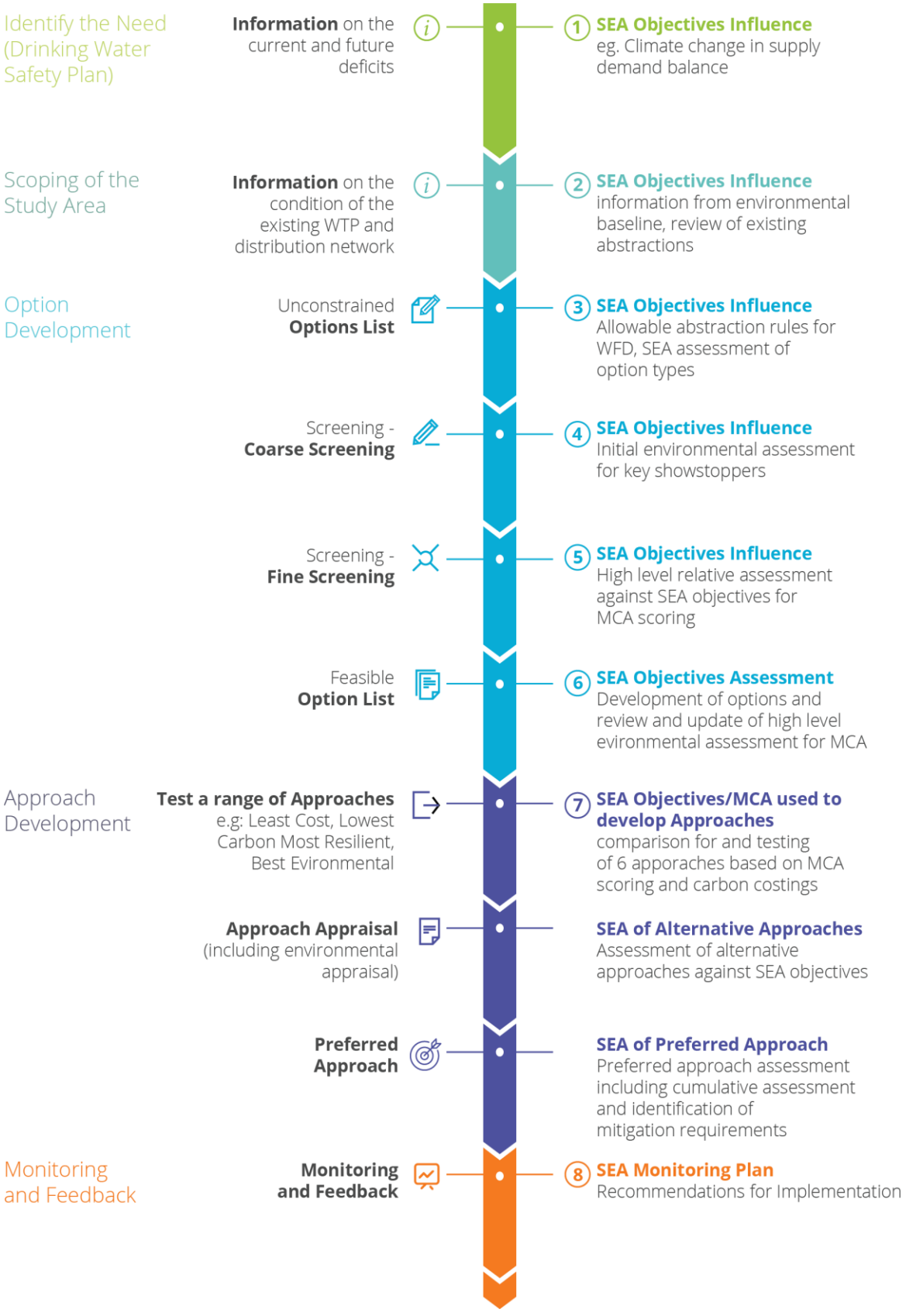

Figure 4.2 Option and Approach Development Process

Table 4.1 SEA Requirements Implemented Through Options and Approach Assessment Methodology

Stage (and brief description of process)	SEA considerations and requirements for each stage
Stage 1: Identify the need Identification of public water supply needs (quality and quantity) based on Supply and Demand Balance (SBD) and/or Drinking Water Safety Plan Barrier Assessment	Environmental aspects considered related to SEA objectives include: 1. Climate change affecting future water supply; and 2. Public health requirements for access to good quality drinking water.
Stage 2: Scoping of the Study Area Understanding the study area and condition of existing assets, and consideration of sustainability of existing abstractions.	Consideration of environmental constraints and opportunities as part of this needs study and to link to other initiatives and ongoing projects, such as the climate sensitive catchments, drinking water quality assessments and WTP residuals disposal management.
Stage 3: Unconstrained options Production of list of unconstrained options (possible solutions which partly of fully resolve a water supply deficit) by generic options types. Options could be at WRZ, Study Area, Regional and Inter-Regional level.	High level consideration of abstraction sustainability in relation to identifying level of theoretical allowable abstraction (related to SEA objective on water) for new abstraction. WFD water body status and objectives are taken into account through a review of existing abstractions and in the identification of new options. This is applied as a rule so that new options can meet theoretical allowable abstraction criteria.
Stage 4: Coarse screening Coarse Screening of the unconstrained options is undertaken to eliminate options that have fundamental issues meaning they are unlikely to ever be delivered.	Removal of options which are clearly likely to conflict with SEA objectives and expected to be difficult to mitigate through coarse screening. This is supportive of the SEA objectives and the environmental reasons for removing options will be clearly recorded.
Stage 5: Fine Screening An analysis of the Constrained Options against a range of detailed criteria, through a process known as Multi-Criteria Analysis (MCA). The objective of the MCA and the fine screening process is to determine the potential benefits and impacts of the options across a range of key criteria to identify any additional options that should be removed and to compare the options.	The SEA topics and objectives are the basis for identifying key questions and developing the criteria for the environmental assessment and for scoring of options in the fine screening and multi-criteria analysis (MCA). The MCA is then used in the comparison of options and option combinations in Stage 7.

Stage (and brief description of process)	SEA considerations and requirements for each stage
Stage 6: Feasible Options List – Option Costing Production of an outline design and estimated cost for each option on the list. Environmental and social valuation of option undertaken to feed into approach appraisal process. Removal of worst performing options where there are large numbers of constrained options, or removal of unfeasible/unsustainable/unviable options where limited constrained options are available	Environmental performance against the SEA objectives is reflected in the MCA scoring against environmental criteria and these are reviewed and updated to reflect the option dossier information following outline design and to follow scoring rules. The environmental MCA criteria are based on the SEA objectives from the SEA Scoping Report and as consulted on with environmental stakeholders. Some criteria/screening questions may be more relevant to some options types than others. Habitats Directive considerations have been integrated into the Options Assessment Methodology at a number of points to ensure both robust assessment and protection are integrated into the plan. In particular, this is demonstrated through the MCA/fine screening scoring for the European sites and through the consideration of mitigation measures to avoid adverse effects that have been identified in the Framework Plan AA process.
Stage 7: Approach development Feasible Options are assessed individually or as option combinations forming different potential approaches to identify the preferred option or combination of options to meet the need for each WRZ, Study Area and Regional Group area. Options are identified for: 1. Least Cost; 2. Best Appropriate Assessment (Best AA) sub-criteria; 3. Quickest Delivery; 4. Best Environmental; 5. Most Resilient; and 6. Lowest Carbon.	Approach development included consideration of three approaches providing focus on different environmental topics, Best AA, Best Environment and Lowest Carbon The Best AA approach gives maximum consideration to the Options with no potential for impacts on European Designated (no Likely Significant Effects or LSEs) sites or Options with LSEs that can be addressed with general/standard mitigation measures at the project level. It puts avoidance of impacts on European sites at the forefront taking account of the fact that Options with a high likelihood of significant effects which could lead to adverse effects on a European Site have already been removed at Coarse Screening stage. This can equally be described as giving maximum consideration to the Options with the Least Impact on European Sites

Stage (and brief description of process)	SEA considerations and requirements for each stage
	Best Environment - for each option or combination of options, the MCA includes assessment across all SEA objectives and sub-criteria, using the sum of positive scores and the sum of negative scores separately and avoiding combining positive and negative scores. The scoring is also reviewed against: • Individual criteria to identify where high negative or positive scores indicate potential for significant adverse or beneficial effects (for example the number of -3 scores); and • How the assessment reflects important differences between options focusing on where these related to potential operational or long-term effects and also the range of difference in the scoring. This provides a basis for comparing each option and the option combinations on a relative performance basis. The potential approaches are also assessed in terms of overall performance against the SEA objectives against a do minimum scenario. Lowest carbon - for each option carbon emissions are calculated for embodied carbon as one-off costs and annual operational carbon and these are monetized to give a scheme NPV cost. Preferred approaches are further assessed against the objectives based and subject to cumulative effects assessments which is fed back into the decision-making process where significant cumulative effects are identified. SEA performance is assessed at each stage in the process to alternative options and approach combinations at the following levels: • WRZ; • Study Area level including cumulative effects assessment; • Regional level including cumulative effects assessment; and

Stage (and brief description of process)	SEA considerations and requirements for each stage
	• Inter-regional level – the final step will be to assess any inter-regional options and potential cumulative or in combination effects and determine if any adjustment is required (this will be addressed based on the Regional Plans under development where information and will be updated as needed for each of the Regional Plans in turn).
Stage 8: Monitoring and feedback This stage allows for ongoing data improvement to feed into updates to the Regional Plans and a commitment for the results from implementing the Monitoring Plan and Environmental Action Plan (EAP) to be taken into account within the plan period and in the preparation of the next plan cycle.	This SEA Statement provides a two stage Monitoring Plan (Part 1 for plan level and Part 2 as a framework for project level monitoring) and an Environmental Action Plan. These plans provide a framework for identifying significant effects as the Framework Plan is implemented through the Regional Plans and sets out recommendations for mitigation in the EAP – these have been updated to take account of consultation comments.

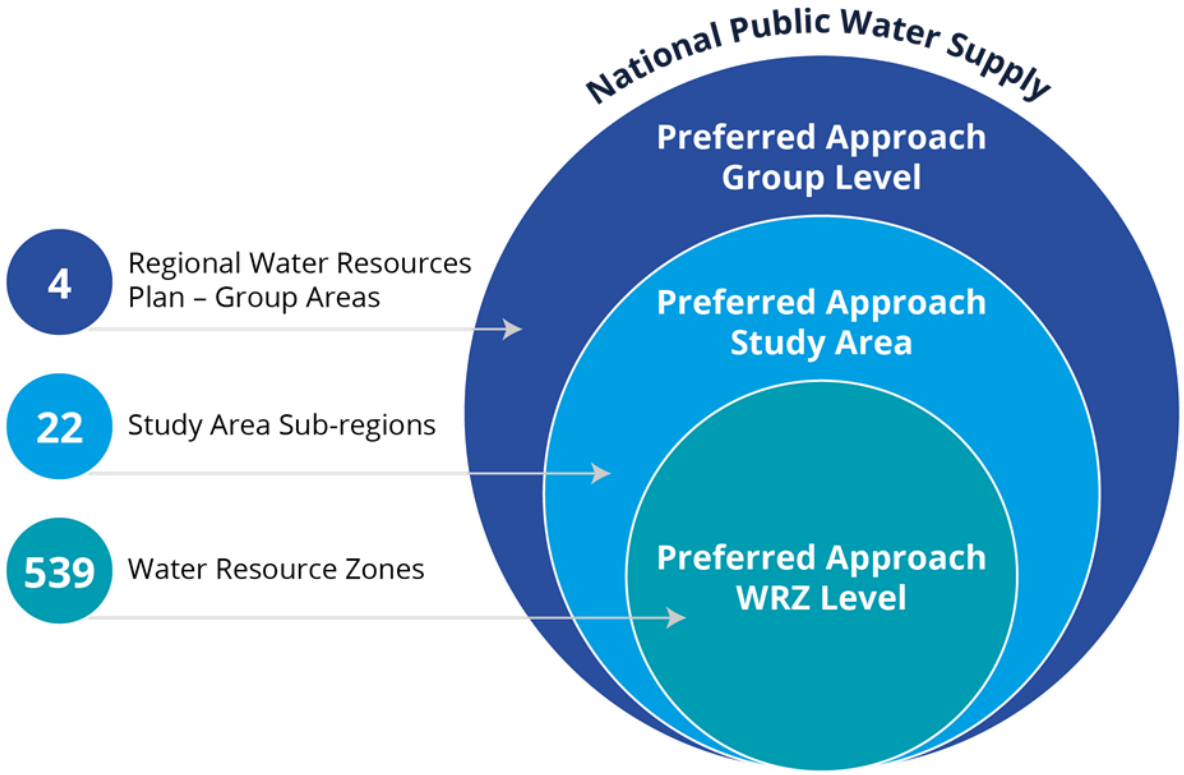

Figure 4.3 National Water Resources Plan Spatial Scale of Assessment

1. **Option Level Assessment**: All feasible options have been assessed as part of the MCA and scored against the SEA objectives (Table 6.1 in the RWRP-SE SEA) and sub-criteria using the scoring guide (Appendix B in the RWRP-SE SEA). These are used to inform the selection of options and the approach comparisons. All feasible options are assessed as part of the MCA and scored against SEA objectives. This is a high-level assessment undertaken for each feasible option. The feasible options assessment information is fed into the approach workshop process.

   SEA option assessment summaries, which will record assessment against SEA objectives using a matrix-based approach, are undertaken for all Preferred Approach options for each Study Area and also for any regional level preferred options or alternatives. The nature of effects (temporary, permanent, short term or long term), significance of effects and level of certainty in assessment outcomes will be recorded as shown in Table 6.9 of the RWRP-SE SEA. The significance of effect is determined in accordance with Table 6.10 of the RWRP-SE SEA 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.

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 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.

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. 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-SE.

6. **Inter-Regional Level Assessment**: In addition to assessing combined effects from options across all the Study Areas within the Preferred Approaches in a region/group area, the Regional Plans will need to consider potential for:

    - Inter-regional options such as transfers between regions. These will be part of alternative approaches under consideration in Regional Plans;
    - Cumulative effects between regional Preferred Approaches; and
    - Inter-regional options, these will need to be identified as the Regional Plans are prepared and will be addressed through the assessment of alternative approaches.

    Where Regional Plans are prepared in parallel cumulative effects of the Preferred Approaches can be considered together but where the Regional Plans are prepared sequentially, cumulative effects will need to be addressed for any preceding plans and reported in the SEA Environmental Report.

    The RWRP-SE as the fourth Regional Plan, will consider cumulative effects with the Eastern and Midlands Regional Plan, South West Regional Plan and North West Regional Plan.

During the Study Area level assessment process, the Feasible Options were compared to see whether any SA or Regional Options were available to meet the need across multiple WRZs. The Approach development process is designed to determine the “Best Value” approach to meet the need and this is then identified as the Preferred Approach (Figure 4.4). Best value is identified as the approach that provides the best performance overall, balancing across the range of NWRP and SEA objectives.

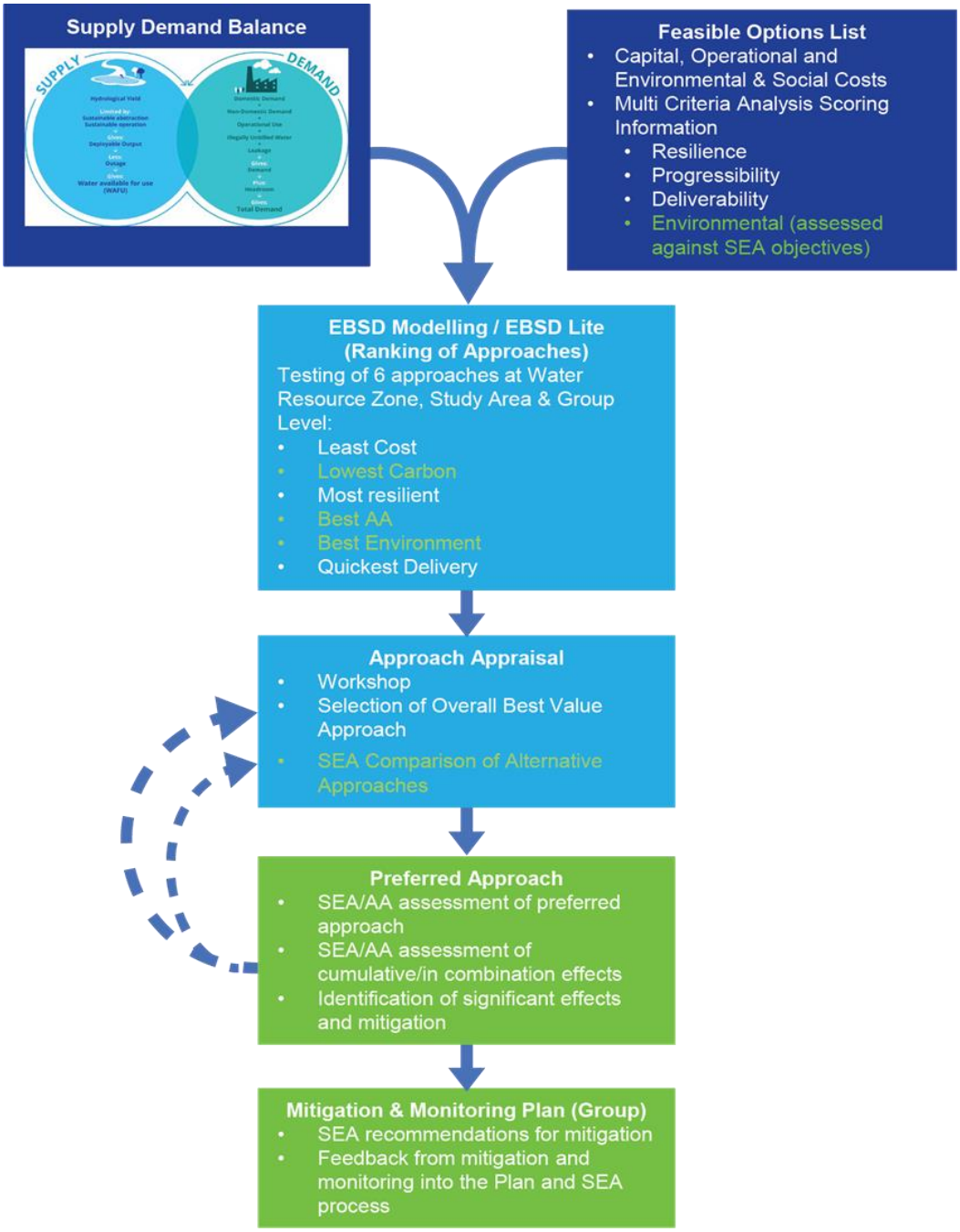

Figure 4.4 Approach Development Process

4.3 SEA and Consultation Influence on the Final Plan

Consultation comments received on the statutory public consultation for the draft RWRP-SE and accompanying Environmental Report and NIS, and responses and subsequent actions taken to address these comments, are summarised in Table 4.2. Further detail regarding consultation responses is also provided in the RWRP-SE Post Consultation Report (Uisce Éireann, 2023a). Many of the consultation comments received were supportive of the environmental assessment approach, however key changes and clarifications requested related primarily to:

- Inclusion of additional plans and policies and baseline information within the SEA;
- Data sources used for the plan assessment and inclusion of additional data sources to be considered as projects are taken forward for more detailed assessment;

- Further clarification on the process for review and feedback on the plan implementation and monitoring plans along with reporting on progress and increased clarity of monitoring for plan and project levels.

The submissions received through the consultation process on the SEA Environmental Report are considered not to materially affect the outcome of the assessment. The SEA Environmental Report, NIS and RWRP-SE have been updated to include the additional information and clarifications to respond to the comments made.

4.3.1 Updates to the RWRP-SE

Following the post consultation review, Uisce Éireann deemed that no changes to the Preferred Approach were required.

As set out in section 9 of the RWRP-SE, the RWRP will be formally reviewed every five years. Baseline forecasts and data feeding into the NWRP will be reviewed as new information is made available. Uisce Éireann's data is continuously improving, and they will review their Preferred Approach further to the receipt of updated data. No additional data was received throughout the consultation period for the RWRP-SE.

For completeness, Uisce Éireann note that any relevant clarifications and recommendations from the RWRP-EM, RWRP-SW and RWRP-NW have been considered in the development process and finalisation of the RWRP-SE.

4.3.2 Conclusions on Review of Preferred Approaches arising from Consultation

Following review of the consultation comments, Uisce Éireann deemed that no changes to the Preferred Approach were required. However, the Plan has been updated to provide additional clarification and indicate potential for improvements to data with commitment to review and feedback. The potential for further changes in the future as a result of the review process is also identified.

The amendments to the final Plan were considered as part of the post consultation update to the SEA Environmental Report.

4.3.3 Summary of Consultation Responses and Changes to SEA and RWRP-SE

Table 4.2 provides a summary of the consultation responses and the actioned changes to the SEA Environmental Report and RWRP-SE.

Table 4.2 Summary of Consultation Responses and Changes to SEA and RWRP-SE

Key issues/themes raised	SEA response	Summary of action taken
Strategic Environmental Assessment Approach		
National Monument Service in the Department of Housing Local Government and Heritage		
The National Monument Service (NMS) in the Department of Housing Local Government and Heritage (DHLGH) commented that the SEA "makes no reference to the Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland 1999)." The Framework outlines the national policy on the protection of the archaeological heritage in the course of development and in accordance with the National Monuments Acts 1930 to 2014 with the aims and requirements of the 'Valletta Convention' (1992 Council of Europe European Convention on the Protection of the Archaeological Heritage) to which Ireland is a party. The NMS noted that while this section of the SEA outlines a number of key information sources, notable the Record of Monuments and Places, Sites and Monuments Record and National Inventory of Architectural Heritage, "there are significant omissions." The NMS requested the following data sources about the archaeological and cultural heritage environment relevant to the plan and its associated environmental assessments be considered. The NMS's website (www.archaeology.ie) is highlighted as a key source of data, information and publications, including GIS datasets, in addition to the datasets already referenced in the SEA: • Wreck Viewer - records of over 18,000 known and potential wreck sites in Irish waters. • List of National Monuments in Ownership or Guardianship of the Minister. • List of Preservation Orders currently in force.	The Framework and Principles for the Protection of the Archaeological Heritage suggested for consideration by the National Monument's Service (NMS) have been taken into account and added to the policy plans and programmes (PPP) review in the SEA Environmental Report (Appendix F). Uisce Éireann is satisfied that the data sources used for the plan level assessment are adequate but acknowledges the recommendation from NMS to use additional datasets that would support environmental assessment. These require more detailed site location information than currently available at the plan level but have been included as part of the recommendations for project level assessment and identified in the Monitoring Plan so that these are taken forward for consideration in more detailed studies as specific schemes are developed as relevant. Uisce Éireann notes that there are no UNESCO World Heritage Sites and only one site on the tentative list within the baseline study area for RWRP-SE. Uisce Éireann have refined the text within section 5.10 to ensure the baseline area for this plan and assessment and the relevant data sources used are clear.	Update to PPP review (Appendix F), clarification and update to sections 5.2 and 10.3 in the SEA Environmental report. Note updates also take account of the change in status for the Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (passed on the 13th October 2023) has also been considered in the SEA Environment Report (see section 5.10, the PPP review and the Project Level Monitoring Framework)

Key issues/themes raised	SEA response	Summary of action taken
• Excavations Bulletin. The database of Irish excavation reports (https://excavations.ie/) contains summaries of archaeological excavations carried out on the island of Ireland since 1969. NMS noted that this section of the draft SEA does include United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Sites. “However, the provided information is inaccurate and out of date.” The NMS noted that currently there only two World Heritage properties within the state—Brú na Bóinne in County Meath and Skellig Michael in County Kerry. The Tentative List was updated in 2022 and now includes the following sites: • The Passage Tomb Landscape of County Sligo • Royal Sites of Ireland: Ancient Irish Sites of Royal Inauguration • Transatlantic Cable Ensemble Further information on UNESCO World Heritage properties within Ireland and those on the current tentative list can be found here: https://worldheritageireland.ie/.		

Key issues/themes raised	SEA response	Summary of action taken
NMS noted that in addition to the Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland 1999) the SEA should take account of the following policies, plans and programme relevant to Cultural Heritage: • Climate Change Sectoral Adaptation Plan—Built and Archaeological Heritage (2019): https://www.gov.ie/pdf/?file=https://assets.gov.ie/246863/2660361a-6b77-4b58-b040-aea8fd960606.pdf#page=null • Heritage 2030—National Heritage Plan (2022): https://www.gov.ie/en/publication/778b8-heritage-ireland-2030/ • National Policy on Town Defences (2008): https://www.archaeology.ie/sites/default/files/media/publications/national-policy-on-town-defences.pdf The NMS explained that The Underwater Archaeology Unit (UAU) is tasked with the protection and preservation of Ireland's underwater cultural heritage and to make recommendations to the relevant planning authorities and other regulatory bodies on the interactions between underwater cultural heritage and development. In regard to the Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland 1999) the NMS stated that, although Ireland is not yet state party to the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage, Ireland supported its adoption and has supported its aims and objectives. They further commented that ratification by Ireland of the Convention will take place after enactment of additional domestic legislation and therefore it is essential "that full account is taken of the need to provide appropriate protection for the underwater cultural heritage" …and that "the omission of consideration of underwater cultural heritage is notable."	The policy and plans suggested by the NMS have been considered and added to the PPP review in the SEA Environmental Report (Appendix F). Uisce Éireann recognises the concerns raised by the Underwater Archaeology Unit and have amended the baseline section 5.10 the Monitoring Plan and within the SEA Environmental Report to specifically address underwater archaeology rather than cover as archaeology more generally and provide due consideration of underwater cultural heritage, including use of recommended datasets and consideration of section 3 of the National Monuments (Amendment) Act 1987 and the 2001 UNESCO Convention of the Protection of the Underwater Cultural Heritage. The closest wreck site to the Preferred Approach options in the South East region is over a kilometre away and therefore based on the plan level information on the Preferred Approaches impacts on wreck sites during construction or operation are considered unlikely. The potential for impacts on wreck sites as well as other cultural heritage and archaeological interests will be considered further in the more detailed assessments undertaken at Project level. Relevant figures within the SEA documentation have also been updated to include sites from the Wreck Inventory Database where appropriate.	Update to PPP review (Appendix F), clarification and update to sections 5.10 and 10.3 in the SEA Environmental report.

Key issues/themes raised	SEA response	Summary of action taken
The NMS went into detail regarding the National Monuments (Amendment) Act 1987 and the protection of wrecks in inland waterways. They stated that Section 3 of the Act is the primary piece of legislation for the protection of wrecks over 100 years old and archaeological objects underwater, irrespective of age. They further highlighted that, as well as wrecks over 100 years old, wrecks and archaeological objects that are less than 100 years old or the potential location of such a wreck or archaeological object can also be protected under Section 3 of the Act. The NMS outlined that Underwater cultural heritage also encompasses; submerged landscapes, weirs, historic bridges, fording points, revetment walls, historic flood defences and other riverine structures and features. The Wreck Inventory of Ireland Database is the official register of historic shipwrecks protected under the Act with over 18,000 wrecks have been recorded to date. NMS highlighted that previously unrecorded wreck sites may yet be discovered in the rivers and coastal waters of the south east under consideration in the Plan.		
Environmental Protection Agency		
The Environmental Protection Agency (EPA) commented that a commitment should be included to take any relevant aspects of the Draft Water and Planning Guidelines, currently being prepared by the Department of Housing, Local Government and Heritage (DHLGH) into account when implementing the Plan, once these Guidelines are adopted. Additionally, they noted the European *Union (Water Policy) (Abstractions Registration) Regulations 2018* should also be referenced in the Plan. The EPA also suggested that reference is made to the Draft Sustainable and Compact Settlement Guidelines which is currently being prepared by DHLGH. They commented that “ensuring critical infrastructure is adequate	Uisce Éireann acknowledges the recommendation from the Environmental Protection Agency (EPA) to consider relevant emerging guidelines, such as the Draft Water and Planning Guidelines, and Draft Sustainable and Compact Settlement Guidelines, and recently published reports from the EPA website. Uisce Éireann have adapted the text in section 10.3 to make clear that any relevant new and emerging guidelines will be taken into account in future iterations of the Plan. Uisce Éireann have also considered the reports published to the EPA’s website and added reference to these where relevant.	Clarification and update to sections 5.2, 5.4.1 and 10.3.

Key issues/themes raised	SEA response	Summary of action taken
and appropriate to support proposals to develop and grow out settlements will be a key consideration." In regards Environmental Baseline the EPA welcomed that their State of the Environment Report (SOER) Report Ireland's *Environment – An Integrated Assessment* (2020) has been taken into account and acknowledged that Section 5.2 of the SEA ER identified the key aspects of the SOER, of relevance to the Plan. They also suggested that the EPA's most recent reports on water quality, climate change, air quality, drinking water and urban water, available on the EPA website are also referred to and incorporated where appropriate.	Uisce Éireann note that the European Union (Water Policy) (Abstractions Registration) Regulations 2018 is referenced in Appendix F of the SEA Environmental Report.	
The EPA acknowledged that the Plan identifies the water-service related issues and challenges (including supply of water services and water quality aspects). They welcomed the existing national programmes including source protection programme, reservoir cleaning programme, disinfection programme, lead mitigation programme, trihalomethane reduction works in place to protect and provide for clean and wholesome drinking water.	We welcome the EPA's feedback and the acknowledgment that Uisce Éireann has considered the existing national programmes in place to protect and provide for clean and wholesome drinking water.	No action
The EPA commented that the abstraction of waters for drinking water purposes need to continue to be carefully considered, effectively implemented and monitored in accordance with any abstraction licensing legislation, which is currently in draft form with the Department of Housing, Local Government and Heritage (DHLGH). "In particular, this is important where those waters support protected species and designated habitats within the Plan area." The EPA commented that Uisce Eireann should be mindful of the Water Framework Directive-related environmental objectives for surface waters and groundwaters, with regards to lakes and proposed further abstractions and	Uisce Éireann recognises the importance of minimising the potential for environmental impacts of all proposed developments, including the proposals for additional reservoirs and impoundments in the RWRP-SE. We will ensure the ecology of the area is protected by implementing appropriate mitigation measures to manage environmental risks at project level. Uisce Éireann have outlined key mitigation measures for the Preferred Approach in Table 7.1 of the Study Area Environmental Reviews which are provided in Appendix H of the SEA Environmental Report.	No action

Key issues/themes raised	SEA response	Summary of action taken
for any new abstractions. “Any increased abstraction should not cause deterioration of water quality status.”	Uisce Éireann will be required to apply for licenses for abstractions through the proposed abstraction license legislation. The EPA as the licencing regulator will review our existing and proposed abstractions and determine if they are feasible considering all other abstractions in the catchment and the impact of the abstractions on the ecology and water framework status of the waterbody.	
The EPA acknowledged the consideration of cumulative effects, as provided in Chapter 9, which examines regional cumulative effects, both within the Plan and between the Plan and other plans and programmes. They also welcomed that the EPA guidance ‘*Good Practice Guidance Note on Cumulative Effects in Strategic Environmental Assessment*’ (EPA, 2020) has been taken into account.	We acknowledge the EPA’s recommendations relating to the SEA Statement and confirm that an SEA Statement and AA Determination will be issued following the adoption of the RWRP-SE. The SEA Statement outlines how environmental considerations have been integrated into the RWRP-SE and how consultation influenced the development of the RWRP-SE. The SEA Statement also outlines the reasons for selecting the Preferred Approach and the measures to monitor the significant environmental effects. The SEA and AA set a framework for identifying mitigation and monitoring so that these can be a part of the decision-making and can inform option design and costing as schemes are developed and the RWRP-SE commits to implementing the recommendations from the SEA and AA	No action
The EPA suggested that once the Plan is adopted, Uisce Éireann should prepare an SEA Statement that summarises: • How environmental considerations have been integrated into the Plan; • How the Environmental Report, submissions, observations and consultations have been taken into account during the preparation of the Plan;	The SEA Statement has been prepared to cover the points identified in the EPA comments.	See this SEA statement

Key issues/themes raised	SEA response	Summary of action taken
• The reasons for choosing the Plan adopted in the light of other reasonable alternatives dealt with; • The measures decided upon to monitor the significant environmental effects of implementation of the Plan; and • Issue a copy of the SEA Statement with the above information to any environmental authority consulted during the SEA process.		
Water Quality		
Geological Survey Ireland		
Geological Survey Ireland (GSI) welcomed Uisce Éireann's recognition of the importance of source protection in ensuring the security and sustainability of water supplies and that Uisce Éireann will continue to work with key stakeholders to promote this. GSI noted they look forward to working with Uisce Éireann in the expert groups chaired by the Department of Housing, Local Government and Heritage as Drinking water source protection is a significant objective of this expert group.	Uisce Éireann appreciates Geological Survey Ireland's recognition of the importance of source protection in ensuring the security and sustainability of water supplies.	No action
Tipperary County Council		
Tipperary County Council noted that the draft RWRP-SE highlights the climate change challenges facing Uisce Éireann in protecting and improving water quality and improving water services infrastructure.	Uisce Éireann notes comment from Tipperary County Council on the climate challenges facing Uisce Éireann in protecting and improving water quality and improving water services infrastructure.	No action
Tipperary Social Democrats		
Tipperary Social Democrats noted that water quality and consistency of delivery is a huge issue in Tipperary, and it is "great to see a draft action plan to help address these issues". Tipperary Social Democrats commented that	Uisce Éireann is committed to enabling communities to thrive by continuously upgrading and developing critical infrastructure to support sustainable growth and	No action

Key issues/themes raised	SEA response	Summary of action taken
the plan does not address the issue of hard water and limescale and that there should be a greater focus on softening water in the plan. They noted that though “this can be done at the point of use, it is likely the households with a lower income would not be able to afford to do this and so they would be hit the hardest. Limescale is causing massive issues for some parts of Tipperary.”	development, providing safe drinking water, and enhancing the environment. We have plans to undertake significant upgrades in County Tipperary which will improve water quality across the County. The plans include the following: • Significant upgrades to Glenary WTP (Clonmel), Linguan WTP (Carrick-on-Suir), and Stooke WTP (Dundrum Regional) to improve water quality and resilience. • Rationalisation of Horse and Jockey, Littleton, Two Mile Borris, Glengar and Upperchurch have been approved and construction works are scheduled to commence soon. • Interconnection of the Dundrum Regional Scheme to the Thurles Regional Scheme has been approved to proceed to design and construction stage. When completed, these works will increase resilience for the Dundrum Regional Scheme. • There are 23 sites in County Tipperary that have received the disinfection and pH adjustment upgrade to date, and 6 sites to be completed in 2023. • The Supply Demand Balance Programme has identified several potential sites to develop new groundwater assets to address supply deficits for Tipperary Town, Galtee Regional, and Templemore. Hardness is a natural characteristic of much of Ireland's drinking water supply. Hard water contains high levels of	

Key issues/themes raised	SEA response	Summary of action taken
	natural minerals absorbed from rock and soil and is not harmful to health. In fact, the higher mineral content may offer health benefits above that of soft water. Uisce Éireann does not chemically soften hard water for the following reasons: • There are no health risks involved in drinking and using hard water; • Softening water removes beneficial minerals from hard water; • There is no legislative requirement to remove hardness from drinking water; • Depending on the technology used, artificially softened water may not be suitable for everyone to drink. For example, increased sodium levels caused by salt softening may not be suitable for infants or 'at risk' groups; and • Hard water can create an internal protective film on lead pipes or fittings. This can prevent metals such as lead leaching into drinking water supplies. Uisce Éireann has published suggestions for managing hardwater in domestic appliances, which can be found at https://www.water.ie/help/water-quality/hard-water/	
Councillor Rory O'Connell		
Councillor Rory O'Connell recommended the inclusion of the measurement of microplastics in public reports on water quality as a proactive step to further help environmental protection. Cllr O'Connell suggested that implementing	Microplastics will be considered as part of Uisce Eireann regulatory monitoring programmes under the new drinking water regulations (the European Union (Drinking Water)	No action

Key issues/themes raised	SEA response	Summary of action taken
yearly aims and increasing testing, similar to what's done for lead and Iron would be valuable, such as setting a level of micro plastics allowed in water and aiming to reduce it to zero. Cllr O'Connell further commented that reducing microplastics can contribute to safeguarding water system and ecosystems over the next 25 years and highlighted that this topic will become more popular coupled with more research on the impact of micro plastics. Cllr O'Connell suggested that the measurements of more chemicals such as disinfection by-products be incorporated into the plan. He noted that "this is far worse than forever chemicals which Irish water currently measure…I would also like better plans for tackling forever chemicals in south east."	Regulations 2023 S.I. No. 99/2023) if they are included in the watch list of substances/compounds which are required to be monitored. Addition of parameters to the watch list is under active consideration by a DHLGH chaired subcommittee of which Uisce Eireann, the NFGWS, the EPA and the HSE are members. The new drinking water regulations include additional disinfection by-products such as chlorate, chlorite and haloacetic acids. This monitoring will commence as per the regulations no later than March 2026. Implementation of the regulations is subject to approval of the DHLGH chaired drinking water implementation group. Should any additional disinfection by-products be identified that are of concern in terms of public health, then subject to consultation with the HSE and EPA they can be added to the watch list. Uisce Éireann takes a risk-based approach to our water supplies using the World Health Organisation's drinking water safety plan methodology. This ensures that our water treatment plants are designed based on the type of water abstracted from any given source and the treatment processes put in place are designed to remove contaminants. Uisce Éireann is currently in the process of completing Drinking Water Safety Plans for all supplies. All public water sources, including groundwater and surface water, involve water treatment.	

Key issues/themes raised	SEA response	Summary of action taken
Biodiversity, Flora and Fauna		
Southern Regional Assembly		
The Southern Regional Assembly (SRA) noted the recommendations they made during the NWRP submission for the integration of Green and Blue Infrastructure (GBI) and Nature Based Solutions (NBS) and Ecosystem Service Approaches as part of the Developing Solutions and Supply Smarter infrastructure measures and methodologies of the NWRP. They highlighted that strengthened integration of these principles and projects will accord with the three outcomes of the NWRP to Lose Less, Use Less and Supply Smarter and furthermore "Nature Based SuDS and an Ecosystem Service approach are strongly advocated and should be elaborated upon." The SRA noted the positive integration of these principles in the RWRP-SE and welcome the commitment for: • Ensuring that Uisce Éireann build and manage infrastructure responsibly so that ecosystems are protected, and where possible enhanced. • The implementation of Uisce Éireann Biodiversity Policy which seeks that in association with the provision of water and wastewater services, biodiversity and the natural environment are conserved, protected and where practical enhanced through our responsible stewardship, sustainable water services and strong partnerships. • Implementation of the Uisce Éireann Biodiversity Action Plan (BAP) in 2021. • One of the key objectives of the BAP is the promotion of NBS for water protection and wastewater treatment, which have considerable potential to deliver biodiversity. NBS are multi-functional measures that aim to protect water resources and address water-related challenges by	We welcome the Southern Regional Assembly's support for Uisce Eireann's Biodiversity Action Plan and projects that integrate Nature-Based Solutions (NBS) and Ecosystem Service Approaches. Insufficient information on option sites and pipeline routes is available to apply a natural capital assessment approach fully at this stage. However, using environmental economics tools such as natural capital/ecosystems services are included as part of the SEA Environmental Action Plan and will be taken forward into project development (see section 10.2 of the SEA Environmental Report). Uisce Éireann is committed to implementing NBS and will continue to work in partnership with catchment stakeholders and local authorities to develop these collaborative projects that deliver benefits for both our customers and the environment. Uisce Éireann is currently a stakeholder on the 'Blue Green Cities' project that is seeking to improve policy making and implementation of projects that integrate NBS and Blue-Green Infrastructure. For example, the establishment of 5.27 hectares of riparian woodland at our Lough Guitane WTP site. More information on this NBS and additional NBSs in the South East region are provided in section 2.3.9 of the RWRP-SE.	No action

Key issues/themes raised	SEA response	Summary of action taken
restoring or maintaining ecosystems, as well as natural features and characteristics of waterbodies using natural means and processes. • Support for Uisce Éireann projects that integrate NBS that include reduction in energy usage, carbon sequestration, and amenity use for local communities. Uisce Éireann support a broad range of measures such as: wetlands, basins and ponds, reedbeds, buffer strips and hedges and forest riparian buffers. • Identifying opportunities for the incorporation of NBS, and catchment management activities within Uisce Éireann abstraction catchments will continue to be encouraged and promoted through the NWRP.	At project level the options will be developed to ensure all potential opportunities that can be afforded by the solution are realised. This may include an augmentation of the option in line with our Biodiversity Action Plan. or our Energy Efficiency Plan. Section 6.4 of the RWRP-SE outlines how the Biodiversity Action Plan will be considered at project level. More details on the plan can be found at https://www.water.ie/projects/national-projects/biodiversity/	
The SRA reiterated that in the unified NWRP positive commitment to adopt GBI, NBS, Ecosystem Services and protect and enhance Biodiversity through the Uisce Éireann BAP is commended and continues to be a priority action for the unified NWRP. The SRA commented that Uisce Éireann are an important stakeholder for the SRA in a collaborative project under the Interreg Europe “Blue Green Cities” project. The SRA highlighted that they have recently in collaboration with ARUP completed and published their GBI and NBS Framework for the Southern Region, *Our Green Region*, which is available to assist Uisce Éireann projects as a toolkit and it can be accessed at: http://www.southernassembly.ie/eu-projects/blue-green- city/blue-green-city-other-publications.		
Department of Housing, Local Government and Heritage		
The Department of Housing Local Government and Heritage (DHLGH) noted that the RWRP-SE will result in the decommissioning of existing abstractions at Ballyragget Water Treatment Plant (WTP) and Radestown WTP which currently extract from the River Barrow and River Nore Special Area of	Protection of the aquatic environment is a core part of the option assessment process, which has aimed to ensure all proposed options meet sustainable abstraction requirements in relation to the Water Framework Directive	No action

Key issues/themes raised	SEA response	Summary of action taken
Conservation (SAC). DHLGH suggested that there may be scope to decommission weirs which are forming a barrier for fish migration. They noted that “improvement of passage of migratory fish species is an action under the National Biodiversity Action Plan, the EU Biodiversity Strategy for 2030 and would also support SAC Site Specific Conservation Objectives for Qualifying Interest fish species.” DHLGH advised Uisce Éireann to include removal of barriers to fish migration due to weirs, where applicable.	(WFD). The wider WFD and biodiversity objectives are also embedded in SEA objectives and are to be taken forward through the mitigation and monitoring framework outlined in section 9 of the Plan. Uisce Éireann acknowledges the need to engage and consult with IFI when undertaking emergency works in low flow situations and confirm that appropriate methodologies will be agreed in advance of completing such works. Uisce Éireann are identifying all potential barriers that are associated with Uisce Éireann infrastructure, from internal information, and international research in this area (https://amber.international/) is also supporting this task. Where abstractions interdependent on barriers are determined by the EPA to be unsustainable Uisce Éireann will, in collaboration with the EPA, establish a programme to move away from such abstractions. For locations where the Preferred Approach is not to move away, Uisce Éireann is engaging with IFI to, to develop fish passage at weirs associated with our abstractions to address fish movement throughout the year.	
Mitigation and Monitoring		
Marine Plan Team - Department of Agriculture, Environment and Rural Affairs - Marine & Fisheries Division		
The Marine Plan Team (MPT) DAERA – Marine & Fisheries Division noted and endorsed the concerns raised by other consultees such as Department for Infrastructure Rivers and Northern Ireland Environment Agency regarding flood risk, stormwater discharge, and appropriate sewage treatment and disposal. They referred Uisce Éireann to their website: https://www.daera-	The information from the DAERA Marine Conservation Advice team is noted. When considering the Preferred Approach, we assessed the resilience of each option to climate change by considering the available yields from the	No action

Key issues/themes raised	SEA response	Summary of action taken
ni.gov.uk/publications/standing-advice-development-may- have-effect-water-environment-including-groundwater-and-fisheries.	proposed new source in the future and considering the location of our infrastructure in relation to flood zones. The flood zones were informed by the OPW flood risk maps which provide estimates of fluvial and coastal flooding and provide an overview of potential flood risk considering the impacts of climate change and sea level rise. Flood risk is considered as part of the options appraisal, however, the assessments at plan level are based on desktop information as many options are at a conceptual stage and there is insufficient information to differentiate between options on the basis of flood risk when design details, siting and routing are still to be determined. All assessments are carried out in a uniform and consistent manner and the purpose of the assessments are to allow a comparison between solutions, rather than an absolute evaluation of a proposed solution. Solutions will be assessed in more detail at project level and both surface water and ground water flood risk will also need to be considered further as part of the development of option design and for assessment at project level. As part of our DWSP we consider flood risk to our sources via our Source Risk Assessment Methodology. The Risk Mitigation pieces of this work will begin once the methodologies are complete and the risk assessment to existing sources has been carried out, these risk assessments which will include any Flood Risk Management Plans which are deemed necessary to feed	

Key issues/themes raised	SEA response	Summary of action taken
	into our project level assessment. Subsequent iterations of the NWRP will include for Flood Risk Management Plans.	
Tipperary County Council		
Tipperary County Council (TCC) commented that the key climate change risk areas for County Tipperary are flooding, extreme cold and heavy snowfall, ice and drought. It also commended the Uisce Éireann adaptation measures and future monitoring measures to support environmental resilience to climate change, which will benefit supply resilience. TCC noted that Uisce Éireann gathered data relating to population forecasts, economic trends and tourism before the onset of the COVID-19 pandemic. Therefore, they advised that trends and patterns may need to be revised by Uisce Éireann as enough data and information are available to understand the long-term impact of the pandemic. TCC also noted that Census 2022 will provide updated data, which will need to be accounted for in data modelling. They noted that Uisce Éireann's key considerations will be potential changes to demographics in relation to commercial and office settings, changes in hospitality and in tourism impacts.	Uisce Éireann has considered the impact of climate change on our sources and on our water demands in the following ways: • Climate change factors were applied to the estimated yield from our sources into the future. These climate change factors were determined further to our extensive research with the Irish Climate Analysis and Research Units Department in National University of Ireland, Maynooth, under the climate sensitive catchments project. This project has used the latest climate change projections and a best practice risk-based approach to assess the impacts of climate change on flows in 206 catchments in Ireland. Full details of how climate change factors were considered are outlined in Appendix F of the Framework Plan. • The impact on climate change on water usage has also been considered by applying peaking factors to represent demands in a dry year critical period. This accounts for the increased demand during dry weather, such as droughts. The demand estimates also consider increased usage during peak tourist seasons. We have also applied a headroom allowance in our demand estimates to account for uncertainty in our	No action

Key issues/themes raised	SEA response	Summary of action taken
	understanding of the impact of climate change. The allowance provides a buffer in the supply demand balance and ensures that the Preferred Approach is sized appropriately to meet future estimated supply deficits. When considering the Preferred Approach, we assessed the resilience of each option to climate change by assessing available yields from the proposed new source in the future and by considering the location of our infrastructure in relation to flood zones. We have identified solutions to secure supplies and reduce water shortfalls during drought conditions. These solutions include both raw and treated water storages to support increased abstractions during high flow periods and provide for higher demands during low flow periods. Further to this, the Preferred Approach was assessed against adaptability under the following headings - Sustainability, Climate Change, Demand Growth and Leakage Targets. The details of this sensitivity analysis are included in the Technical Appendices to the RWRP-SE and the Strategic Environmental Assessment Environmental Report. Further assessment of the impacts of climate change will be carried out at project level through hydrological and hydrogeological modelling work.	
Department of Housing, Local Government and Heritage and the Environmental Protection Agency		
The Department of Housing Local Government and Heritage (DHLGH) noted that statutory Exemption for Restoration Projects (SERP) implementation is an action of the National Biodiversity Action Plan 2017 – 2021 (Action 4.2.2 -	Environmental monitoring of the implementation of the plan is provided for through the SEA Monitoring Plan and	No action

Key issues/themes raised	SEA response	Summary of action taken
Irish Water to implement its Water Services Strategic Plan (2015-2040), in particular its objective to protect and enhance the environment). DHLGH advised that the performance indicator 'environmental monitoring of the implementation of the plan' "must be provided for in the plan which must monitor the effects of the plan implementation the environment."	Environmental Action Plan (EAP) to monitor the effects of the plan implementation on the environment. The Plan commits to the implementation of the SEA EAP and Monitoring plan, and this will be undertaken as an integrated part of the monitoring and feedback steps outlined in section 9 of the RWRP-SE. The Environmental Action Plan includes a task to review and update the monitoring indicators and targets to allow new conditions to be taken into account and to ensure the Plan is sufficiently flexible to take account of environmental issues arising during implementation of the Plan and any unforeseen adverse impacts, including cumulative effects. The EAP also recognises the need to take remedial action where significant effects are identified. The Monitoring Plan and Environmental Action Plan have been designed to provide a basis for the identification and continuous review of the positive, negative and cumulative impacts of the RWRP-SE. The plan refers to monitoring targets and indicators, monitoring frequencies and review timescales, and information sources. Reporting timescales are outlined for plan level monitoring in Part 1 of the Monitoring Plan. As outlined in Part 2 of the Monitoring Plan, reporting timescales across each project will be developed over the plan implementation period. Monitoring results on individual projects will be fed back to reporting for the Regional Plan and the SEAs.	
The Environmental Protection Agency (EPA) commented that the Monitoring Programme should be flexible to take account of specific environmental issues and unforeseen adverse impacts should they arise during implementation of the NWRP. "It should consider and deal with the possibility of cumulative effects…monitoring of both positive and negative effects should be considered." The monitoring programme should also set out the various data sources, monitoring frequencies, responsibilities, and reporting. They further commented that "if the monitoring identifies adverse impacts during the implementation of the Plan, Uisce Eireann should ensure that suitable and effective remedial action is taken." The EPA observed that the implementation of the Plan should include provisions for annual or bi-annual reporting on implementation of the Plan commitments. Further the Plan implementation, monitoring and reporting should be aligned with the environmental monitoring and reporting required under the Strategic Environmental Assessment (SEA) legislation. This, they noted, will assist in evaluating the environmental performance of the Plan. The advised that guidance on SEA-related monitoring is available on the EPA website at https://www.epa.ie/publications/research/environmental-technologies/research-306- guidance.php		

Key issues/themes raised	SEA response	Summary of action taken
Environmental Protection Agency		
The EPA suggested that interim monitoring reports (annual or bi-annual) be provided over the lifetime of the Plan. “Such reporting would allow for remedial action to be taken where significant adverse effects are identified…and also enable Uisce Eireann to adapt the monitoring programme as necessary.” The EPA noted Uisce Eireann’s commitment to providing an environmentally sustainable approach to water abstraction. The challenge they noted “will be to ensure that environmental monitoring is carried out regularly to monitor water abstraction activities, particularly in areas with water dependent ecosystems, including groundwater.” They further suggested to have a plan in place to react to the monitoring results as necessary. The EPA suggested that the Monitoring Programme should be flexible enough to take account of specific environmental issues and unforeseen adverse impacts should they arise during implementation and deal with the possibility of cumulative effects. Furthermore, they suggested that monitoring of both positive and negative effects should be taken into account and the Monitoring Programme should set out the various data sources, monitoring frequencies, responsibilities and reporting. The EPA advised that Guidance on SEA-related monitoring is available on the EPA website at https://www.epa.ie/publications/research/environmental-technologies/research-306- guidance.php The EPA further suggested that acknowledging that the National Planning Framework (NPF) would be beneficial and the Regional Spatial and Economic Strategies (RSES), which will be undergoing review “Uisce Eireann should consider any relevant recommendations arising out of adoption of the updated NPF and RSES in implementing the plan.”	The Environmental Action Plan includes a task to review and update the monitoring indicators and targets to allow new conditions to be taken into account and to ensure the Plan is sufficiently flexible to take account of environmental issues arising during implementation of the Plan and any unforeseen adverse impacts, including cumulative effects. The Monitoring Plan and Environmental Action Plan has been designed to provide a basis for the identification and continuous review of the positive, negative and cumulative impacts of the RWRP-SE. The plan refers to monitoring targets and indicators, monitoring frequencies and review timescales, and information sources. Reporting timescales are outlined for plan level monitoring in Part 1 of the Monitoring Plan. As outlined in Part 2 of the Monitoring Plan, reporting timescales across each project will be developed over the plan implementation period. Monitoring results on individual projects will be fed back to reporting for the Regional Plan and the SEAs. The final Environmental Action Plan and Monitoring Plan are also provided in section 5 of the SEA Statement. The SEA Monitoring Plan references and takes account of good practice outlined in ‘Tiering of Environmental Assessment – The influence of SEA on Project-level Environmental Impact Assessment’ (EPA, 2021). The Monitoring Plan is therefore provided for in two parts. This has been clarified and explained further in SEA Environment Report section 10. Part 1 provides plan level	Clarification on the two part Monitoring Plan and feedback process. Updates to the EAP and Monitoring Plan to incorporate comments in the Environmental Report.

Key issues/themes raised	SEA response	Summary of action taken
The EPA noted that any future amendments to the Plan should be screened for likely significant effects, using the same method of assessment applied in the “environmental assessment” of the Plan.	monitoring, that addresses the high level environmental protection objectives of the SEA, and Part 2 provides a monitoring framework for project level implementation that addresses more detailed environmental objectives. The monitoring indicators are relevant to the corresponding plan or project level context and are aligned with the indicators defined in the SEA to the National Water Resources Plan (NWRP) Framework Plan. Uisce Éireann acknowledges that reviews of the NPF and RSES documents are ongoing and any updates to these will need to be taken into account in the next iteration of the Plan. The process for review of amendments to the RWRP-SE is outlined as part of the feedback and monitoring process in the Plan section 9. Commitment to screening future amendments for likely significant effects, using the same method of assessment applied in the environmental assessment of the Plan is included as part of the monitoring and feedback approach set out in section 10 of the Plan.	

4.4 SEA Summary for the RWRP-SE Preferred Approach

This section provides a summary of the assessment undertaken for the SEA of the final RWRP-SE Preferred Approach.

4.4.1 Study Area Assessment

The application of the methodology in the South East Region led to the identification of Preferred Approaches in some Study Areas which involve an external transfer i.e. from a supply in another Study Area. A Regional Level assessment was then undertaken, and the potential Preferred Approach was reviewed further to consider how alternative combinations perform in the round at this level.

The South East Region has limited potential for regional interconnectivity due to the cost and challenge associated with transporting small volumes of water over long distances. Minimum main size requirements mean that treated water may be stored in the network for extended periods of time and hence there can be a significant time lag between when the water was treated and when the customer receives the water. Additional chlorine dosing may be required along the network to ensure water received by our customers meets the required water standards. Such arrangements can be complicated and costly for small supplies.

Additionally, almost two-thirds of the WRZs in the South East Region currently have a greater than two percent risk of experiencing a supply shortfall in a dry year, falling short of Uisce Éireann's target Level of Service. Options that require long lead times, like implementing large-scale interconnections, may not be the most effective solutions to address the pressing water shortages of these WRZs. Furthermore, there are limited surface water catchments within the region that can support large sustainable abstractions to supply multiple interconnected WRZs. This is further explained in section 8.2 of the RWRP-SE.

Therefore, unlike the Eastern and Midlands Regional Water Resources Plan (RWRP-EM), the Option Development Process for the South East Region did not identify any Feasible Options with the potential, in terms of quantity and distribution of supply, for a large-scale interconnection of multiple WRZs across study area boundaries. The Preferred Approach for each study area does however comprise large, interconnected supplies within the study area boundaries and in this way provides the benefit of resilience and improved environmental outcomes, through the decommissioning of unsustainable sources and interconnection of supplies.

The assessments for these are included in the Study Area Environmental reviews for SAK-M, summarised in section 7.1-7.3 and detailed in Appendix H. These also assess potential for cumulative effects within each study area. The small Cross Study Area Transfers are further considered as part of the whole plan cumulative assessment in section 9 of the SEA Environmental Report.

4.4.2 Regional Plan Assessment

The Option Development Process for the South East Region did not identify any feasible options with the potential, in terms of quantity and distribution of supply, for a large-scale interconnection of multiple WRZs across the Study Area boundaries. The Regional Preferred Approach is therefore defined as the combination of the three Study Area Preferred Approaches for the South East Region and is summarised in Table 4.3.

Although the Preferred Approach does not involve a large-scale regional interconnected supply, the Preferred Approach does comprise large, interconnected supplies within the study area boundaries. The benefits of interconnecting supplies are outlined in section 8.2 of the RWRP-SE. These are all assessed

within the Study Area Environmental Reviews, SAK, SAL and SAM (Appendix H of the SEA for the RWRP-SE) and are summarised in section 7 of the SEA Environmental Report.

Interconnecting supplies include (in most cases) interconnected WRZs and rationalisation of one or more existing water supply systems. The inter-connection of supplies has the following benefits, which are identified in the RWRP-SE and include:

- Smaller and/or unsustainable abstraction sources to be decommissioned (once alternatives are in place) – these have potential benefits for aquatic ecology and can contribute to meeting WFD objectives;
- Decommissioning of WTPs for improving reliability of supply and delivers efficiencies through the reduced number of assets to operate and maintain. Improved minimum Level of Service of 1 in 50 across all WRZs in the South East Region during normal, dry, drought and winter conditions – Operational flexibility and increased resilience by enabling supply to be delivered from other connected WTPs or storages during drought periods and at times of supply outages resulting from maintenance or operational failure. These can all provided wider associated community benefits;
- Larger supply systems are therefore less sensitive to peaks in demand during critical events. For this reason, peaking factors (used to estimate design capacity) are lower for larger WRZs, offering increased resilience through large, interconnected supplies;
- Uncertainty and sensitivity to demand is reduced and one of the key benefits for merging WRZs is this reduction in the design capacity resulting from the increased resilience of larger water supply systems; and
- Increased efficiency and economies of scale in delivering leakage reduction measures compared with fragmented systems also enabling environmental benefits from energy and carbon savings and reducing pressure for abstraction.

These interconnection benefits also support SEA objectives during operation, although, the additional pipeline network involved is associated with local environmental construction impacts.

Table 4.3 Regional Preferred Approach

Study Area	Regional Preferred Approach
SAK	**27 WRZ Options:** 13 groundwater (new/increased) abstraction options 1 increased groundwater abstraction and rationalisation option 1 new surface water abstraction option 12 WTP upgrade options **8 SA Options:** 1 option with a new SW abstraction, interconnecting 3 WRZs and rationalising 8 WRZs. 1 option with a new SW abstraction rationalising 9 WRZs to one source WRZ. 2 options with increased/new GW, rationalising 4 and 5 WRZs each.

Study Area	Regional Preferred Approach
	1 option supplying spare capacity to neighbouring WRZs, interconnecting 1 WRZ and rationalising 4 WRZs. 1 option involving a cross study area supply from the Limerick Supply system in the Eastern and Midlands Region, rationalising 6 WRZs. 2 options with new/increased GW abstractions, interconnecting 2 WRZs and rationalising 2 WRZs to 1 source WRZ.
SAL	**3 WRZ Options:** 1 increased groundwater abstraction option 2 options with new groundwater abstractions and new WTPs **3 SA Options:** 1 option improving water quality by upgrading an existing WTP and decommissioning an underperforming WTP. The WRZ is not in deficit. 2 new groundwater abstraction and rationalisation options.
SAM	**18 WRZ Options:** 13 new/increased groundwater abstraction options 5 WTP upgrade options **4 SA Options:** 1 rationalisation of a South Eastern region WRZ to an Eastern and Midlands region WRZ option 1 option rationalising one South Eastern region WRZ to one Eastern and Midlands region WRZ 1 new groundwater abstraction and rationalisation of two WRZs option 1 increased surface water abstraction and rationalisation 4 WRZs to 1 WRZ option

An overall assessment summary of the Preferred approach compared to the do minimum against SEA objectives is provided in Table 4.4 below.

Table 4.4 Regional Preferred Approach and Do Minimum Comparison

Population, economy, tourism and recreation and human health	Water environment (quality and resources)	Water environment (flood risk)	Biodiversity	Material assets	Landscape and visual amenity	Climate change (mitigation)	Climate change (adaptation)	Cultural heritage	Geology and soils
-	-	0	-	-	0/-	0/-	-	0/-	0

Do Minimum Approach

- The 'Do Minimum' approach is the 'without plan' approach, meaning that this is the approach that would occur without the RWRP-SE. As a result, the 'Do Minimum' approach would only include reactive, unplanned interim measures to address likely failures in infrastructure.
- Ongoing reliability issues with the supplies and the situation is expected to further deteriorate due to climate change driven reductions in water resources and increased demand growth within the area.
- While there would not be major construction works there would likely be increased pressure on existing abstractions. Including abstractions likely to be currently above sustainable levels and increasing issues with unreliable or inefficient network infrastructure.
- Currently 35 surface water bodies are identified by Uisce Éireann as not meeting sustainability guidelines during dry weather flows. These are likely to be subject to continued or increased abstraction pressure and other existing sources may also be subject to increased abstraction pressure in the future.

Population, economy, tourism and recreation and human health	Water environment (quality and resources)	Water environment (flood risk)	Biodiversity	Material assets	Landscape and visual amenity	Climate change (mitigation)	Climate change (adaptation)	Cultural heritage	Geology and soils
+	+/-	0/+	+/-	0/-	+/-	-	+	0/-	0/-

Regional Preferred Approach

- Focus on three pillars of using less, losing less, and supplying smarter and a planned rather than a reactive approach and a resilient system with more reliable sources.
- Implementation of the Regional Preferred Approach, which is the combination of Study Area Preferred Approaches for SAK-SAM, with the mitigation identified in the SEA Environmental Report Appendix D Environmental Action Plan, the Monitoring Plan and the Study Area Environmental Reviews SAs K-M.

- Construction impacts from pipelines and associated infrastructure but will be mitigated by reinstatement of land uses and mitigation and enhancement to minimise long term landscape, land use and biodiversity effects.
- Network improvements adding flexibility and resilience.
- Decommissioning of inefficient infrastructure and abstractions including from 70 groundwater and surface water abstractions, including seven surface water sources identified by Uisce Éireann as not meeting sustainability guidelines during dry weather flows. Reduced pressure on 27 maintained surface water abstractions identified by Uisce Éireann as not meeting sustainability guidelines during dry weather flows. Uisce Éireann has applied sustainability guidelines to all new surface water sources; however, further investigations will be undertaken to confirm sustainable yields for new and increased groundwater sources, and these will be subject to assessments under the new abstraction legislation. Overall, these will provide potential benefits for water dependent biodiversity including aquatic ecology and support for meeting WFD objectives through more sustainable abstractions.
- Recognition that existing abstractions that will be upgraded and have been identified by Uisce Éireann as currently not meeting sustainability guidelines during dry weather flows will be supported by compensation flow releases.
- Carbon emissions associated with construction and moving and treating water.
- Improving Uisce Éireann's understanding of future risks, including climate change and efficient water use.
- Increasing routine monitoring and operational planning allowing Uisce Éireann to proactively manage and forecast resourcing and operational trends.
- Process put in place for monitoring implementation of the plan and reviewing and feeding back on a regular basis within the plan development cycle.

Basis for Assessment

The RWRP-SE Regional Preferred Approach includes a commitment to work to a 1:50 year level of service across all locations and actions are in place to achieve this target. The RWRP-SE Regional Preferred Approach will provide the basis for developing an investment programme providing greater security of supply and a more resilient supply since options will address the SDB over extreme weather planning scenarios.

The Preferred Approach identifies cross study area transfers including small cross regional transfers. Rationalisation and local WRZ schemes can have both positive and negative potential effects on the water environment, biodiversity, landscape and visual amenity and cultural heritage. Therefore, mitigation measures and a monitoring framework will be developed alongside recommended developments.

In the long-term, the plan will bring benefits in terms of greater security of water supply to the population, tourism industry and recreational amenities, human health and the local economy. Additionally, the newer, or upgraded, more reliable assets within the system will result in it being more adaptable to the impacts of climate change; with benefits from replacement of abstractions identified as potentially unsustainable for meeting WFD or protected area obligations and greater flexibility to respond to future sustainability reductions.

Carbon emissions are associated with the construction and operation of schemes but there is significant scope to decarbonise especially through use of renewable energy sources at a scheme and network level. Also potential for benefits from linking carbon sequestration, biodiversity and water quality benefits from catchment management, including land use initiatives.

The SEA and AA embeds environmental considerations into the plan making process and sets a framework for identifying mitigation and monitoring so that these can be part of decision-making and can inform option design and

costing as schemes are developed and studied further prior to consenting and licencing. Further consideration of alternative options and variants to options is expected to be part of the process of taking options forward.

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		

4.5 AA Summary for the South East Region

As set out in section 6 of the SEA Environmental Report for the RWRP-SE, each option is subject to an objective assessment with uniform scoring criteria, based on best publicly available datasets. Options are scored using a seven-point Likert scale, from major adverse scoring -3 through to major beneficial 3, Lowest score against the European Sites (Biodiversity) sub criteria question based on assessing the option as having either no LSEs, LSEs that can be addressed with general/standard mitigation measures or LSEs that may require additional mitigation.

The SA Preferred Approaches for all of the SAs have -3 biodiversity scores, indicating there are Options with the potential for Likely Significant Effects (LSEs) on European Sites that cannot be ruled out without further detailed Site Level assessments.

There were -3 scores for the Preferred Approaches for all three of the study areas. Nine -3 scores for SAK impacting the Blackwater River (Cork/Waterford) SAC, Lower River Suir SAC, River Barrow And River Nore SAC, River Nore SPA, Blackwater Callows SPA, Tramore Back Strand SPA, Mid-Waterford Coast SPA, Dungarvan Harbour SPA, Blackwater Estuary SPA, River Shannon and River Fergus Estuaries SPA, and the Lower River Shannon SAC. Two for SAL impacting the River Barrow And River Nore SAC and River Nore SPA. One for SAM impacting the Slaney River Valley SAC and Wexford Harbour and Slobs SPA.

All Likely Significant Effects (LSE) on European Sites can be addressed by mitigation measures as set out in full in the NIS. No Adverse Effects on Site Integrity (AESI) are identified at Plan level.

There are Options with -1 and -2 scores across all of the Study Areas and as such there is the potential for Likely Significant Effects (LSEs). However, the potential for LSEs is generally construction related impacts and it is considered that these LSEs will not result in Adverse Effect on Site Integrity (AESI) if mitigation is in place.

4.6 AA In-Combination Summary

In summary, potential in-combination effects were identified at the South East Region's level for the following European sites:

- River Barrow And River Nore SAC;
- River Nore SPA;
- Tramore Back Strand SPA;
- Ballyteige Burrow SPA;
- Bannow Bay SAC;
- Bannow Bay SPA; and

- Wexford Harbour and Slobs SPA.

However, potential in-combination effects (construction and/or operational) would only occur where options within each Study Area are progressed concurrently with one another or with projects, and in the absence of mitigation.

With the implementation of mitigation as outlined in the NIS section 6.3 and Appendix E there will be no adverse effects on the integrity of the European sites, either alone or in-combination with other plans or projects as a result of progressing the Preferred Approach options associated with the RWRP-SE.

The conclusion of the NIS for the RWRP-SE is that, based on a plan-level assessment, and with implementation of appropriate mitigation for protecting European sites, there will be no adverse effects on the integrity of any European site(s), either alone or in-combination with other plans or projects as a result of progressing Preferred Approach options within the RWRP-SE.

4.7 WFD Summary for the South East Region

Application of estimated allowable abstraction constraints on new options means that only options that are expected to meet sustainability requirements are considered. Individual options within the Regional Preferred Approach have been assessed and are expected to be sustainable, based on Plan Level desk-based assessment, in terms of avoiding deterioration of WFD status or avoiding conflict with meeting WFD objectives.

All surface water abstractions proposed within Preferred Approaches are within the expected sustainable abstraction limits of 10% or 5% of Q95 for ‘good’ and ‘high’ WFD river waterbody status sources and 10% or 5% of Q50 for ‘good’ and ‘high’ WFD lake waterbody sources respectively. Abstraction impacts on groundwater bodies have been assessed through a separate technical study which considered cumulative effects on WFD ground water quantitative status. Based on the available information this concluded that there is no indication of cumulative impact or impact on WFD quantitative status of the groundwater bodies (Uisce Éireann, 2023b).

However, cumulative effects also need to be considered, in terms of both sustainability for connected surface waterbodies and groundwater dependent habitats and protected areas. Further studies are identified in the Study Area Environmental Reviews for specific options where risks are identified.

4.8 Transboundary Effects for the Regional Preferred Approach

The potential for transboundary effects has been considered through identification of potential options with impacts through proximity or pathways to receptors. The types of options and their location, proximity and pathways for environmental effects have been considered through the process in relation to possible environmental effects for the Northern Ireland environment including any shared groundwater and river catchments and the marine environment.

For the combination of options included in the Regional Preferred Approach, no potential transboundary adverse environmental effects have been identified at the Study Area Level or the Regional Level for the RWRP-SE

5 Mitigation and Monitoring Plans

5 Mitigation and Monitoring Plans

The Mitigation and Monitoring Plans for the RWRP-SE are based on the plan outlined in section 8.3.8 of the Framework Plan and include three elements:

- Mitigation Measures including recommendations to incorporate into project development as options are taken forward through feasibility assessments, design, consenting and implementation;
- Environmental Action Plan identifying actions to be taken to integrate environmental requirements into process and related areas so that mitigation recommendations implemented; and
- Monitoring Plan identifying the targets and indicators to be measured or recorded to determine progress to meeting SEA objectives.

Commitment to implementing the Environmental Action Plan and the Monitoring Plan is provided in section 9 of the RWRP-SE which also sets out the wider context and process for monitoring and feedback to inform the implementation of the plan and future cycles of review and updating.

The approach to monitoring takes account of the EPA report '*The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment'* (EPA, 2021).

The Monitoring Plan is therefore provided in two parts; the first to address plan level monitoring and the second to provide a framework for project level monitoring. The Environmental Action Plan will also include a task to review and update the monitoring indicators and targets to allow new conditions to be taken into account and to ensure the plan is sufficiently flexible to take account of environmental issues arising and any unforeseen adverse impacts. The plan level monitoring covers combined and cumulative effects. The indicators include both those aimed at positive as well as covering potential negative effects and sources, frequency and responsibilities are identified.

5.1 Mitigation Measures

SEA options assessment assumes the implementation of standard mitigation measures, such as operation of water sources in line with regulatory requirements and the use of good construction practice. Examples of standard measures expected to be embedded in the design and development of infrastructure options are listed in Appendix D of the SEA report for RWRP-SE which identifies the mitigation measures that specifically respond to the significant environmental effects identified for each SEA topic in the RWRP-SE SEA SAs K-M Environmental Reviews. Standard and specific mitigation measures include recommendations for further environmental assessment work to be undertaken at project stage to further inform mitigation development, as well as mitigation to be implemented directly at project stage.

5.2 Environmental Action Plan

The Environmental Action Plan (EAP) set out in Table 5.1 summarises the actions and areas of further study identified in this Environmental Report. The EAP provides a basis for tracking recommendations from the SEA during the NWRP implementation.

The EAP provided in Table 5.1 focuses on two aspects, the first being the options and approach appraisal process and the second is how environmental considerations are integrated with other supporting areas.

Table 5.1 Environmental Action Plan

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
Identifying the Need – Quantity, Quality and Reliability					
Quantity – Supply Demand Balance					
Abstractions and Supply Side Yield Assessments					
EAP1	Options and Approach Development Process and Supporting Measures	**EAP1.1** Link investigation on supply risks to environmental resilience and avoiding damage to vulnerable habitats and protected areas; especially European designated sites, and threats to WFD water body objectives.	Environmental issues to be included in risk assessments for supply shortages or drinking water quality issues.	Study area scoping, risk assessments and prioritisation as part of the Regional Plan development and SEA 2021-2023.	Y completed for the RWRP-SE
Demand Side Data Improvements: Planning for Future Developments					
EAP2	Options and Approach Development Process and Supporting Measures	**EAP2.1** Reviews of WRZ configuration can consider potential environmental benefits from rationalisation opportunities to improve operational efficiency for waste and energy use and also reduce need for developing new sources.	Optimised WRZs/study areas	Study area scoping, risk assessments and prioritisation as part of the Regional Plan development and SEA 2021-2023.	Y completed for the RWRP-SE

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		EAP2.2 Feed information on potential for water efficiency improvements to provide savings into future options identification.			
Linking SEA and Future Development of Schemes					
EAP3	Options and Approach Development Process and Supporting Measures	**EAP3.1** Understanding causes of water quality issues for drinking water can support catchment management actions and wider environmental objectives. Link clean water element (RC3) on water quality compliance and ongoing programmes on improving drinking water quality to potential for long term solutions through to long term Catchment Management and Nature Based Solutions opportunities to reduce pollution in groundwater and surface waters and water treatment issues.	Source risk assessments and drinking water safety plans linked to the NWRP process.	Regional Plan SEA Environmental Reports 2021-2023 and Source risk assessments and drinking water safety plans ongoing – consider progress in Annual reviews.	Y plan level assessment completed for the RWRP-SE R project level assessments for water sources
		EAP3.2 Link Drinking Water Safety Plans to scoping of study areas, prioritisation and options development process including consideration of catchment management opportunities.		Study area scoping, risk assessments and prioritisation and engagement with relevant stakeholder groups.	R

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		EAP3.3 Link ongoing projects with the supply demand assessments, scoping area studies and prioritisation for new investment. Consider as part of investment proposals for water treatment works – wider rationalisation opportunities with opportunities to reduce abstraction pressure on stressed sources and potential for improvements to residuals management (see also EAP 11.1).	Existing programmes and projects coordinated with the NWRP.	Study area scoping, risk assessments, prioritisation and application of options development methodology.	Y completed for the RWRP-SE
		EAP3.4 Value environmental and social benefits as well as costs in options development process (using environmental economics tools such as natural capital/ecosystems services and social value assessments) which can also value nature based solutions such as catchment management benefits.	Cost Benefit Analysis and MCA supported by environmental/social valuation as well as qualitative assessment.	Take forward into project development. Include in next cycle of Regional Plans 2023 onwards.	R
Delivering Solutions – Approach					
Climate Change					
EAP4	Options and Approach Development Process and	**EAP4.1** Take account of effects of climate change effects on protected areas and WFD objectives as well as water supply. For example in the SE region, consider effects on the Lower Suir catchment and associated ecology and	Environmental resilience as part of the climate change risk assessment informing long-term solutions.	Regional Plan SEA Environmental Reports 2021-2023 and	R

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
	Supporting Measures	species status and ensure alignment with the Biodiversity Action Plan (Irish Water, 2021).		implementation of projects. Catchment management to be considered in source risk assessment where appropriate - ongoing. Progress to be considered in Annual review.	
		EAP4.2 Results completed, and ongoing climate change studies should be used to inform future scoping of study areas/WRZs, and the types of solutions considered and prioritisation for investment.			R
		EAP4.3 Long term actions to improve water retention in upper catchments as well as catchment wide water quality initiatives could be considered as responses. Catchment management and nature based solution benefits linking improvements to water quality reducing treatment and opportunities for improving carbon sequestration in soils and through woodland planting (also linking to biodiversity objectives).			R
		EAP4.4 Investigate opportunities to reduce carbon emissions in construction and operational phases reflecting importance of energy efficient and low carbon emission considerations in design and construction methods and	Identify how construction and operational carbon can be reduced across project development, construction and operation including potential for	Progress to be considered in Annual review.	R

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		considering opportunities for use of renewable energy sources. Ensure alignment with the Uisce Éireann Energy Efficiency Plan.	including renewable energy sources, such as solar panels, in project design.		
Lose Less: Leakage Reduction					
EAP5	Options and Approach Development Process	**EAP 5.1** Take forward studies and actions supporting meeting leakage targets and include consideration of relieving pressure on existing deficit areas and abstractions with sustainability issues and drought risks.	Develop information to support and improving leakage reduction.	Progress to be considered in Annual review.	R
Use Less: Water Conservation					
EAP6	Options and Approach Development Process and Supporting Measures	**EAP6.1** Link to raising awareness on environmental benefits of water conservation.	Improved awareness of benefits of conserving water (day to day and during extreme events).	Awareness campaigns. Progress to be considered in Annual review.	R
		EAP6.2 Consider customer research on the water supply and demand management including water efficiency options development along with local community and stakeholder views.		Customer consultation. Progress to be considered in Annual review.	R

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		EAP6.3 As data is developed to support understanding on water conservation, develop water conservation/water efficiency options to be considered as part of the Options Assessment Methodology for future plan cycles.	Monitoring and feedback stage 8 of the options assessment methodology.	Progress to be considered in Annual review.	R
Supply Smarter: Capital Investment and Improved Operations					
See **EAP3, 4 and 5** in relation to linking ongoing programmes and future water resource planning and **EAP10, 11 and 12** on implementing options and approach assessment methodology.					
Drought Planning					
Information for Assessing Drought Risks					
EAP7	Options and Approach Development Process	**EAP7.1** Identify the risks from potential drought actions for water sources designated for nature conservation value and supporting protected species - include lessons learned from the 2018, 2020 and 2022 droughts.	Drought - sources at risk identified.	Drought management phased for each Regional Plan area 2023 onwards.	R
Environmental Mitigation of Drought Measures					
EAP8	Options and Approach Development Process	**EAP8.1** Assess potential impacts of drought restrictions on customers, especially vulnerable groups, to identify both communication requirements and exemptions on restrictions relevant for each management area.	Drought management avoiding causing temporary or long-term impacts on protected habitats and species as well as	Drought management - environmental reviews and communications strategy Drought management:	R

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		EAP8.2 Develop drought communication plans and identify approaches to avoid impacts on vulnerable water users, for example, through exemptions – plan to provide customers with information early so that voluntary measures can be effective in avoiding the need for additional measures in most cases and taking forward the approaches from the 2018 summer drought, 2020 spring drought, and the 2022 drought	minimising restrictions to customers.	• Social/environmental reviews • Communication strategy • Environmental assessment of sources at risk phased for each Region Plan area 2023 onwards	R
		EAP8.3 Prepare environmental assessments (including AA) for sensitive water sources at risk from drought management actions. These should be available in advance of measures being needed. They should include consultation on the assessments with environmental authorities and identify specific monitoring or mitigation measures.			R
Residuals Approach					
EAP9	Options and Approach Development	**EAP9.1** Include consideration of residuals management in the options development process involving WTPs or rationalisation opportunities.	Residuals approach linked to options development process.	Regional Plan SEA Environmental Reports 2021-2023 and	Y

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
	Process and Supporting Measures	**EAP9.2** Apply the waste management hierarchy with any solid waste disposal limited to appropriate licensed sites.		implementation of projects.	R
Delivering Solutions: Options and Approach Assessment Methodology					
Integration of Environmental and Sustainability Considerations					
EAP10	Options and Approach Development Process	**EAP10.1** Study area scoping to include analysis of environmental baseline issues, risks, constraints and opportunities to inform identification of initial options as providing context for the option development process.	Context for identifying and assessment options is provided.	Regional Plan SEA Environmental Reports 2021-2023. Risk assessments and prioritisation.	Y as part of RWRP-SE and SEA
		EAP10.2 Further development of the environmental and social impact valuation methodology as a tool for the approach appraisal process, based on ecosystems services assessment/natural capital assessment principles, can support cost benefit analysis and MCA methodologies and provide quantitative information supporting SEA in the future.	Cost Benefit Analysis and MCA supported by environmental valuation based on natural capital/ecosystems services approaches as well as qualitative assessment.	Take forward into project development. Include in next cycle of Regional Plans 2023 onwards.	R R
		EAP10.3 Comparison of combinations of options (or approach) should include assessment of cumulative effects for each study area (groups of	Best environmental solutions considered in selection of preferred solutions with	Regional Plan SEA Environmental Reports 2021-2023.	Y as part of RWRP-SE and SEA

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		WRZs) and be considered in determining the best value approach. Justification for the approach selected will need to be provided.	mitigation built into design and costing. Opportunities for enhancement to contribute to objectives to be considered.	Consider in Annual Review.	R to be taken forward to project level
Transboundary Issues					
EAP11	Options and Approach Development Process	**EAP11.1** Ensure potential for transboundary impacts are considered during options assessment and early consultation is undertaken to inform the assessment process.	Transboundary effects avoided.	Regional Plans SEA Environmental Reports 2021-2023. Consider in Annual review.	Y R
Delivering Sustainable Solutions					
EAP12	Options and Approach Development Process	**EAP12.1** Link the options development information and SEA mitigation recommendations into the initial studies and designs for selected project level schemes so that assumptions and mitigation recommendations are taken forward. Develop a monitoring information template to capture key environmental information at key project development stages recording:	Template developed and applied. Preferred approach options taken to project stage subject to initial environmental review linking to information from the options development and assessment process and to	Monitoring Plan/scheme development - progress to be considered in Annual review.	P

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		• Project design/implementation stage and environmental assessment process applied and link to SEA and NIS recommendations • Data review and update at each key stage including reviewing current and draft policies and plans • Report on Monitoring Plan indicators • Identify potential for cumulative effects • Review and update monitoring template to address requirements of new legislation as appropriate	good practice procedures and Monitoring Plan criteria.		
		EAP12.2 Development of procedures to integrate good practice approaches for avoiding/mitigating environmental impacts and identifying enhancement opportunities in future scheme design and development. Including incorporation of requirements of new legislation into the project development and implementation process[2].			P
		EAP12.3 Ensure environmental mitigation and study requirements are covered in option costing			P

[2] For example, ensure alignment with the changes introduced through the new Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (passed on the 13th October 2023). Once enacted, the Bill will replace the existing National Monuments Act 1930 to 2014 and other related legislation.

Ref no.	Focus	Recommended Action for Mitigation/Further Study	Target	Monitoring (Timescale)	South East Region Progress summary: Completed: Y In progress: P Recommended: R
		and risk aspects are taken into account in scheme development.			
		EAP12.4 Review monitoring framework and update to ensure environmental mitigation and study requirements are covered in option costing and risk aspects are taken into account in scheme development.			R

5.3 Monitoring Plan

The Monitoring Plan is a requirement under the SEA regulations to provide a basis of identifying significant environmental effects during the implementation of the Plan. This is required to review the predicted impacts of the Regional Plan, and the adequacy of the mitigation measures recommended so that additional mitigation can be applied if required. Performance against the monitoring plan targets will also inform the next cycle Plan and SEA process.

The Public Water Supply in Ireland is a live asset base and is subject to continuous change. Similarly, the development of Preferred Approaches, as part of the Regional Plans, is influenced by evolving scientific data, understanding, and policy change in relation to the natural environment.

Uisce Éireann must be able to continuously adapt to these changes, which may be minor or material in nature. The Framework Plan setting out the overarching approach committed to undertaking continuous monitoring and ensuring that there is a feedback mechanism within the Framework Plan and Regional Plans.

Given the scale of the assessments required and work to be undertaken, the first iteration of the NWRP consists of a Framework Plan and four Regional Plans. Once completed, the NWRP will be treated as a unified plan, and the regional boundaries established for the purposes of the development of the regional plans will have no on-going application. All Preferred Approaches identified in the NWRP will be prioritised on a national basis through Uisce Éireann's regulated investment cycles. The intention is to review the NWRP every five years, and this continuous monitoring process will ensure that material amendments are assessed for significant impacts on the environment.

The Monitoring Plan is provided in two parts:

- Monitoring Plan – Part 1: South East plan level monitoring (Table 5.2 – purple table); and
- Monitoring Plan - Part 2: Framework for project monitoring (Table 5.3 – orange table).

The Monitoring Plan takes account of comments from the consultation process and has been designed to provide a basis for the identification and continuous review of the positive, negative and cumulative impacts of the RWRP-SE.

5.3.1 Regional Monitoring Plan

The Monitoring Plan for the RWRP-SE SEA takes forward and builds on the monitoring adopted for the Framework Plan.

The Monitoring Plan covers the integration of environmental and sustainability considerations throughout implementation of the Regional Plan and the options development methodology. It also provides a framework for future long-term monitoring. In most cases, more detailed baseline collection and project studies will be required to confirm the significance of environmental effects and ensure appropriate mitigation is included as part of the individual scheme designs.

In certain circumstances, monitoring and feedback will identify the need for a variation of the Regional Plan. Where a variation is required, Uisce Éireann will screen the change against SEA and AA requirements in accordance with its legal obligations.

As part of the screening, Uisce Éireann will consult with the EPA and relevant Government Departments as required by Article 9(5) of the SEA Regulations. If, following screening, Uisce Éireann determines that the change is likely to have significant effects on the environment, it will carry out a SEA before adopting the change. Uisce Éireann will also carry out an AA if it determines, following screening, that the change

is not directly connected with or necessary to the management of any European site and Uisce Éireann cannot, on the basis of objective scientific information, exclude that the change, individually or in combination with other plans and projects, will have a significant effect on European sites, as required by Article 42(6) of the EC (Birds and Natural Habitats Regulations) 2011 (SI 477/2011)(as amended).

In recognition of the importance of multi-stakeholder engagement and collaboration in managing shared natural resources, Uisce Éireann are members of an expert group chaired by the Department of Housing Local Government and Heritage (DHLGH) to make recommendations to the Minister regarding a new approach to drinking water source protection as part of the transposition of the recast Drinking Water Directive. Other members of the group include the County and City Management Association (CCMA), the Local Authority Waters Programme (LAWPRO), the National Federation of Group Water Schemes (NFGWS), the Environmental Protection Agency (EPA), Geological Survey of Ireland (GSI), the Health Service Executive, the Department of Agriculture, Food and the Marine (DAFM), the Irish National Accreditation Board (INAB), the National Standards Authority of Ireland (NSAI) and the Commission for Regulation of Utilities (CRU). Implementation of source protection measures will require further collaboration with several stakeholders including, riparian owners, industry groups, the agricultural and environmental sector forestry and Teagasc. These measures will complement existing ongoing works for example the works carried out by Teagasc under the Agricultural Sustainability and Advisory Programme (ASSAP) which looks to improve water quality through working with farmers.

Table 5.2 Regional Monitoring Plan: Indicators and Targets - South East Regional Plan Level Monitoring

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
Reporting timescale: included in Regional Plan and SEA (developed during 2022-23)				
All topics and objectives	**Regional All Topics 1** Application of the options and approach assessment process, as set out in the Framework Plan, to integrate environmental, social and sustainability SEA objectives alongside other criteria in the preparation in the Regional Plans **Regional All Topics 2** Application of methodology for SEA and AA in the comparison and selection of Preferred Approaches for the preparation in the Regional Plans **Regional All Topics 3** Environmental and social valuation methodology developed further as a tool using natural capital /ecosystems services assessment **Regional All Topics 4** Transparent documentation of the appraisal and selection process	• Target 1 Options and plan approach to find sustainable solutions that contribute to environmental objectives	Uisce Éireann	Uisce Éireann
All topics and objectives	**Regional All Topics 5** Iterative approach to the identification of appropriate options meeting objectives, and mitigation measures incorporated into project costs or risks, as part of the development of options for the Regional Plans and as a basis for future project costing. **Regional All Topics 6**	• Target 2 Process implemented for iterative options assessment through identification, option design development stages and identification of mitigation measures and input to project costing	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
	Identification of process for undertaking the relevant options studies and feeding back where potential significant environmental effects are identified including engagement with relevant stakeholders.	• Target 3 Option development for Preferred Approach options built on the SEA and AA work and incorporating feedback to the next Framework Plan and adequate comparison with alternatives at key points		
Reporting timescale: to be phased for RWRP-SE implementation 2023 onwards				
All topics and objectives	**Regional All Topics 7** Environmental assessment, including AA, for designated international and national sites potentially affected by drought measures **Regional All Topics 8** Communication plan for drought/freeze-thaw period actions	• Target 4 Source-specific environmental assessment and mitigation and monitoring measures agreed, avoiding long-term damage on designated sites and associated species from drought measures	Uisce Éireann	Uisce Éireann
Reporting timescale: annual reporting for RWRP-SE from 2023 onwards				
All topics and objectives	**Regional All Topics 9** 1. Monitoring plan data collection implemented (see below for each topic) set up to support baseline information for the next Regional Plan, project level feedback, identification of cumulative effects, and providing the basis for monitoring future implementation. 2. Review of the monitoring plan and update where needed to capture issues or unforeseen effects.	• Target 5 Monitoring plan data compiled for feeding into future Framework Plans and the Stage 8 Monitoring and Feedback process.	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
Population, economy, tourism and recreation, and human health	**Regional Population and Health** 1. Level of Service achieved 2. Frequency and duration of droughts needing management actions 3. Number of days/hours when water supply to people is disrupted due to drought, freeze-thaw or other service/infrastructure issues 4. Awareness raising programmes on water conservation 5. Reduced water supply restrictions due to water quality risks	• Target 6 Maintained or improved access to reliable and safe drinking water meeting forecast demand • Target 7 Reduced number of drought actions affecting supply • Target 8 Raised public awareness of actions to take for water conservation with reduced household /non domestic per customer demand	Uisce Éireann	Uisce Éireann
	Regional Recreation and Tourism 1. Level of service accommodating seasonal tourism demand	See Target 6	Uisce Éireann	Uisce Éireann
Water environment	**Regional Water Environment** 1. Number of investigations and area covered by catchment management schemes and number of nature based solutions put in place 2. Additional water quality and biological monitoring/data collection in addition to WFD monitoring data where needed 3. Number of demand management initiatives supporting water savings 4. Compliance with WSSP Strategy Objective to manage water supplies in an efficient and economic manner (WS3). Key indicator –	• Target 9 Improved environmental resilience and water quality within water resource use catchments • Target 10 Contribution to restoration to “good” status of waters currently at “moderate”, “poor” or “bad” status (WFD objective)	Uisce Éireann and EPA	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
	Leakage expressed as a percentage of treated water put into the distribution system 5. Number of waterbody sources where WFD good status is not reached due to abstraction pressure 6. Number of waterbody sources benefiting from reduced abstraction or cessation in abstraction	• Target 11 Achieve leakage targets identified for the South East		
	Regional Flooding 1. Number of outages due to flood events or power or outages	• Target 12 No loss of supply due to flood events	Uisce Éireann and EPA	Uisce Éireann
Biodiversity, flora and fauna	**Regional Biodiversity** 1. Identification of existing abstractions or drinking water treatment residuals with risks to international or national designations 2. Aquatic ecology - number of existing abstractions identified by Uisce Éireann as potentially unsustainable in dry weather conditions where abstractions are reduced or abandoned 3. Number of waterbodies with improvements benefiting raw water quality/aquatic ecology due reduced or cessation of abstractions, catchment management, nature based solutions, river enhancement, migration barrier removal 4. Number of waterbodies sources where WFD good status is not reached due to abstraction pressure 5. Regional information on net loss/gain of habitats collated from proposed and undertaken projects	• Target 13 No adverse effects on integrity of European, national or regional level designations and, where feasible, seek to contribute to achieving favourable conservation status • Target 14 Improvement to aquatic biodiversity of existing waterbody sources • Target 15 region wide no net loss of high value habitats and improved habitat connectivity (OSI National Land Cover data can be used as a basis for determining no net loss)	NPWS, OSI, EPA and Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
Material assets	**Regional Material Assets** 1. Tonnes of residuals reused or recycled across region per year 2. Tonnes of waste disposed of to landfill for the region per year	• Target 16 No drinking water treatment residuals sent to landfill and no reduced abstraction to other users due to new schemes	Uisce Éireann, EPA and Local Authorities	Uisce Éireann
Landscape and visual amenity	**Regional Landscape and Visual** 1. Total working area of pipelines through protected landscapes, outside protected areas, and urban areas 2. Development of protected landscape strategies to guide work in important and valued landscapes	• Target 17 Improvement or no net change in landscape quality	Uisce Éireann	Uisce Éireann
Climate change	**Regional Climate Change Mitigation** 1. Percentage of energy supply from renewable sources and energy efficient improvement for the region. 2. Carbon footprint (total tonnes) per year, predicted over plan period, lifetime of schemes of water resource options (tonnesCO_2equiv) 3. Operational Carbon Intensity kgsCO_2equic/ML overall achieved for the region each year 4. Total carbon value from any carbon offsetting schemes linked to the Plan	Decarbonisation through the following: • Target 18 Increased contribution of renewable/low carbon energy sources for existing and new schemes including project-based sources. • Target 19 Minimised the annual carbon emissions from operation and reduced carbon intensity of water supply • Target 20 Supported carbon offsetting schemes, including upper catchment schemes linked	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
For monitoring Regional Plan. Monitoring results are to be fed back into the reporting for the Regional Plan and SEAs				
		to biodiversity and water and population wellbeing (recreational) objectives		
	Regional Climate Change Adaptation 1. Frequency of drought (including freeze thaw) orders requiring change to normal abstractions/compensation releases 2. Number of outages due to weather events and power loss	• Target 21 Improved resilience of environment to climate change	Uisce Éireann	Uisce Éireann
Cultural heritage	See project level monitoring	N/A	N/A	N/A
Geology and soils	See project level monitoring	N/A	N/A	N/A

5.3.2 Project Level Monitoring Framework

The Monitoring Plan - Part 2 Framework for the project monitoring is set out below in Table 5.3. This is intended to provide a framework for project level monitoring which can be considered as part of the plan feedback and review process as the individual projects are developed and implemented.

Table 5.3 Project Level Monitoring Framework: Indicators and Targets - Project Level Framework

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
For monitoring individual projects. Monitoring results on individual projects also to be fed back to reporting for the Regional Plan and SEAs. Note that not all indicators will be relevant for all types of projects				
Reporting timescale: across each project develop over plan implementation period				
All topics and objectives	**Project All Topics 1** Environmental screening applied for all projects to check appropriate level of study and assessment to address risks of environmental impacts	• Project Target 1 Project development to find sustainable	Uisce Éireann	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	but also opportunities for enhancements or reduction of and carbon emissions in construction and operation and application of waste hierarchy, including taking account of recommendations from the SEA and NIS. Include engagement with stakeholders. Assessments will take account of relevant and available data sources including those recommended by the EPA, NPWS and DECC[3] .	solutions that contribute to environmental objectives		
All topics and objectives	**Project All Topics 2** Application of project level monitoring and feedback to identify potential significant environmental effects are identified at each stage of project development and implementation process and post project evaluation or audit.	• Project Target 2 Process implemented for project level development feeding back information for project and regional level review	Uisce Éireann	Uisce Éireann
Population, economy, tourism and recreation, and human health	**Project Population and Health** a) Number of complaints received relating to construction works b) Duration of works with traffic control/disruption c) Noise levels at receptors within recommended limits during construction and operation and mitigation provided where assessment indicated levels are exceeded d) Dust management plan applied for construction	• Project Target 3 Minimise extent and period of disruption to traffic related to construction • Project Target 4 Minimise access restrictions and noise disturbance to people from construction and operation of schemes	Uisce Éireann (project level information)	Uisce Éireann
	Project Recreation a) Number of footpath/access closures/diversions b) Length of public access paths created compared to loss c) Area of any amenity improvement provided, or amenity area lost (ha)	• Project Target 5 No net loss of important recreational amenity, improved access and support for new recreational amenity	Uisce Éireann (project level information)	Uisce Éireann

[3] DECC recommended, in responses to the draft RWRP-SW consultation, additional sources which would need to be considered at project level including: Geotechnical Database Resources, Geo Hazards, Marine and Coastal Unit and Coastal Vulnerability Index GSIs Groundwater Protection Scheme mapping,'GW Climate' maps and data, County Geological Sites (available on GSI's Map Viewer), National Geodatabase, National Landslide database and Landslide Susceptibility map, Historic Site project datasets, GSI's Coastal Vulnerability Index study.

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
Water environment	**Project Water Environment** a) Additional water quality and biological monitoring/data collection in to supplement WFD monitoring data where needed b) Sustainability of abstraction for surface or ground water c) Inclusion of supporting measures to safeguard or improve raw water quality where appropriate d) Design measures to contribute to remove or contribute to removing barriers to fish migration where appropriate and within Uisce Éireann responsibility. e) Improvement to river morphology/aquatic ecology/water quality f) Consult INFOMAR and other GSI Marine and Coastal Unit datasets to identify constraints. g) Consult Waterways Ireland as the navigation authority regarding canals and waterways to identify constraints.	• Project Target 6 Avoids "No deterioration" in status of waters (WFD objective) • Project Target 7 Contributes to restoration to "good" status of waters currently at "moderate", "poor" or "bad" status and WFD objectives	Uisce Éireann and EPA (project level information)	Uisce Éireann
	Project Flooding a) Area of flood plain/flood storage loss and compensation provided b) Flood risk vulnerability to water supply change due to project c) Any significant increase in flood risk to property or assets due to project d) Consult the GW Climate project (follow on from GW Flood project) data in relation to Flood Risk Assessment e) Consult the Geological Survey Ireland's Groundwater Protection Schemes to identify constraints f) Consult GSI's Coastal Vulnerability Index study to identify constraints related to the adverse impacts of sea-level rise on the Irish coast	• Project Target 8 No net flood plain area lost as a result of the plan, and where possible increase functioning flood plain • Project Target 9 Reduced flood risk or vulnerability to supply	Uisce Éireann (project level information) and EPA	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
Biodiversity, flora and fauna	**Project Biodiversity** a) For designated nature conservation sites potentially affected by water resource options: b) Area of each designated site/type affected and the likely impact c) Area of site with a predicted or recorded change in condition (positive or negative) d) Plan for/measurement of enhancement - area/length of habitat loss or affected vs restored - (for example use of biodiversity metrics to compare before and after habitats area and condition) e) Improvement in habitat connectivity or loss of connectivity f) Improvement to aquatic habitats and fish migration where relevant g) Removal of residuals discharge to waterbodies h) Invasive species risk assessment i) Identification of potential for applying nature-based solutions or catchment management including opportunities for biodiversity enhancement	• Project Target 10 No adverse effects on integrity of European, national or regional level designations and, where feasible, seek to contribute to achieving favourable conservation status • Project Target 11 No net loss of valued habitats or habitat connectivity as a result of the works and, where possible, demonstrate habitat enhancement/creation • Project Target 12 reduced invasive species risk • Project Target 13 Implementation of nature-based solutions or enhancement linked to catchment management	NPWS, EPA and Uisce Éireann (including project level information)	Uisce Éireann
Material assets	**Project Material Assets** a) Area of permanent loss of greenfield land, including agricultural, forestry or other land uses or area returned to greenfield, habitat or community use. b) Materials and waste management plans used on all new schemes and including decommissioning of infrastructure c) Sustainability assessment including consideration of non Uisce Éireann abstractions d) Residuals management for water treatment plant upgrades and new	• Project Target 14 Minimise permanent loss of greenfield land, including agricultural, forestry or other land uses • Project Target 15 Minimise material consumption and waste during construction and operation of schemes	Uisce Éireann, EPA and Local Authorities (including project level information)	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	plant designed in accordance with Uisce Éireann's Residuals Management Strategy	• Project Target 16 Increase investment in existing and new water treatment and wastewater management infrastructure • Project Target 17 No drinking water treatment residuals sent to landfill and no reduced abstraction to other users due to new schemes		
Landscape and visual amenity	**Project Landscape and Visual** a) Total working area of pipelines through protected landscapes, outside protected areas, and urban areas b) Development of protected landscape strategies to guide work in important and valued landscapes c) Land use/landscape features re-established for projects over an appropriate period – areas/km successfully restored to meet requirements	• Project Target 18 Improvement or no net change in landscape quality through landscape design and mitigation and enhancement	Uisce Éireann (including project level information)	Uisce Éireann
Climate change	**Project Climate Change Mitigation** a) Carbon footprint (total tonnes) of construction and lifetime carbon tonnes including operational carbon calculated for the project b) Carbon intensity calculated of the project (kgsCO_2equic/ML) based on lifetime carbon c) Inclusion of renewable energy sources as part of the project d) Decarbonisation plan to inform design, construction and operation e) Carbon offsetting opportunities through carbon sequestration such as woodland planting or peat bog restoration.	Decarbonisation through the following: • Project Target 19 Benchmarked reduced carbon emissions from construction • Project Target 20 Increased contribution of renewable/low carbon energy sources • Project Target 21 Minimise the annual carbon emissions from	Uisce Éireann (including project level information)	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
		operation and Improve energy efficiency of water services • Project Target 22 Scheme related carbon offsetting- such as upper catchment management initiative/collaboration linked to biodiversity and water and population wellbeing (recreational) objectives		
	Project Climate Change Adaptation a) Flood, freeze thaw and drought risk vulnerability assessment including power outages to inform scheme design.	• Project Target 23 Improved project resilience to climate change effects	Uisce Éireann	Uisce Éireann
Cultural heritage	**Project Cultural Heritage** a) Number of designated sites or other important archaeological or architectural heritage sites (underwater and terrestrial) and/or their settings adversely affected by water resource options including through hydrological change from abstraction. b) Provision of access to/ or recording of assets and communication/interpretation of interest features where appropriate. c) Consult the National Monument Service's resources: Record of Monuments and Places, Sites and Monuments Record, National Inventory of Architectural Heritage, Wreck Inventory of Ireland Database, List of National Monuments in Ownership or Guardianship of the Minister, List of Preservation Orders, and Excavations	• Project Target 24 No unauthorised physical damage or alteration of the context of cultural heritage features due to Uisce Éireann activities • Project Target 25 All schemes developed applying best practice approaches for consultation, desk study and investigation and mitigation for cultural heritage and archaeological interest	Uisce Éireann (including project level information) Archaeological Survey of Ireland Sites and Monuments Record	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	Bulletin[4].			
Geology and soils	**Project Geology and Soils** a) Area of geological site affected by water resource options b) Total area of soil removed or reused on schemes c) Area of contaminated land restored, or soils removed d) Area within catchment management initiative where soil is to be improved for example by reducing soil loss/erosion, reducing artificial fertiliser use, increasing soil carbon and increasing native woodland planting e) Consult the National Geodatabase, the Geological Survey Ireland's (GSI) Groundwater and Geothermal Unit, the National Landslide Database and Landslide Susceptibility Map, and the Historic Mine Site project datasets to identify constraints	• Project Target 26 No loss of statutory and non-statutory geological sites of interest • Project Target 27 Minimal disturbance or loss of high-quality land as a result of the Framework Work and minimal net loss of soil resources • Project Target 28 Catchment areas where raw water quality issues have been improved though soil and land management changes	Uisce Éireann (including project level information)	Uisce Éireann

[4] Note that changes introduced through the new Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (passed on the 13th October 2023) will need to be considered, such as licencing and designation and registration systems (see section 5.10 of the SEA Environment Report for a summary of the changes being introduced).

6 Next Steps

6 Next Steps

SEA requirements and consultation comments have been taken into account in finalising the Regional Plan. Consultation responses and how the SEA has been taken into account are reported in this SEA Statement published with the final Regional Plan. Responses to the consultation are also reported in the Post Consultation Report. In addition, the SEA Environmental Report has been updated to take account of amendments to the RWRP-SE and comments received through the consultation process.

This SEA Statement is published with the final adopted Regional Plan Report and the updated SEA Environmental report (including the Study Area Environmental Review appendices), along with the AA determination and all the documents are available online at the following website: https://www.water.ie/projects/strategic-plans/national-water-resources/rwrp/

Glossary and Acronyms

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
CFRAM	Catchment Flood Risk Assessment and Management
CRU	Commission for Regulation of Utilities
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
Desalination	The process of removing salt from seawater
DHPLG	Department for Housing, Planning, and Local Government
EBSD	Economics of Balancing Supply and Demand
EC	European Commission
Effluent	Liquid waste or sewage discharged into a river or the sea
Environmental Report (SEA Environmental Report)	The SEA report that documents the effects of measures outlined in a plan
EPA	Environmental Protection Agency
GIS	Geographical Information System
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

Term	Definition
MCA	Multi-Criteria Analysis
Mitigation	The implementation of measures designed to reduce the predicted effects of a plan or project on the environment
Ml/d	Mega litres per day
NAF	National Adaptation Framework
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 assessment and the process of collating data on a project and its potential significant impacts on European sites.
NIAH	National Inventory of Architectural Heritage
NPV	Net Present Value
NPWS	National Parks and Wildlife Service
OPW	Office of Public Works
PCC	Per Capita Consumption
pNHA	Proposed National Heritage Area
Ramsar site	An international designation for an important wetland site under the Ramsar Convention
RSES	Regional Spatial and Economic Strategies
River Basin District	The area of land and sea, made up of one or more neighbouring river basins together with their associated groundwater and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins
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

Term	Definition
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
UKWIR	UK Water Industry Research
UN	United Nations
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
WSSP	Water Supply Strategic Plan
Water Supply Zone	The area supplied by an individual water supply scheme. This typically includes one or more abstractions (from a river, lake or groundwater), a treatment plant, storage in reservoirs and the distribution pipe network to deliver the water to each household or business.
WTP	Water Treatment Plant
WwTP(s)	Wastewater Treatment Plant

References

Central Statistics Office (CSO). 2016. E2014: Population Density and Area Size 2016 by Towns by Size, Census Year and Statistic. [Online]. [Accessed: 06/01/20]. Available from: https://www.cso.ie/en/releasesandpublications/ep/p-cp2tc/cp2pdm/pd/

Department of Public Expenditure and Reform. 2019. *Public Spending. Code A Guide to Evaluating, Planning and Managing Current Expenditure.* [Online]. [Accessed 05.12.2020]. Available from file:///C:/Users/jensensa1/Downloads/43555_b026e01682a24a4fb4db411bc15c3df3.pdf

Environmental Protection Agency (EPA). 2020a. *State of the Environment report*. *Ireland's Environment – An Integrated Assessment 2020*. [Online]. [Accessed: 21/12/20]. Available from: https://www.epa.ie/our-services/monitoring--assessment/assessment/irelands-environment/state-of-environment-report-/

Environmental Protection Agency (EPA). 2020b. *Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment*. [Online]. [Accessed: 21/12/20]. Available from: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/EPA-Good-Practice-Guidelines-SEA.pdf

Environmental Protection Agency (EPA). 2021. *Tiering of Environmental Assessment – The Influence of Strategic Environmental Assessment on Project-level Environmental Impact.* [Online]. [Accessed: 23/03/21]. Available from: https://www.epa.ie/publications/research/socio-economics/Research_Report_391.pdf

Irish Water. 2022. *Groundwater Summary Report – Potential impacts on GW Bodies due to Uisce Éireann Groundwater Abstraction Scheme*.

Uisce Éireann. 2023a. *RWRP-SE Post Consultation Report*. [Online]. Available from: https://www.water.ie/projects/strategic-plans/national-water-resources/rwrp/