Spring 2023

Regional Water Resources Plan – South West

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 Statement reflects this transition from Irish Water to Uisce Éireann.

Baseline data included in the RWRP-SW 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-SW. 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.

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1 Introduction and Background

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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.

As a basis for broad public and stakeholder engagement, the NWRP (the Plan) will be delivered in two phases. In the first Phase, the Framework Plan, Uisce Éireann consulted on the methodologies that it has developed in order to identify need and find solutions to address need across all of its supplies. The Framework Plan was adopted by Uisce Éireann in May 2021. Uisce Éireann also assessed the need across each of the 539 public water supplies nationally, in terms of:

- **Water Quantity** that Uisce Éireann can provide;
- **Water Quality** that Uisce Éireann can provide; and
- Performance of and operational efficiency of Uisce Éireann's **Asset Base**.

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 it, along with the SEA Statement and AA Determination, are 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 are each subject to a separate SEA and Appropriate Assessment (AA) process and public consultation and the first Regional Plan, Eastern Midlands Plan, was adopted in September 2022.

1.1.3 Phase 2: RWRP-SW

The Regional Plan for the South West (RWRP-SW) was the second 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-SW has been subject to SEA and AA processes and public consultation. In response to the assessments and consultation comments, the final RWRP-SW has been produced and is available at https://www.water.ie/projects/strategic-plans/national-water-resources/rwrp/south-west/ 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 West Regional Water Resources Plan following the public consultation process and the finalisation and adoption of the plan.

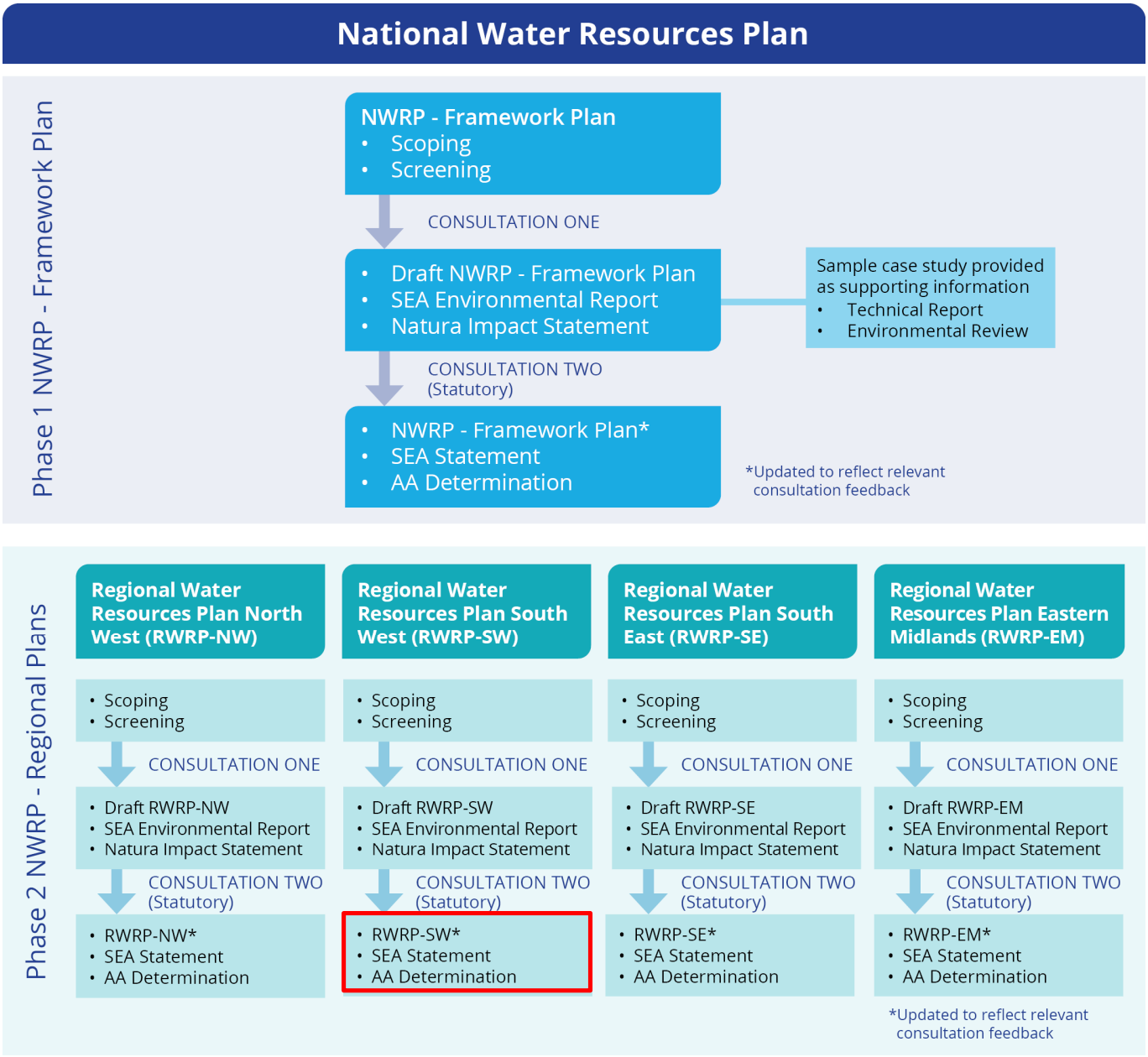

Figure 1.1 Components of the National Water Resources Plan

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-SW. 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-SW 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-SW (chapter 4);
- The reasons for choosing the final RWRP-SW 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-SW (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 West is summarised in Table 1.1. The SEA process for Phase 1 of the NWRP, the Framework Plan, has already been completed.

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

Table 1.1 Stages of SEA for the South West 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 Regional Plan SW SEA Scoping Report (November 2021).
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 12th November 2021 and closed on the 14th December 2021.
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 1st June 2022 to 24th August 2022.
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). The Habitats Directive has been transposed into Irish law by the Planning and Development Act, 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (the "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 South West Region

2 Overview of the South West 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 West Region was selected as the second regional group to be assessed as part of the NWRP, with the Eastern and Midlands Plan adopted in September 2022.

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

2.1 South West Region

There are 227 Water Treatment Plants (WTPs) in the South West Region, which collectively serve 594,400 people or 14% of the population of Ireland, via approximately 5,230 kilometres of distribution network. The size of these WTPs varies, with the largest two in the region producing on average 40% of the water supplied and the remaining 225 producing on average about 60% or 190 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-SW 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 West Study Areas

The South West 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.

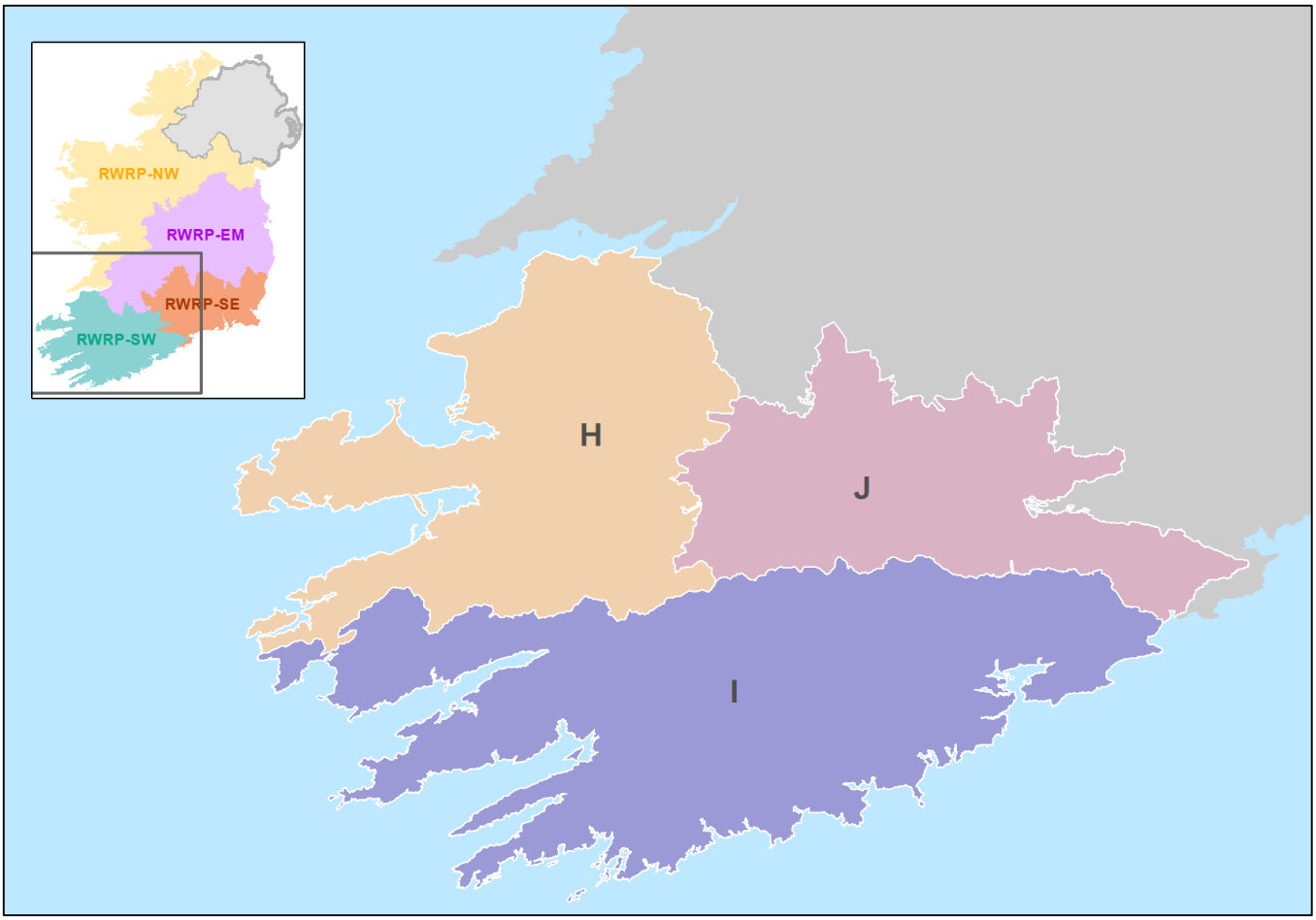

Figure 2.2 South West Region Study Areas

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

Table 2.1 Overview of the South West Study Areas

Study Area	Description
SAH	SAH total area is approximately 4,056 km^2 and lies within the counties Kerry, Limerick City and Cork. The principal settlements (with a population of over 10,000) within SAH are Tralee and Killarney (CSO, 2016).
SAI	SAI total area is approximately 5,919 km^2 and lies within the counties of Cork, Kerry and Cork City. The principal settlements (with a population of over 10,000) within SAI are Cork city and suburbs, Carrigaline, Cobh and Midleton (CSO, 2016).
SAJ	SAJ total area is approximately 3,001 km^2 and lies within the counties of Cork, Waterford City, Limerick, Tipperary and Kerry. The principal settlement (with a population of over 10,000) within SAJ is Mallow (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 West Public Consultation Roadmap is presented in Figure 3.1.

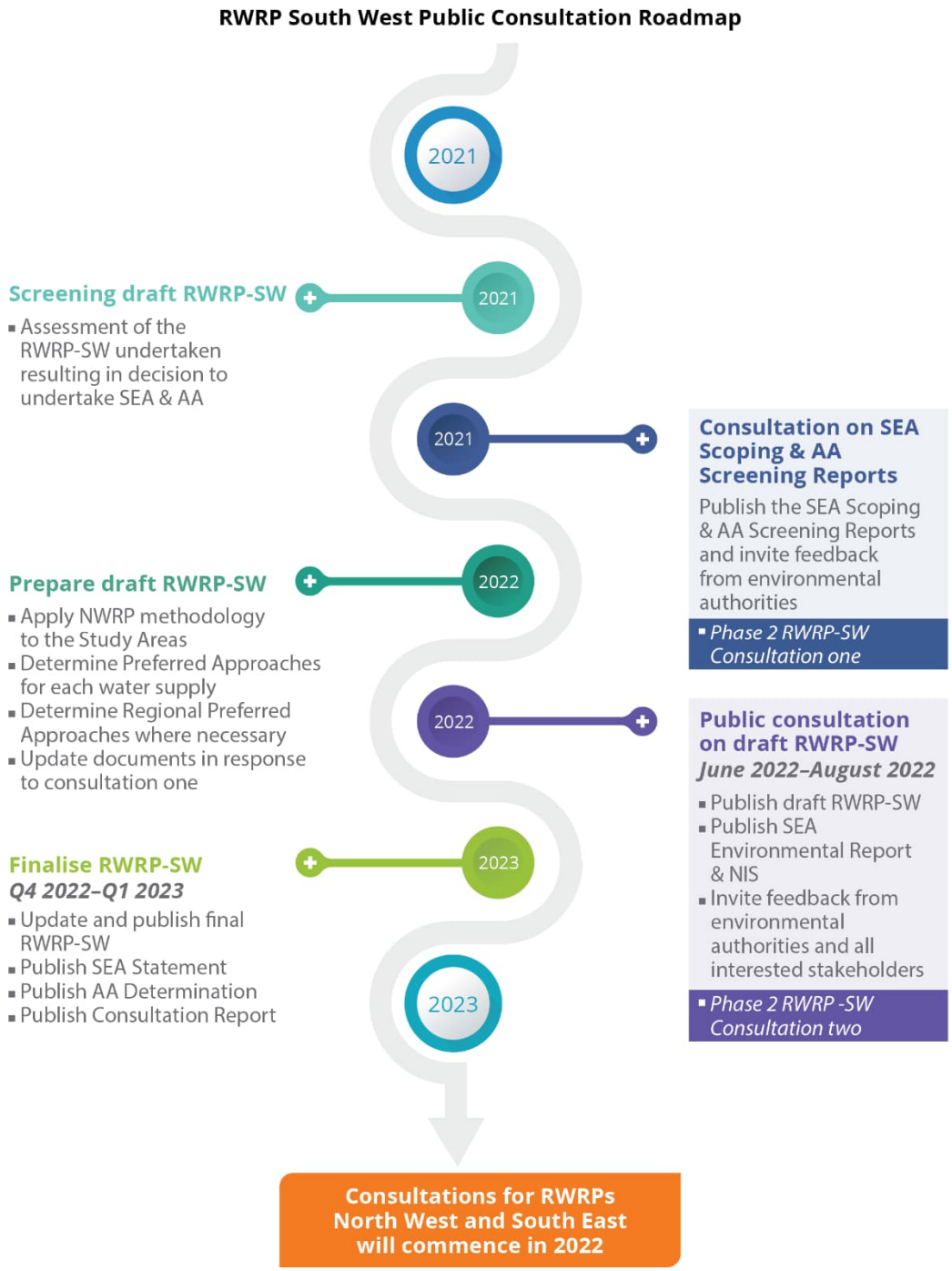

Figure 3.1 RWRP South West Public Consultation Roadmap

3.2 RWRP-SW Consultation

The RWRP-SW 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 2021:

- The Environmental Protection Agency;
- Department of Housing, Local Government and Heritage;
- The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media (DTACGSM)[2];
- The Department of Agriculture, Food and the Marine (DAFM);
- Department of the Environment, Climate and Communications (DECC); and
- Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA).

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

The scoping consultation closed on the **14th December 2021** and comments received have been considered. The main themes from the comments received were:

- Identification of recently published or forthcoming policy and legislation on abstraction licensing, climate change, and the Recast Drinking Water Directive to explain how these are taken into account and including additional consideration of the EPA's most recent State of the Environment Report (SOER 2020) (EPA, 2020a) in the baseline;
- Water environment - providing an explanation on how ground water resources for supply are appropriately assessed and the standards and guidelines applied, including sufficient consideration of water quality as well as quantity, consideration of flood and drought risk.
- Drinking water - recognition of importance of raw water quality for the environment and reducing treatment and risk to supply; and
- Recommendations for collaboration and further engagement with the key stakeholders and the need to align on the RWRP with other key planning documents such as the RBMP, NPF and RSES.

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/south-west/

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

[2] When scoping was undertaken for the RWRP-SW the Minister for Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media was the appropriate Minister for the purposes of SEA and AA legislation. These functions has now been transferred to the Minister for Housing, Local Government and Heritage pursuant to the Heritage (Transfer of Departmental Administration and Ministerial Functions) Order 2021

objectives and sustainability principles are integrated into the preparation of the Regional Plan as well as providing an overall assessment of the RWRP-SW'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 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 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.

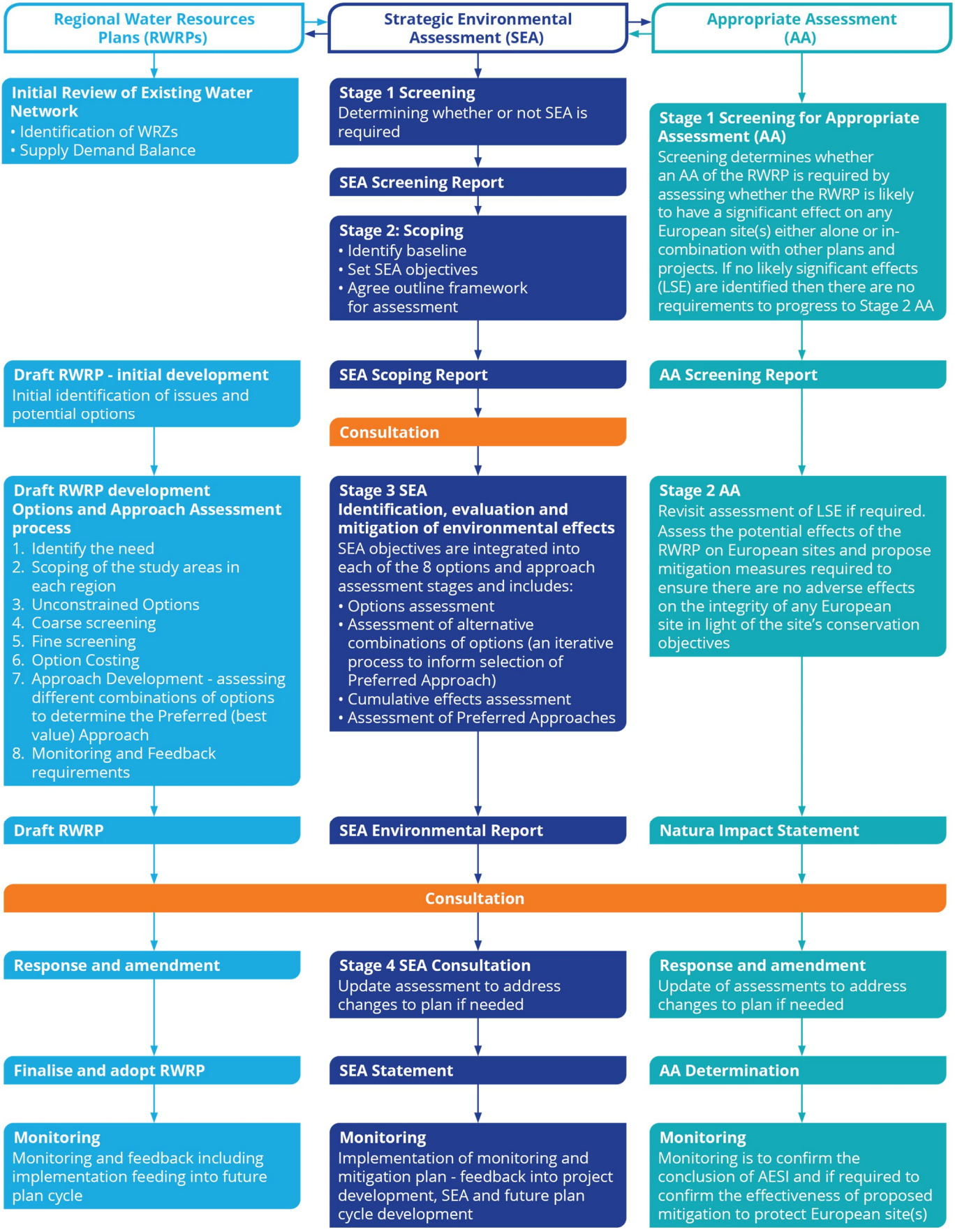

Figure 4.1 Regional Plan and Strategic Environmental Assessment Process

4.1.1 Consultation 2: Draft RWRP-SW and Environmental Report

Consultation 2 (statutory 12-week public consultation) took place between June 2022 and August 2022. Uisce Éireann facilitated extensions to this statutory public consultation at the request of stakeholders, with consultation closing on **24th August 2022.**

The draft RWRP-SW 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-SW, 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-SW 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 3.2 of the Phase 2 RWRP-SW Post Consultation Report (Uisce Éireann, 2022a) for further details).

Responses to the consultation comments are set out in the RWRP-SW Post Consultation Report (Uisce Éireann, 2023a). A summary of comments and responses relevant to the SEA are set out in Chapter 4 of this report. In addition, the SEA Environmental Report has been updated to account for amendments to the RWRP-SW and submissions received during consultation.

4 How the SEA has Influenced the RWRP-SW

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-SW. 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.

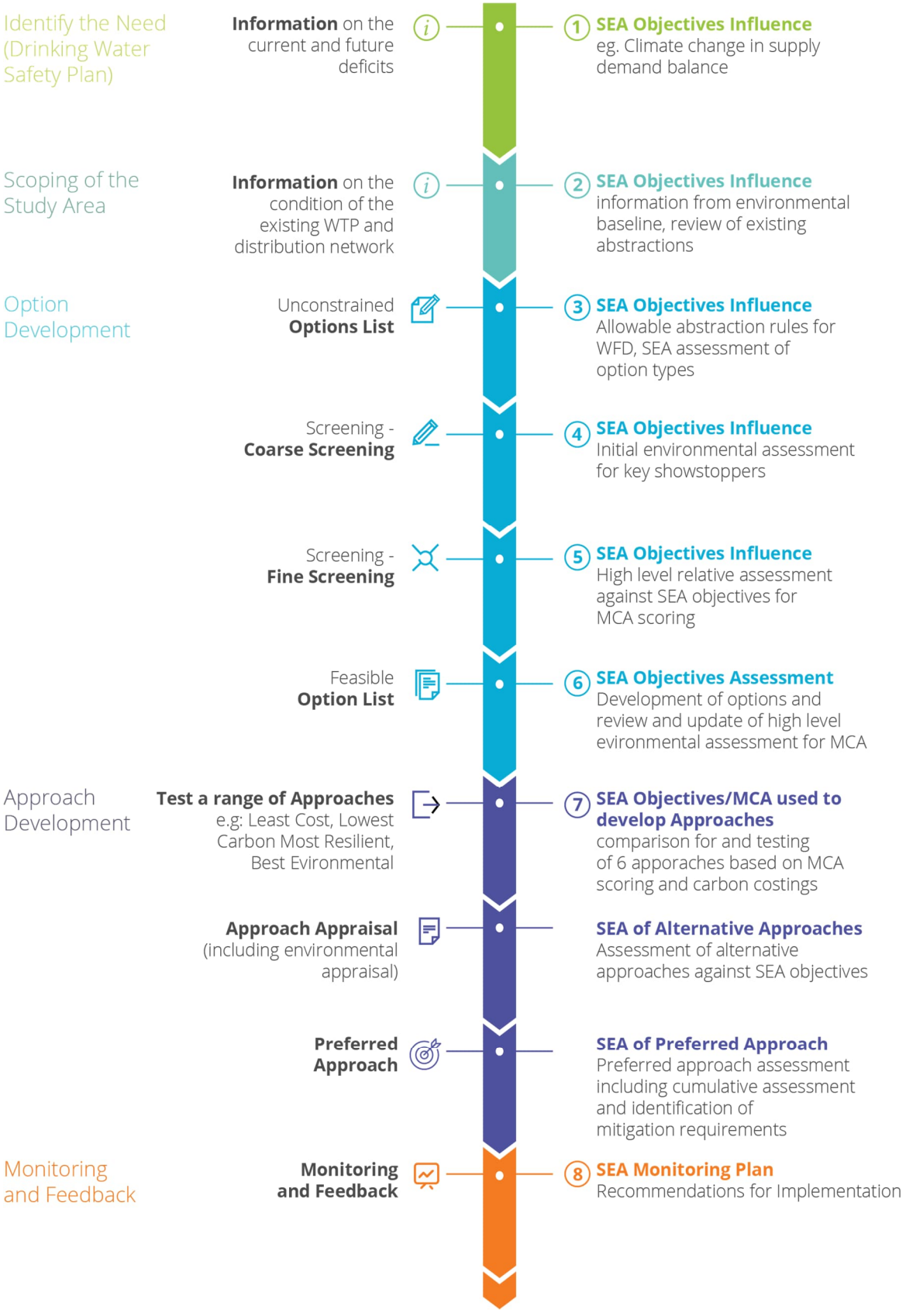

Figure 4.2 Option and Approach Development Process

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.

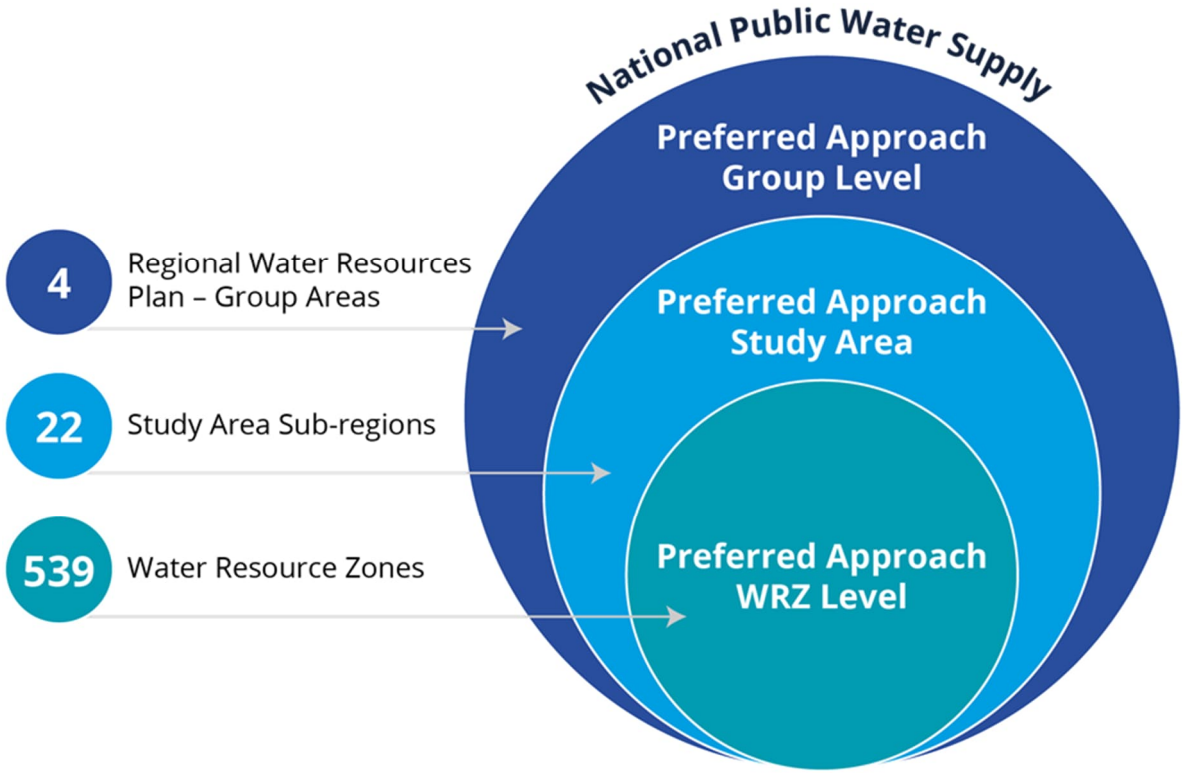

Figure 4.3 National Water Resources Plan Spatial Scale of Assessment

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-SW SEA) and sub-criteria using the scoring guide (Appendix B in the RWRP-SW 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-SW SEA. The significance of effect is determined in accordance with Table 6.10 of the RWRP-SW 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-SW.

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.

As the RWRP-SW is the first Regional Plan there are no other NWRP Regional plans to consider at this stage.

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.

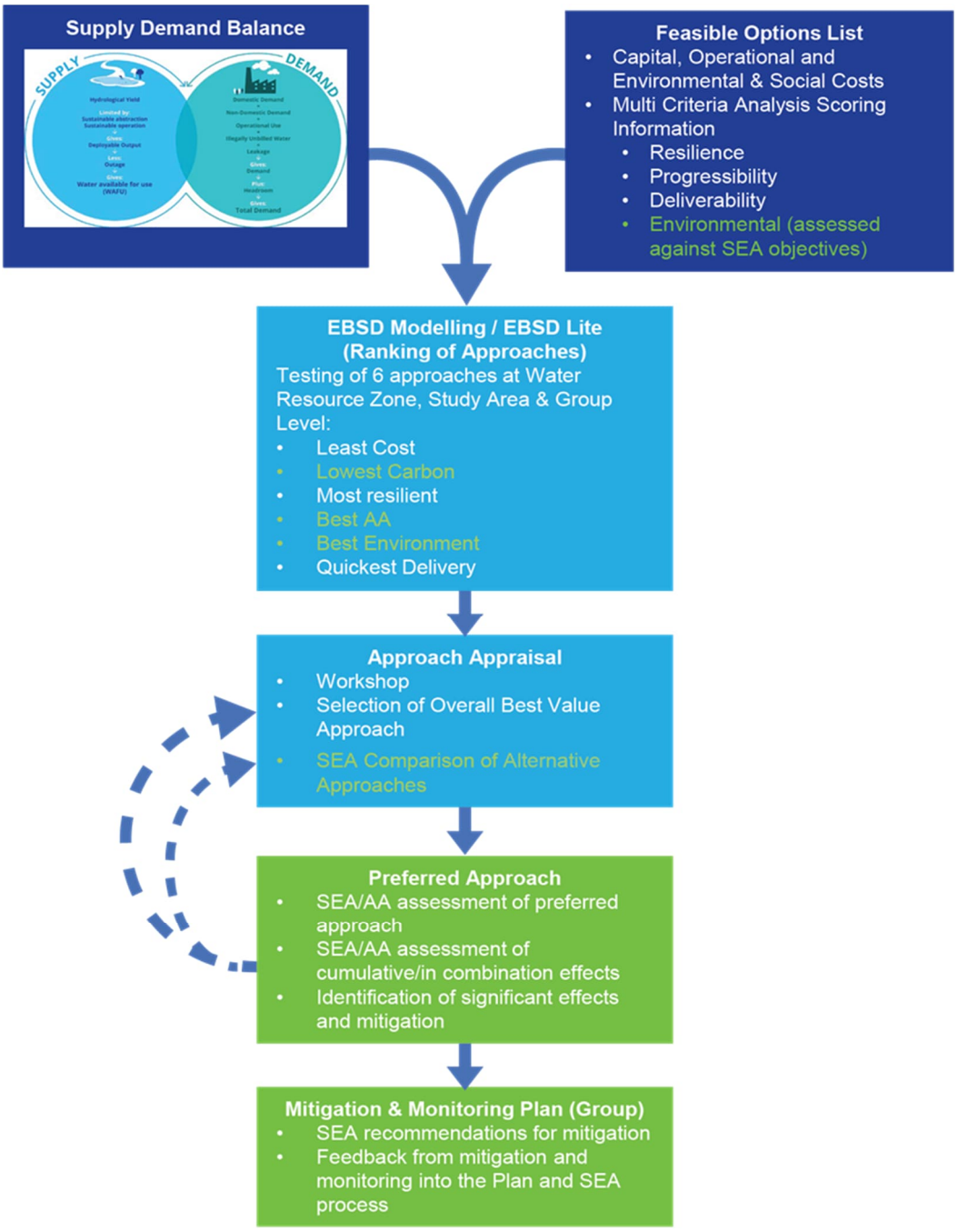

Figure 4.4 Approach Development Process

4.2.1 Study Area Assessment

For some Study Areas this led to the identification of Preferred Approaches 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 potential for large feasible options with the capability to provide regional interconnectivity is limited by the terrain across the South West Region and the volume of water that can sustainably abstracted from the water sources. 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. The assessments for these are included in the Study Area Environmental reviews for SAH, SAI

and SAJ (Appendix H of the SEA for the RWRP-SW) and summarised in section 7.1- 7.3 of the SEA for the RWRP-SW. These also assess potential for cumulative effects within each study area. The small Cross Study Area Transfers, including three connections to adjacent regions are further considered as part of the whole plan cumulative assessment in section 9 of the SEA for the RWRP-SW.

4.2.2 Regional Plan Assessment

The Option Development Process for the South West 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 West Region and is summarised in Table 4.2.

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 8.3.1 of the RWRP-SW. These are all assessed within the Study Area Environmental Reviews, SAH, SAI and SAJ (Appendix H of the SEA for the RWRP-SW), 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-SW 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 West 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. Increased resilience through large, interconnected supplies that include the expanded Cork City WRZ and Central Region WRZ;
- 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. For RWRP-SW an estimated reduction in abstraction volume of 70 ML is achieved compared with the alternative of maintaining fragmented supply systems - this can help reduce pressure for abstraction; 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 therefore also support SEA objectives during operation. Although, the additional pipeline network involved is associated with local environmental construction impacts.

Table 4.2 Regional Preferred Approach

Study Area	Regional Preferred Approach
SAH **Kerry**	**12 WRZ Options:** 8 Options with increased GW/SW abstractions. 2 Options involving within WRZ supply rationalisations. Decommission 2 WTPs. 2 Options with WTP upgrades (water quality only) **6 SA Grouped Options:** 4 Options, each interconnecting 2 WRZs and including associated increased/new GW/SW abstractions. 1 Option rationalising Rathmore WRZ to Central Regional WRZ. Decommission 1 WTP. 1 Option transferring water from the Waterville WRZ located in SAI, to 2 WRZs in SAH. The transfer includes an increased abstraction from the Lough Currane source in SAI.
SAI **Cork/South Kerry**	**37 WRZ Options:** 21 Options with increased GW/SW abstractions. 2 Options involving 'within WRZ' supply rationalisations. Decommission 2 WTPs. 14 Options with WTP upgrades (water quality only) **12 SA Grouped Options:** 1 Option with increased SW abstraction, interconnecting 2 WRZs. 1 Option with an increased SW abstraction at Lough Currane to supply the deficit in Waterville WRZ (SAI) and to supply the deficit in Caherdaniel/Castlecove WRZ in SAH. Decommission 1 WTP. 8 Options, collectively rationalising 21 WRZs to 8 WRZs with associated increased abstractions. Decommission 20 WTPs. 1 Option with WTP upgrades (water quality only), transferring spare supply capacity in the Skibbereen 1 to Skibbereen 2 via an interconnection. 1 Option rationalising 18 WRZs to Cork City WRZ and interconnecting a further 3 WRZs to the Cork City WRZ. This includes an increased abstraction at Inniscarra impoundment. Decommission 20 WTPs.
SAJ **North Cork and West Waterford**	**14 WRZ Options:** 4 Options with increased GW/SW abstractions. 10 Options with WTP upgrades (water quality only). **17 SA Grouped Options:** 10 Options, collectively rationalising 13 WRZs to 10 WRZs with associated increased/new abstractions. Decommission 16 WTPs. 1 Option rationalising 3 WRZs and interconnecting a further 2 WRZs, with two new abstractions. Decommission 6 WTPs.

Study Area	Regional Preferred Approach
	1 Option rationalising 8 WRZs to Mallow WRZ, with an increased GW abstraction. Decommission 9 WTPs. 1 Option rationalising 5 WRZs to Fermoy WRZ, with an increased GW abstraction. Decommission 5 WTPs. 1 Option rationalising to SAI (Bweeng WRZ in SAJ to Donoughmore WRZ in SAI). Decommission 1 WTP. 3 Options rationalising 3 WRZs to supplies in other Regions: Kilmurray (Mitchelstown) WRZ and Labbamallogga WRZ connecting to 2 independent WRZs in SAK in the South West Region. Decommission 2 WTPs. Monabricka WRZ connecting to SA8 in the Eastern and Midlands Region. Decommission 1 WTP.

4.3 SEA Summary for the Regional Preferred Approach

An overall assessment summary of the Preferred approach compared to the do minimum against SEA objectives is provided in Table 4.3 below.

Table 4.3 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-SW. 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 to 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 55 surface water bodies currently are identified by Uisce Éireann as not meeting theoretical sustainability guidelines during dry weather flows and these are likely to be subject to continued or increased abstraction pressure and other existing sources may be subject to increased abstraction pressure in the future also.

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 SAH, SAI and SAJ, with the mitigation identified in the SEA Environmental Report Appendix D Environmental Action Plan and the Monitoring Plan and the Study Area Environmental Reviews SAs H, I and J.
- 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 91 ground water and surface water abstractions including nine surface water sources identified by Uisce Éireann as not meeting theoretical sustainability guidelines during dry weather flows. Reduced pressure on 35 maintained surface water abstractions identified by Uisce Éireann as not meeting theoretical 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 a total of 11 existing abstractions that will be maintained are identified by Uisce Éireann as currently not meeting theoretical sustainability guidelines during dry weather flows and may need alternative sources to support or replace these in the future.
- 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-SW Regional Preferred Approach includes a commitment to work to a 1:50 year level of service across all locations and actions in place to achieve this target. The RWRP-SW 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 which 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 set 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 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		

4.4 AA Summary for the South West Region

As set out in section 6 of the SEA Environmental Report for the RWRP-SW, 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.

SA Combinations for all three (3) Study Areas have -3 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. These Options have been assessed as -3 either because the mitigation may be complex or there is uncertainty around potential impacts.

The following SA Combinations in the Preferred Approach for SAH have two -3 scores associated with:

- Two Options that connect to Central Regional – Lough Guitane and Mid Kerry WRZs in SAH. Although there are two (2) Options involved, a single -3 score is assigned as the same abstraction from the lower Leane catchment is used to supply both WRZs and is therefore assessed as a single impact. The lower Leane catchment abstraction could directly impact

Killarney National Park, Macgillycuddy's Reek and Caragh River Catchment SAC as well as the Killarney National Park SPA.

- A new abstraction from Coomasaharn Lake to supply the Mountain Stage Public Water Supply. The Lake source is within Killarney National Park SAC.

The Preferred Approach for SAI has one (1) -3 score associated with the rationalisation of three (3) WRZs (Knockadoon, Ballymacoda and Kilcraheen) to Youghal Regional WRZ. This Option involves a new WTP and GW abstraction that may impact the Blackwater Estuary SPA and Blackwater River (SAC with Groundwater Dependent Terrestrial Ecosystems (GWDTEs), and therefore loss of habitat cannot be ruled out without detailed site assessments.

SAJ has three (3) -3 scores associated with:

- Rationalisation of Castlewrixon and Skahanagh to Charleville/Doneraile WRZ, including a new groundwater abstraction. The new abstraction could potentially impact GWDTEs.
- Rationalisation of Kilbrin Garran an Darra to Allow Regional WRZ, including a new groundwater abstraction and WTP. The new abstraction could potentially impact GWDTEs.
- Rationalisation of Toureen Derry to Banteer and Glenleigh and Kilcorney to Millstreet; and interconnection of Newmarket to both Banteer and Millstreet WRZs. This Option involves two (2) new groundwater abstractions and a new WTP. The new spring sources are supporting habitat to the Awbeg River (Kanturk) and the upper reaches of the Blackwater respectively which form part of Blackwater SAC.

There are Options with -1 and -2 scores across all three (3) Study Areas and as such there is the potential for Likely Significant Effects (LSEs). The potential for LSEs however 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.

4.5 AA In-Combination Summary

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

- Ballinskelligs Bay and Inny Estuary SAC
- Blackwater Estuary SPA
- Blackwater River (Cork/Waterford) SAC
- Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC
- Lower River Shannon SAC
- Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle 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-SW.

The conclusion of the NIS for the RWRP-SW 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-SW.

4.6 WFD Summary for the South West 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 as part of the 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, 2022b).

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.

4.7 Transboundary Effects for the Regional Preferred Approach

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-SW.

4.8 SEA and Consultation Influence on the Final Plan

Consultation comments received on the statutory public consultation for the draft RWRP-SW and accompanying Environmental Report and NIS, and responses and subsequent actions taken to address these comments, are summarised in Table 4.4. Further detail regarding consultation responses is also provided in the RWRP-SW 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.
- Ensuring due consideration of climate change related impacts on water supply infrastructure and water resources
- Process of options assessment taking account of available information at this plan stage, the potential for review and feedback with data and policy updates and the subsequent more detailed assessments and development of design and mitigation to be undertaken at project level as part of consenting and licencing.
- Increased flexibility in the monitoring plan with more regular reports on progress of commitments, and increased clarity of monitoring indicators

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-SW have been updated to include the additional information and clarifications to respond to the comments made.

4.8.1 Updates to the RWRP-SW Preferred Approach

As set out in Section 9 of the RWRP-SW the RWRP will be formally updated every five years at which point there will be further opportunities for public participation. Baseline forecasts and data feeding into the NWRP will be reviewed annually. Our data is continuously improving, and it is important that we review our Preferred Approach further to the receipt of updated data. During the consultation period for the RWRP-SW we received updated data for a number of WRZs through consultation workshops and subsequent further assessment, which resulted in a review of the Preferred Approach for those WRZs.

Following the review, Uisce Éireann considered that no change to the Preferred Approach is required at this stage but there is potential for amendment as the process of review and feedback is applied.

A summary of the updated data received and updates to the RWRP-SW are provided below.

4.8.2 Whiddy Island (Study Area I)

In the SAI Technical Report the WRZ preferred approach for Whiddy Island is to develop a new groundwater abstraction on the island to supply the required deficit. Three sites on the Island are considered potentially good locations for ground water supply and a trial well was developed at one of these sites. Results from the trial well test indicate that arsenic is evident in the groundwater and it would not be a suitable source of raw water for public water supply purposes. Trial tests will be carried out at the other two sites and if it is determined, further to these site investigations, that the groundwater supply is not suitable for public water supply other feasible alternatives will have to be reconsidered.

In the draft RWRP-SW, the only alternative feasible option for the Whiddy Island WRZ is to develop a desalination plant. Due to the planning and licensing application processes required for the desalination plant it would take several years to progress this project. However, there is a critical need on Whiddy Island and there have been significant issues associated with the deterioration of raw water quality which has led to the a ‘do no not consume’ notice being applied to the supply for a significant period of time. An option to rationalise Whiddy Island to Bantry was considered as part of a Study Area group option in the draft RWRP-SW and it is considered that this option could be delivered quicker than a desalination plant solution. Therefore, in the final RWRP-SW Uisce Éireann have included the option to rationalise Whiddy Island to Bantry as a feasible alternative at WRZ level.

The Study Area I Technical Report has been updated to note the uncertainty associated with the WRZ Preferred Approach for Whiddy Island and the feasible alternative to rationalise Whiddy Island to Bantry, which was previously considered as a group option, has been considered as a feasible WRZ alternative option.

4.8.3 Kenmare WRZ (Study Area I)

The Kenmare supply is dependent on an import from a local group water scheme in dry weather when water levels at the existing lake source are low and there is an increase in demand associated with tourism in the area. During the consultation period it was noted that the group water scheme would not be able to continue providing supply to Uisce Éireann.

The preferred approach for Kenmare, to develop a new SW abstraction from Kenmare River, will take several years to develop and obtain planning for the works, therefore in the interim there is a

requirement to develop an emergency source to maintain supply during the summer period. Uisce Éireann are currently workshopping potential interim emergency supplies.

The Study Area I Technical Report has been updated to note that the interim solution for Kenmare is to Upgrade WTP to Uisce Éireann Standards and develop an emergency source.

4.8.4 Updated Leakage Targets

As noted in section 5.2.1.2 of the RWRP-SW, for WRZs outside the GDA, Uisce Éireann has set additional leakage targets with the objective of reducing leakage levels to 21% of total demand for larger WRZs (WRZs where demand is greater than 1,500 m^3/d). These additional targets equate to a net leakage reduction of 45.5 Ml/d, 39 Ml/d, 72 Ml/d and.30.5 Ml/d across the Eastern and Midlands (outside of the GDA), South West, North West and South East Regions respectively. During the consultation period, further to feedback received at consultation workshops, it was noted that these leakage targets had been applied to WRZs where accounted for demand was greater than 1,500m^3/d rather than total average demand. It was decided to apply these targets to WRZs where total average demand was greater than 1,500 m3/d which increases our total leakage targets for WRZs outside the GDA from 58 Ml/d to 64.5 Ml/d.

The details of the revised leakage targets are reported in section 5.2 of the RWRP-SW.

For the South West Region, 3.7 Ml/d of leakage targets have been applied to the SDB. These include:

- SAH – 1.07 Ml/d through net leakage reduction in Listowel Regional Public Water Supply, Central Regional – Lough Guitane and Mid-Kerry.
- SAI – 2.29 Ml/d through net leakage reduction in Cork City and Clonakilty.
- SAJ – 0.37 Ml/d through net leakage reduction in Charlesville/Doneraile, Millstreet and Newmarket.

This does not mean that only 3.7 Ml/d will be applied for the region between 2019 and 2034 but rather UE committed to a figure for 2019 in the SDB and provided flexibility in where the remaining 53.3 Ml/d of leakage reduction (required to achieve 57 Ml/d of leakage reductions within the South West Region) will occur after that.

Leakage reductions are applied to the SDB by reducing the Demand component of the calculation. For this reason, the future estimated Deficit will reduce as a lower Demand is subtracted from the available supply. At project level, when we proceed to develop the Preferred Approach, Uisce Éireann will review the SDB and subtract the target leakage reductions from the Deficit at this stage. This ensures that the Preferred Approaches are not oversized, or that the Needs are over emphasized.

The leakage targets remain unchanged from the draft RWRP-SW.

4.8.5 Conclusions on Review of Preferred Approaches arising from Consultation

Following review of the consultation comments Uisce Éireann considered that no change to the Preferred Approach is required, however, the Plan has been updated to provide additional clarification an 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 identified. There was no change to the overall conclusions on the Preferred Plan Approach.

4.8.6 Summary of Consultation Responses and Changes to SEA and RWRP-SW

Table 4.4 provides a summary of the consultation responses and the actioned changes to the SEA and RWRP-SW.

Table 4.4 Summary of Consultation Responses and Changes to SEA and RWRP-SW

Key issues/themes raised	SEA response	Summary of action taken
Strategic Environmental Assessment Approach		
The Environmental Protection Agency (EPA)		
The Environmental Protection Agency (EPA) welcomed that the comments made in their previous submission at SEA Scoping Stage, have been considered, in preparing the draft RWRP-SW and associated SEA. The EPA noted the strategic environmental objectives (SEOs) set out in Table 6.1 and acknowledged the detailed option and approach to the assessment as presented in section 6.2. They further noted the assessment methodology, comprising consideration of resilience, delivery, flexibility, progressivity, sustainability and cost criteria. The EPA welcomed "the comprehensive methodology undertaken during the consideration and selection of alternatives in the SEA and acknowledge that transboundary impacts have also been considered".	The EPA's feedback on the SEA process and the acknowledgment that Uisce Éireann has considered the transboundary impacts and cumulative effects in preparing the RWRP-SW is welcomed. Uisce Éireann note the EPA's reference to the draft National Policy Statement (NPS) on Geothermal Energy for a Circular Economy (Department of Environment, Climate and Communications). This draft document is considered in the SEA policy review and cumulative effects assessment. Uisce Éireann will consider this policy as part of the monitoring and feedback process outlined in Section 9. This process involves continual review of assumptions and data as new information becomes available, to ensure the NWRP is up to date. A further review of data will take place at project development stage as outlined in Section 6.4 of the RWRP-SW.	SEA Environmental Report updated to include reference to new policy and plan documents including the 2023 Climate Action Plan and the draft NPS.
The EPA acknowledged the consideration of cumulative effects, as provided in Chapter 9 of the draft RWRP-SW, which looks at regional cumulative effects, both within the RWRP-SW and between the RWRP-SW and other plans and programmes. The EPA also welcomed that the EPA guidance 'Good Practice Guidance Note on Cumulative Effects in Strategic Environmental Assessment' (EPA, 2020) has been considered.	The EPA's feedback on the SEA process and the acknowledgment that Uisce Éireann has considered and cumulative effects and the EPA guidance in preparing the RWRP-SW is welcomed.	No action

Key issues/themes raised	SEA response	Summary of action taken
The EPA noted the inclusion of Table 9.2 – Cumulative Effects with other plans and programmes and commented that the draft National Policy Statement on Geothermal Energy for a Circular Economy (Department of Environment, Climate and Communications) may also be useful to consider.	The SEA Environmental Report has been updated to include reference to the draft NPS.	SEA Environmental Report policy update
The EPA commented that in finalising the Plan and integrating the findings of the SEA into the Plan, the recommendations, key issues and challenges described in our State of the Environment Report Ireland's Environment – An Integrated Assessment 2020 (EPA, 2020) "should be considered, as relevant and appropriate ….and should also be taken into account, in finalising and implementing the Plan and SEA".	Uisce Éireann has referred to the EPA State of the Environment Report Ireland's Environment – An Integrated Assessment 2020 (EPA, 2020) as relevant and appropriate in the SEA Environmental Report; and will considered the recommendations, key issues and challenges outlined in the report when implementing the Plan and SEA recommendations at project stage.	No action
The EPA recommended 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 reasons for choosing the Plan adopted in the light of other reasonable alternatives dealt with; and,	This document is the SEA Statement 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 measures decided upon to monitor the significant environmental effects of implementation of the Plan. • A copy of the SEA Statement with the above information should be provided to any environmental authority consulted during the SEA process.		
The EPA welcomed the extent to which the SEA has been integrated into the Plan, from providing an environmental summary of resources and pressures within the region, inclusion of references to the option assessment methodology and mitigation and monitoring considerations.	The EPA's feedback on the SEA process and the acknowledgment that Uisce Éireann has considered the transboundary impacts and cumulative effects in preparing the RWRP-SW is welcomed.	No Action
The EPA recommended that Uisce Éireann should continue to focus on addressing issues related to supplies currently on the EPA's Remedial Action List and any future additions, as applicable. The EPA noted that currently, there are 52 water supplies on the EPA's Remedial Action List in January 2022, some of which are present within the area covered by the Plan, including Cork City Water Supply, Whitegate Public Water Supply, Glashaboy, Mitchelstown North, Castletownbere, Cahersiveen, Mountain Stage 062A, Caragh Lake 022A, Kilgarvan, Ballyheigue and Aughacasla supplies.	In response to the EPA's recommendation that Uisce Éireann continue to focus on addressing issues related to supplies currently on the EPA's Remedial Action List (RAL) they note that critical projects and programmes to address potential public health issues are on-going and not impacted or delayed by the delivery of the NWRP. Section 7.6 of the RWRP outlines the process for developing interim options to address critical water quality and quantity issues while delivering the Preferred Approaches through the coming investment plans. Using this process, interim, short-term capital maintenance solutions have been identified for all WTPs and these solutions are referred to in Section 6 of the Study Area Technical Reports.	No action – process to address is already included

Key issues/themes raised	SEA response	Summary of action taken
In terms of the SEA-related consultation process, the EPA acknowledged the consultation timeframe provided (3 months) for this stage of the SEA process.		
Department of Environmental Climate and Communication (DECC)		
The Department of Environmental Climate and Communication (DECC) welcomed the mention of their Bedrock, Irish Geological Heritage Sites, Groundwater Aquifer, Karst, Vulnerability and Source Protection Schemes within the draft RWRP-South West SEA Environmental Report .	We note the Department of Environmental Climate and Communication (DECC) recommendations on data sets that would support the fine screening assessment scoring question relating to geology and soils. In response to this, Uisce Éireann confirms that 'Geological Heritage Audited Sites' and 'Geological Heritage Unaudited Sites', 'National Landslide Susceptibility Map', 'Irish Soil Information System' and 'MINES - Solid Waste Heaps' maps were used for fine screening question G1. In addition, the geological Natural Heritage Areas, Ireland's Geological Heritage Sites, the Irish Soils Information System national soils map and Geological Survey Ireland (GSI) Groundwater Flooding maps and geology maps available on Map Viewer, and GSI's online datasets of bedrock and subsoil geological mapping, were used to prepare descriptions of geology presented in the Study Area Technical Reports (Appendices 1 to 3 of the draft RWRP-SW) and the Study Area Environmental Reviews. Uisce Éireann confirms that GSI's advice, data and maps were utilised where available throughout the fine screening assessment, and that hydrogeological assessments of options were completed taking account of groundwater resources provided by the GSI, i.e. wells, drinking water source protection areas; national Aquifer, Vulnerability and Recharge map; subsoil permeability, karst features, tracer test database, turlough water levels (gwlevel.ie) and the Groundwater body descriptions database; and considered cumulative effects on WFD ground water status and interaction with existing Uisce Éireann abstractions. Uisce Éireann	Update to SEA Environmental Action Plan and Monitoring Plan – see section 10 of the SEA Environmental Report and Section 5 of this report.
DECC noted in the SEA Appendices document, Table B-1 'Fine Screening Sustainability (Environmental and Social Impacts) Criteria', the scoring question associated with the Geology and Soils topic "G1: Would any designated or non-designated geological features, valuable soils, or contaminated land sites be affected?". DECC recommended consultation of the following datasets in order to determine if there could be potential impacts; Groundwater, GEO Heritage, Geological Mapping, Geotechnical Database Resources, Geo Hazards, Historic Mines, Marine and Coastal Unit, Coastal Vulnerability Index.		
DECC noted that Geological Survey Ireland's (GSI) Groundwater and Geothermal Unit (GGU), provides advice, data and maps relating to groundwater distribution, quality and use, which is especially relevant		

Key issues/themes raised	SEA response	Summary of action taken
for safe and secure drinking water supplies and healthy ecosystems. The GGU will be providing a separate detailed response to the specific groundwater related queries from Uisce Éireann.	acknowledges the disclaimers associated with these datasets and communicates caveats with the datasets in the transition of plan to project level assessment approaches. These assessments supported the options assessment process and considered the following additional data sources: Uisce Éireann recognises the invaluable ongoing contribution of the GSI's Groundwater and Geothermal Unit to the Irish groundwater knowledge base. Uisce Éireann commends the GW Flood and GW Climate projects for their work in assessing climate change impact on groundwater. The outputs of these projects will inform Uisce Éireann' s Flood Risk Assessment and management plans where they are undertaken in the future. Uisce Éireann is familiar with the GSI's GW3D project and as outputs are developed as part of this project, Uisce Éireann will ensure consideration and integration as plans transition to project level and site-specific investigations occur. Uisce Éireann acknowledges the recommendation from DECC to utilise additional datasets, i.e. Geotechnical Database Resources, Geo Hazards, Marine and Coastal Unit and Coastal Vulnerability Index and can confirm that further evaluation of options will take place at project level, at which stage the proposed datasets and any new information and data will be considered and incorporated via the monitoring and feedback process in Section 8.3.8 of the Framework Plan. This will include the following data sets identified by the DECC in their submission on the draft RWRP-SW: • 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	
DECC commented that proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources in general. They recommended using the groundwater maps on their Map viewer which "should include wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps". For areas underlain by limestone, DECC asked Uisce Éireann to refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie). DECC noted that background information is also provided in the Groundwater Body Descriptions, and they recommend that all disclaimers are read carefully when using GSI data.		
DECC explained that GW Climate is a groundwater monitoring and modelling project that aims to investigate the impact of climate change on groundwater in Ireland and is a follow on from a previous project (GW Flood) and the data may be useful in relation to Flood Risk Assessment (FRA) and management plans. DECC highlighted that GSI has completed Groundwater Protection Schemes (GWPSs) in partnership with Local Authorities, and there is now national coverage of		

Key issues/themes raised	SEA response	Summary of action taken
GWPS mapping. The Groundwater Protection Response overview and link to the main reports can be found on the GSI website.	• Historic Site project datasets • GSI's Coastal Vulnerability Index study • Integrated Mapping for the Sustainable Development of Ireland's Marine Resource and other GSI Marine and Coastal Unit datasets The SEA Environment Report has been updated to reference these data sets in the Monitoring Plan provided in Section 10 of the SEA Environmental report and also in Section 5 of this report	
DECC highlighted that GSI is in partnership with the National Parks and Wildlife Service (NPWS) in the Department of Housing Local Government and Heritage, to identify and select important geological and geomorphological sites throughout the country for designation as geological NHAs (Natural Heritage Areas). "This is addressed by the Geoheritage Programme in GSI, under 16 different geological themes, in which the minimum number of scientifically significant sites that best represent the theme were rigorously selected by a panel of theme experts".		
DECC went on to explain that County Geological Sites (CGSs) have been adopted in the National Heritage Plan and will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures. DECC highlighted it as important to note however, "that management issues for the majority of geological heritage sites may differ from ecological sites…CGSs are the optimal way of addressing the responsibility of each authority under the Planning and Development Act 2000 and its amendments, to protect sites of geological interest".		
DECC detailed that 29 Local Authority areas have completed geological heritage audits, with Cork County		

Key issues/themes raised	SEA response	Summary of action taken
currently under way, and the audit for County Kerry has not yet been completed. DECC noted that the sites are listed in the 'indicative list' of unaudited sites, created by theme-specific panels of experts, and are presented on GSI's Map Viewer as sites with buffer zones but no specific site boundary. Completed audits for the 29 local authority areas can be viewed and downloaded here.		
DECC highlighted that GSI maintains online datasets of bedrock and subsoils geological mapping that are reliable and accessible and would encourage Uisce Éireann to use this data in future assessments.		
DECC have 3D models that can "help stakeholders visualize, understand and characterise geology, for deposit and resource mapping, for flooding and for urban geology applications including basement impact assessment, Sustainable Drainage Systems (SuDS), and subsurface management". The 3D models offer a key element of geotechnical risk management by identifying areas requiring further site investigation. Further information and download instructions for the Quaternary 3D model of County Cork are available on the Geological Mapping programme on the GSI website.		
GSI continues to populate and develop the national geotechnical database and viewer with site investigation data submitted voluntarily by industry. DECC encouraged the use of this database as part of any baseline geological assessment of the proposed		

Key issues/themes raised	SEA response	Summary of action taken
development “as it can provide invaluable baseline data for the region or vicinity of proposed development areas”. The information DECC noted may be beneficial and cost saving for any site-specific investigations that may be designed as part of the project.		
DECC recommended that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and encourage the use of their data when doing so. DECC noted that GSI has information available on landslides in Ireland via the National Landslide Database and Landslide Susceptibility Map, both of which are available for viewing on their dedicated Map Viewer. Associated guidance documentation relating to the National Landslide Susceptibility Map is also available.		
GSI has also engaged in a national project on Groundwater Flooding, DECC highlighted that data from this project may be useful in relation to Flood Risk Assessment (FRA) and management plans.		
DECC highlighted a project entitled "Historic Mine Site - Inventory and Risk Characterisation (HMS - IRC)" that the EPA, GIS and the former Exploration and Mining Division undertook. DECC advised that this project carried out detailed site investigations and characterisation on priority historic mine sites in the country with a risk ranking methodology developed which categorised the sites according to the risks posed		

Key issues/themes raised	SEA response	Summary of action taken
to human and animal health and the environment. A final report and a GIS geodatabase was produced on completion of the project		
DECC highlighted that GSI's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages INFOMAR, Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector. "The programme delivers a wide range of benefits to multi-sectoral end-users across the national blue economy with an emphasis on enabling our stakeholders". DECC noted it is used across a suite of mapping products include Shipping & Navigation, Fisheries Management, Aquaculture, Off- shore Renewable Energies, Marine Leisure & Tourism and Coastal Behaviour.		
INFOMAR also produces a wide variety of seabed mapping products that enable public and stakeholders to visualize Ireland's seafloor environment with story maps developed providing a different perspective of some of the bays and harbours of the Irish coastline. DECC recommend use of the Marine and Coastal Unit datasets available on their website and Map Viewer.		
DECC further noted the Marine and Coastal Unit also participate in coastal change projects such as CHERISH (Climate, Heritage and Environments of Reefs, Islands, and Headlands) and are undertaking mapping in areas such as coastal vulnerability and coastal erosion.		

Key issues/themes raised	SEA response	Summary of action taken
DECC noted that GSI is undertaking a new coastal vulnerability mapping initiative. They noted that maps produced by this project will provide an insight into the relative susceptibility of the Irish coast to adverse impacts of sea-level rise using a Coastal Vulnerability Index (CVI). The project, they explained, is currently being carried out on the east coast and will be rolled out nationally, detailed information and maps are available on their website. DECC commented that "these index-based maps will offer a simple, easy visual representation of sensitive areas based on robust methods and conceptualised metrics from latest research, adapted to the Irish context…this will enable coastal managers to prioritize or concentrate efforts on adaptation".		
Physiographic Units are cartographic representations of the broad-scale physical landscape of a region and are valuable for regional land-use planning and in studies of the influence of physical landscape on the ecological environment. DECC highlighted the availability of a Physiographic Unit map produced in support of the actions to be implemented in National Landscape Strategy for Ireland 2015 – 2025.		
Cork County Council's (CCC)		
Cork County Council (CCC) suggested that Section 5.3.3 of the SEA could include areas outside of towns and villages and reconsider the baseline where it "has	In response to Cork County Council's (CCC) comment regarding non-domestic growth outside towns and cities, it is noted that Uisce Éireann will try to facilitate growth in non-domestic water use via efficiency improvements and water	No action – process to address is already included

Key issues/themes raised	SEA response	Summary of action taken
been assumed that there will be no significant increase in non-domestic demand". Furthermore, CCC commented that when looking at population growth, "one off rural housing should be included in the baseline assessment of the current situation in the Region and how cumulative impacts of abstractions and discharges from such developments have been included in the water resource planning approach for the region".	conservation. Over the coming years, Uisce Éireann will review policy and trends in relation to non-domestic use and refine their forecasts as part of the monitoring and feedback process set out in Section 9 of the RWRP-SW. Uisce Éireann confirms that growth projections used within the draft RWRP-SW were based on the best available data from the National Planning Framework (NPF), Regional Spatial Economic Strategies (RSES's), Metropolitan Strategic Plans (MSAP's) and County Development Plans (CDP) at the time of compiling the draft RWRP–SW. Uisce Éireann recognise the ongoing work between the Regional Assemblies and the local authorities over the course of the development of the Local Authority Development Plans. As these plans are finalised, Uisce Éireann will incorporate the increasingly refined growth rates into the demand forecasts through the monitoring and feedback process set out in Section 8.3.8 of the Framework Plan.	
CCC recommended that the Human Health baseline in 5.3.5 of the SEA should include health data that ERSI have produced (based on the EPA's SAFER data) on water borne illnesses in Ireland and in the southern region. They also noted the TILDA survey project linking areas to water and health data could be included as baseline data. CCC highlighted that Ireland has the highest rate of E.coli (VTEC) in the EU and suggested that baseline maps for cryptosporidium hotspots would be useful in visualising the health impacts.	Uisce Éireann note CCC's recommendation to consider ERSI health data, the TILDA survey project outputs and baseline maps for cryptosporidium hotspots in the baseline assessment of Human Health. The assessment of human health impact has considered the risk to drinking water quality in the South West Region, through the barrier assessment. The assessment evaluates the risk against the existing controls Uisce Éireann have in place for either source protection or within Uisce Éireann's water treatment plants and networks. The barrier assessments will be updated to include any additional information as per the monitoring and feedback process set out in Section 8.3.8 of the Framework Plan.	No action – process to address is already included
CCC requested that the list of local level plans in Appendix F.2 should be updated to list the new Cork County Development Plan 2022.	Appendix F.2 of the SEA has been updated to list the new Cork County development Plan 2022.	
Water conservation		

Key issues/themes raised	SEA response	Summary of action taken
West Cork Environmental Health Department		
The West Cork Environmental Health Department raised concerns over the scarcity of water and requested detailed on how it is going to be managed in the short term. They queried if there were proposals or plans to educate the public on conservation of water and recommended that such the plans have meaningful engagement with communities on the urgency of the need to manage and conserve water due to climate change.	Uisce Éireann recognises the strategic importance of water conservation and demand management. The 'Use Less' pillar is one of the three pillars that Uisce Éireann has used to develop solutions to address Need. This pillar focuses on activities to help understand water use habits, influence behaviour, encourage change and to promote the use of water efficient devices and appliances. Uisce Éireann is actively promoting water conservation in schools, business, and communities through various activities. These include the partnership with An Taisce's Green-Schools Programme, the Water Stewardship Programme with non-domestic users and ongoing national and local water conservation campaigns. Uisce Éireann also provide advice on reducing water usage in homes and businesses on their website https://www.water.ie/conservation/. This is supported by their new Conservation Calculator that will assist households to assess their water usage habits and find out how much water they are saving on a daily basis. It also offers useful and practical tips on how to reduce water usage and track their progress. The free tool was developed in response to research, which showed that consumers want additional tools to assist them in conserving water. It is available at www.water.ie/calculator Recent government policy has also allowed for the introduction of the Household Water Conservation Charge or Excess Use Charges to highlight high usage to Uisce Éireann's customers. This may also encourage further uptake of Uisce Éireann's First Fix Free Scheme, where customer side leakage is the main cause of excessive use. This scheme is supported by 'smart' functionality installations in almost 60% of domestic meter units. This includes automatic drive-by reading, month-end readings, and continuous-flow (leak) alarms. In 2018 Uisce Éireann carried out a pilot study of sub-metering of apartments, where smart meters were used with fixed radio communications. This trial was primarily to confirm that it is feasible to sub-meter apartment buildings and retrieve	No action – process to address is already included
Environmental Protection Agency (EPA)		
The Environmental Protection Agency (EPA) acknowledged the commitments to promote water conservation and 'water- stewardship' activities to support businesses become more efficient in their water usage and needs.		
Cork County Council (CCC)		
Cork County Council (CCC) noted and welcomed the proposals to reduce leakages, to promote water conservation measures and to implement Water Conservation Orders in drought periods in order to protect the environment. They further recommend that maximum resources and effort be put into these measures to minimise the need to abstract water particularly from the most environmentally sensitive sources.		No action – process to address is already included

Key issues/themes raised	SEA response	Summary of action taken
	usage data, however, it also demonstrated how water usage data can be made available to the occupants of the apartments. This work was funded by the CRU and can be found here: https://www.water.ie/about/research-and-innovation/CRU-Report-Pilot-Technology-Trials-of-Water-Metering-Systems-for-Multi-Unit-Development-30th-Sept-2019-Final-Website.pdf. Uisce Éireann are currently running a 'smart network' trial in the South Dublin Area. Uisce Éireann also works with stakeholders to support policy change, such as developing water efficiency standards in Building Regulations and social housing. Uisce Éireann will continue to progress water conservation measures and will engage with other stakeholders in driving the need for policy to support water conservation measures. More detail of Uisce Éireann's current activities can be found in section Chapter 4 of the NWRP Framework Plan and on the website: https://www.water.ie/conservation/	
A stakeholder		
A Stakeholder detailed three suggestions to conserve more water; • Uisce Éireann should embark on a massive programme of reservoir building in every part of the country to ensure we catch and retain our abundant rainfall, especially now we may have long dry periods with climate change. • Implement a programme to replace or repair leaking pipes. • Implement an education programme for all schools, primary and secondary, that instils how important a	The Lose Less pillar, relating to leakage reduction, is also one the three pillars within which the NWRP solutions are defined. Leakage reduction is a key business priority and includes improved operational control, pressure management, smart networks, active leakage control and targeted mains replacement. *(Additionally see response above)*	No action – process to address is already included

Key issues/themes raised	SEA response	Summary of action taken
natural resource this is and how important it is to value it and not to waste it.		
Drinking water quality		
A stakeholder		
A Stakeholder raised concern over the lack of detail on pesticides and herbicides in the draft RWRP-SW.	In response to the concern raised by one stakeholder over the lack of detail on pesticides and herbicides in the draft RWRP-SW, Uisce Éireann note that any risks associated with these contaminants would be identified and mitigated through the Drinking Water Safety Plan approach described in Section 5 of the Framework Plan and outlined in Section 3.3.2 of the draft RWRP-SW. Furthermore, Box 2.4 of the draft Plan makes specific reference to the pilot drinking water source protection project to trial monitoring and management strategies to reduce the risk of pesticide contamination of drinking water described in Box 2.4 of the draft Plan. Since 2015, Uisce Éireann has been an active member of the National Pesticides and Drinking Water Action Group (NPDWAG). The NPDWAG is chaired by the Department of Agriculture, Food and the Marine (DAFM) and was formed to provide a coordinated and collaborative approach to prevent the ongoing prevalence of pesticides in catchments used for the abstraction of drinking water. Members include Teagasc, the IFA (Irish Farmers Association), ICMSA (Irish Creamery Milk Supply Association), APHA (Animal and Plant Health Association) and local authorities among others.	No action – process to address is already included
West Cork Environmental Health Department		
The West Cork Environmental Health Department raised concerns about the potential threats to Public Health in the west Cork if there were an absence of any available water, reduced supply or rationing due to ‘boil water’ or ‘do not consume’ notices.	Uisce Éireann recognise the poor condition of some of their current water supplies means that some of their customers receive a low level of service resulting in the issuing of Boil Water Notices or other interruptions. The National Water Resources Plan (NWRP) identifies solutions (the ‘Preferred Approach) to improve the Level of Service provided to customers in the short, medium and long-term. This includes	No action – process to address is already included

Key issues/themes raised	SEA response	Summary of action taken
	an “interim solution” approach that allows shorter term interventions to be identified and prioritised when needed. More information on interim solutions can be found in Section 7.6 of the RWRP-SW. Specific solutions for the West Cork region are outlined for Study Area I in Appendix 2 of the RWRP-SW.	
Cork County Council (CCC)		
Cork County Council (CCC) suggested it would be of benefit to have all the critical barriers listed in page 98, section 3.3.3 of the draft RWRP-SW it would be of benefit to have here and the term “lagging assessment” needs to be clarified.	In response to Cork City Council’s suggestion for clarification regarding the critical barriers considered in the assessment of water quality risks, all eight barriers identified by Uisce Éireann will be listed Uisce Éireann will also explain that in the context of assessing water quality risk, a ‘lagging’ assessment will identify an existing water quality risk to the customer’s tap and does not allow the opportunity for preventative action. This is compared with a leading assessment that identifies a potential risk of contamination at source, enabling Uisce Éireann to take action to take preventative action to mitigate the risk.	Clarification
The Local Authorities Water Programme (LAWPRO)		
The Local Authorities Water Programme (LAWPRO) suggested that clear public messaging with regard to the causes of water supply disruptions that require boil water notices is needed. They noted that press releases from Uisce Éireann concerning boil water notices normally do not identify the cause behind the notice especially with regard to catchment related issues. They stated that from a Water Framework Directive perspective, media reports often blame heavy weather or climate for issues which LAWPRO described as misleading if there is an underlying problem with catchment management. They questioned if it would be	Uisce Éireann acknowledges LAWPRO’s comment on clear public messaging regarding the causes of water supply disruptions that require boil water notices. Uisce Éireann information on Boil Water Notices and Do Not Consume Notices can be found at https://www.water.ie/help/water-quality/boil-water-notice/ and https://www.water.ie/help/water-quality/do-not-consume-notice/ Uisce Éireann will commit to reviewing their public messaging, including press releases. Following this review, where appropriate, Uisce Éireann will refine future public messaging to identify known catchment pressures contributing to the water quality risk.	Clarification

Key issues/themes raised	SEA response	Summary of action taken
possible to do an analysis on press releases to look at the messaging. LAWPRO encouraged public agencies to refine messaging and suggested that where relevant, boil water notices should be linked back to the catchment pressures where they are known and to bring in a greater emphasis on Integrated Catchment Management and source protection. They said that this "should incentivise the relevant pressure owners to play their part in ensuring that raw water is protected". They commented that the focus of the conversations in the media were on the water treatment plants (WTP's) and effectively managing risk at the WTP rather than on the actual cause between the WTP and the source. They stated that, in general, water literacy is low, and advised that collectively, Irish need to inform and educate the public and relevant sectors and that presenting catchment relevant messaging will be important.		
Environmental Protection Agency (EPA)		
The Environmental Protection Agency (EPA) welcomed Uisce Éireann's commitment to fully adhere with the WHO of source protection and to establish drinking water safety plans across all supplies under Uisce Éireann's remit. They noted it as important for Uisce Éireann to continue to identify and implement actions	Uisce Éireann acknowledges the need to continue to identify and implement actions and mitigations to address risks identified through the Drinking Water Safety Plan (DWSP) approach. As outlined in RWRP-SW Section 9 – Ongoing Monitoring, Mitigation and Evolution – Uisce Éireann will progress Source Risk Assessments under the DWSPs and incorporate knowledge gained into the Preferred Approach.	Clarification and update added

Key issues/themes raised	SEA response	Summary of action taken
and mitigations to address those risks identified through the drinking water safety plan approach. Regarding stakeholder engagement, the EPA suggested it “may be useful to include a reference to LAWPRO and Teagasc with regards the role to assist in efforts to reduce agriculture-related sources of pollutants in waterbodies used as drinking water sources within the region”.	As part of the rollout of the Drinking Water Safety Plans, Uisce Éireann will consider nature-based solutions and catchment measures to reduce source risk to their supplies, and will actively engage as a stakeholder in catchment initiatives. Further information on Uisce Éireann’s source risk assessment is included in Box 5.2 in Section 5.5 (and cross referenced in Section 5.9) of the Framework Plan. Implementation of source protection measures will require further collaboration with several stakeholders including, riparian owners, industry groups, the agricultural, forestry and environmental sector and Agriculture and Food Development Authority (Teagasc). 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. As suggested by the EPA, Uisce Éireann will include Teagasc in their list of key stakeholders in catchment management activities. LAWPRO is already included as part of the stakeholder list.	
Surface water quality		
Councillor John Paul O’Shea		
Councillor John Paul O’Shea commented on the proposed rationalisation of some schemes in the South West region, noting some people may be moving from their current source which could be soft water to a hard source and queried how many areas will be affected by this plan? Has IW advanced the national discussions on water softeners with the Department?	Uisce Éireann recognises that the implementation of the Preferred Approach for some Water Resources Zones may result in some customers moving from a soft water source to a hard water source. However, Uisce Éireann consider the robust option selection process applied to select the Preferred Approach, presents the solution that is best suited to address both quality and quantity needs into the future. Hardness is a natural characteristic of much of Ireland's drinking water supply. Hard water contains high levels of natural minerals absorbed from rock and soil.	Clarification

Key issues/themes raised	SEA response	Summary of action taken
	Hard water 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. • 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/.	
Biodiversity, flora & fauna		
Southern Regional Assembly		
The Southern Regional Assembly (SRA) previously made recommendations for strengthening integration of Green Blue Infrastructure (GBI) and Nature Based Solutions (NBS) and Ecosystem Service Approaches as part of Developing Solutions and Supply Smarter infrastructure measures of the NWRP. They strongly advocate these approaches and recommend these should be elaborated upon.	Uisce Éireann welcome the Southern Regional Assembly's support for their Biodiversity Action Plan and projects that integrate nature-based solutions and Ecosystem Service Approaches. Uisce Éireann will continue to work in partnership with catchment stakeholders and local authorities to develop these collaborative projects that deliver benefits for both their customers and the environment, including those focussed on pollution reduction. More information on Uisce Éireann's approach to protect natural resources is provided in Section 2.3.9 of the RWRP-SW.	Clarification

Key issues/themes raised	SEA response	Summary of action taken
The SRA commended the positive commitment to adopt GBI, NBS, Ecosystem Services and protect and enhance biodiversity through the Uisce Éireann Biodiversity Action Plan and needs to continue to be a priority action for the unified NWRP. The SRA outlined their support for Uisce Éireann's projects that integrate NBS, reduce energy usage, carbon sequestration and provide amenity use for local communities. The SRA further noted their support and encouraged further collaborative projects for Sustainable Urban Drainage Systems (SuDS), wetlands, basins and ponds, reedbeds, buffer strips and hedges and forest riparian buffers inter alia with the relevant stakeholders.	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 Uisce Éireann's Biodiversity Action Plan or Energy Efficiency Plan. Section 6.4 of the RWRP-SW 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 Department of Fishing and Marine (DAFM)		
The Department of Fishing and Marine (DAFM) commented that commercial sea fishing is a long standing, pre-existing and traditional activity in the marine environment and is therefore essential that any negative impacts on fisheries are avoided. The evaluation of potential impacts on any commercial sea fishing activities as a result of the draft RWRP-SW needs to be given consideration as part of any planning or proposal process and during the development process itself. The DAFM noted it as imperative that engagement should be sought with the fishing industry and other relevant stakeholders at as early a stage as possible to discuss any changes that may affect them to afford a chance for their input. The DAFM commented	The assessment of desalination options has taken account of potential environmental impacts from their associated brine discharge on the aquatic environment and biodiversity, including potential impacts on fisheries. No desalination options are included in the Preferred Approach for the South West Region and therefore have not been assessed further in terms of impact on commercial fisheries. As plan level approaches progress to project level, Uisce Éireann carry out the required environmental assessments at a site level, including surveys and investigations, as part of the statutory consenting process.	Clarification

Key issues/themes raised	SEA response	Summary of action taken
that the Fishers' interests and livelihoods must be fully recognised, supported, and taken into account.		
Department of Housing Local Government and Heritage		
The Department of Housing Local Government and Heritage – National Parks and Wildlife Services (DHLGH-NPWS) noted that the plan will result in the decommissioning of 90 Water Treatment Plants (WTPs). When decommissioning WTPs, DHLGH-NPWS noted that there may be scope to decommission weirs which are forming a barrier for fish migration. They highlighted 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-NPWS advised Uisce Éireann to include removal of barriers to fish migration due to weirs when decommissioning WTPS, where applicable.	The RWRP-SW sets out proposed Preferred Approaches, which will have to go through their own consenting process. In projects where the Preferred Approach includes the decommissioning of a water treatment plant (WTP) and associated abstraction(s), Uisce Éireann will consider the possibility of removing structures such as weirs and dams that create obstacles for fish passage. Uisce Éireann note however, that many of these structures are not owned or operated by Uisce Éireann and as such, their removal will need to be considered in consultation with the relevant stakeholders. Further details on the process for decommissioning abstractions can be found in Section 6.4 of the RWRP-SW.	Clarification
The DHLGH-NPWS noted that the SEA Environmental Report (p. 52) lists both Killarney shad and slender naiad as species of concern, but there is no further mention of these species in the assessment. The DHLGH-NPWS noted that the impact on Killarney shad, an endemic species to Lough Leane, also requires full assessment, as this species spawns during June, and low spring/early summer water levels could have an impact on this species. They further highlighted that the	In response to the submission from the Environmental Protection Agency (EPA) and the Department of Housing, Local Government and Heritage – National Parks and Wildlife Services (DHLGH-NPWS), 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 draft RWRP-SW. Uisce Éireann will ensure the ecology of the area is protected by implementing appropriate mitigation measures to manage environmental risks at project level. Key mitigation measures for the Preferred	Clarification and updates to SEA Environment Report and Study Area H Environmental Review, NIS and Plan

Key issues/themes raised	SEA response	Summary of action taken
effects of drought conditions exacerbated by abstraction on the mesotrophic lake habitat exposed on the shore, the potential encouragement to invasive species like fringed waterlily (Nymphoides peltata), and impacts on alluvial woodland soils, need further assessment. DHLGH-NPWS noted that similar to the NIS, a more focused assessment is required for the SEA to be objectively completed, without deferring full assessment to EIA stage. The DHLGH-NPWS noted that the SEA needs to take account of the current state of Lough Leane as a baseline habitat for aquatic biodiversity, in terms of potential future state change due to further eutrophication, sedimentation of the water column reducing light to the benthos, increased water temperature and the frequency of cyanobacterial blooms.	Approach are outlined in Table 7.1 of the Study Area Environmental Reviews which are provided in Appendix H of the SEA Environmental Report. 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 (WFD). The wider WFD and biodiversity objectives are also embedded in SEA objectives and are taken forward through the mitigation and monitoring framework as provided in the Environmental Action Plan and Monitoring Plan provided in this SEA Statement and referenced in Section 9 of the Plan. Where we have determined that existing abstractions may not meet sustainable flow thresholds, the Preferred Approach improves or avoids further deterioration at these sources by abandoning the abstraction, or where viable alternatives do not exist, by reducing the abstraction or developing additional sources to support growth. Further detail of the assessment of sustainable abstractions is provided in Section 7.4.5 and Appendix C and Appendix G of the Framework Plan. Uisce Éireann will be required to apply for licenses for abstractions through the pending 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 of the waterbody. Mitigation measure such as minimum compensation flows and variability of compensation flows may be required to ensure fish passage. These measures will be specific to each abstraction. The Supply Demand Balance will be updated based on the outcome of the licensing process. This will be undertaken in accordance with the feedback and monitoring process set out in Section 8.3.8 of the Framework Plan. The RWRP-SW determines the feasible Preferred Approach at plan level. It is acknowledged within the Plan that further site-based assessments will be required at project level. These detailed environmental assessments will take place prior to	

Key issues/themes raised	SEA response	Summary of action taken
	any planning permission application being made and therefore site-specific questions, such as the impact of abstractions from the lower Leane catchment on endemic species to the Lough Leane, such as Killarney shad, will be addressed at this stage. More information on project level assessments is provided in Section 6.4. Uisce Éireann will ensure the ecology of the area is protected by identifying appropriate mitigation measures to manage environmental risks. Monitoring plans for plan level and project level are provided in the SEA environmental report Section 10. Actions to be taken where issues are identified include additional mitigation or variation to proposals.	
The Environmental Protection Agency (EPA)		
The Environmental Protection Agency (EPA) highlighted that in the proposals for additional reservoirs or impoundments in the draft RWRP-SW that there is potential for good or high-status rivers to be impacted. The EPA commented that “it will be important that any proposed development of reservoirs or impoundments ensure that the ecology of the area is not impacted and that flows are maintained to ensure there is no deterioration in water quality status”.	Irish Water recognises the importance of minimising the potential for environmental impacts of all proposed developments, including reservoirs and impoundments, and will ensure the ecology of the area is protected by identifying appropriate mitigation measures to manage environmental risks. Uisce Éireann recognises the importance of minimising the potential for environmental impacts of all proposed developments, including reservoirs and impoundments. Uisce Éireann will be required to apply for licenses for abstractions through the pending abstraction license legislation. The EPA, as the licencing regulator, will review Uisce Éireann’s 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 of the waterbody. Mitigation measure such as minimum compensation flows and variability of compensation flows may be required to ensure fish passage. These measures will be specific to each abstraction. The Supply Demand Balance will be updated based on the outcome of the licensing process. This will be undertaken in accordance with the feedback and monitoring process set out in Section 8.3.8 of the Framework Plan.	Clarification

Key issues/themes raised	SEA response	Summary of action taken
	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 (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. Where Uisce Éireann have determined that existing abstractions may not meet sustainable flow thresholds, the Preferred Approach improves or avoids further deterioration at these sources by abandoning the abstraction, or where viable alternatives do not exist, by reducing the abstraction or developing additional sources to support growth. Further detail of the assessment of sustainable abstractions is provided in Section 7.4.5 and Appendix C and Appendix G of the Framework Plan.	
Inland Fisheries Ireland (IFI)		
Inland Fisheries Ireland (IFI) commented whereby the undertaking of emergency works in low flow situations to ensure supply continuance does not impact or impede fish passage or endanger fish life. The IFI noted it as essential they are consulted with in advance of any such works. The IFI further noted that there are currently several on the ground issues regarding pollution and barriers in the South West region that must be addressed on an individual basis and that national guidelines from IFI should be incorporated. Inland Fisheries Ireland (IFI) advised that uninterrupted fish movement continues to be a priority, along with spawning ground availability and egg oxygenation;	The RWRP-SW sets out proposed Preferred Approaches, which will have to go through their own consenting process. In projects where the Preferred Approach includes the decommissioning of a water treatment plant (WTP) and associated abstraction(s), Uisce Éireann will consider the possibility of removing structures such as weirs and dams that create obstacles for fish passage. It is noted however, that many of these structures are not owned or operated by Uisce Éireann and as such, their removal will need to be considered in consultation with the relevant stakeholders. Further details on the process for decommissioning abstractions can be found in Section 6.4 of the RWRP-SW. Uisce Éireann notes Inland Fisheries Ireland's (IFI) comment regarding the potential impact of emergency works on fish passage during low flow situations. In the response to drought, Uisce Éireann commit to working with stakeholders, including IFI. The drought response activities at present are based on assets currently available to Uisce Éireann. The delivery of the NWRP will transform	Clarification

Key issues/themes raised	SEA response	Summary of action taken
"fluctuation in water levels can introduce migratory barriers and such barriers (including potential barriers) should be identified, along with corresponding mitigation measures. IFI recommended the phasing out of unsustainable existing schemes should be a priority to allow natural river forms function and remove barriers, in particular weirs built to facilitate outtakes. IFI noted that while abstraction is assessed in the context of Water Framework Directive "an equal emphasis should be on river hydro-morphology; weirs, river realignments and bank modifications have impacts on river forms and function and may reduce the status in conjunction with other modifications within a catchment".	Uisce Éireann's asset base, improving the Level of Service to customers and reducing potential environmental impacts during drought periods. Drought plans will be developed for each Water Resource Zone (WRZ), and it is planned to provide this detail in the next iteration of the NWRP. These drought plans will be developed in line with the abstraction legislation and note measures required for different water levels at Uisce Éireann's sources. The drought plans will be unique for each supply. Uisce Éireann welcome the Southern Regional Assembly's support for Uisce Éireann's Biodiversity Action Plan and projects that integrate nature-based solutions and Ecosystem Service Approaches. Uisce Éireann will continue to work in partnership with catchment stakeholders and local authorities to develop these collaborative projects that deliver benefits for both customers and the environment, including those focussed on pollution reduction. More information on the approach to protect natural resources is provided in Section 2.3.9 of the RWRP-SW. 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 Uisce Éireann's Biodiversity Action Plan or Energy Efficiency Plan. Section 6.4 of the RWRP-SW 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/	
Climate change		
A stakeholder		
A stakeholder noted that as a result of Climate Change and Carbon Footprint reductions more emphasis will have to be made of storage and use of the natural water cycle if demand and targets are to be achieved.	When considering the Preferred Approach, Uisce Éireann 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 their infrastructure in relation to flood zones. They have identified solutions to secure supplies and reduce water shortfalls during drought conditions. These solutions include both	Clarification

Key issues/themes raised	SEA response	Summary of action taken
	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-SW and the SEA Environmental Report. Further assessment of the impacts of climate change will be carried out at project level through hydrological and hydrogeological modelling work.	
LAWPRO		
LAWPRO noted that due to climate change whereby, we can expect more drought like conditions which can lower water levels in rivers and lakes and affect it ecologically, the safeguarding from any further impact from abstractions is hugely important. LAWPRO noted that abstraction pressure in high tourist amenity areas in summer increases substantially due to the seasonal demand coupled with impacts of climate change and the quantity of water supply becomes a risk. LAWPRO highlighted that in some cases, the water utility must draw water from certain supplies to supplement other supplies that have gone dry. LAWPRO noted that these factors increase the pressure of the abstraction on the waterbody and should be given high weighting when abstraction threshold assessments are being undertaken.	Further to LAWPRO's comment regarding the impact of tourism on seasonal demands, Uisce Éireann note that their demand estimates account for the increase in demand resulting from the influx of tourists, particularly during the summer periods when there is the combined impact of reduced supplies and increased local demands. Uisce Éireann acknowledge there is some uncertainty associated with their existing forecasts, which is accounted for in the headroom allowance added to their demand forecast. In developing the Preferred Approach, Uisce Éireann has considered the impact of abstractions on the aquatic environment and assessed sustainable abstraction thresholds during low flow periods. Uisce Éireann have taken a conservative approach when conducting desktop assessments of the Preferred Approaches using the methodology set out in Appendix C of the Framework Plan. Further information on the approach to assessing abstraction pressures is provided in Section 2.3.5. Section 7.4 provides detail regarding the sustainability of Uisce Éireann's water abstractions under the Preferred Approach.	Clarification
Transboundary Effects		

Key issues/themes raised	SEA response	Summary of action taken
The Department of Agriculture, Environment and Rural Affairs (DEARA) National Environment Division (NED)		
The Department of Agriculture, Environment and Rural Affairs (DEARA) National Environment Division (NED) noted that no transboundary effects have been identified in the draft RWRP-SW and as such are content that given the geographical location of this plan it is unlikely to significantly impact on Northern Ireland. Should transboundary issues arise then the NED requested consultation with the relevant Northern Ireland bodies be undertaken. NED agreed with the conclusions of the Natura Impact Statement (NIS) and agreed it is unlikely there will be significant effects on Northern Ireland European sites.	The RWRP-SW SEA Environmental Report did not identify any scope for transboundary impacts from the plan proposals. Future RWRPs will also be subject to transboundary effects assessments, and should these arise, appropriate consultation will be undertaken with relevant stakeholders, including the Department of Agriculture, Environment and Rural Affairs (DEARA) National Environment Division (NED).	No action – process is already in place
Marine Plant Team in the DEARA Marine and Fisheries Division		
Furthermore, the Marine Plant Team in the DEARA Marine and Fisheries Division agreed that, based on the operational distance between the RWRP-SW and Northern Ireland, transboundary effects, at the Study Area level, are not predicted.		
Mitigation & monitoring		
Environmental Protection Agency		
The Environmental Protection Agency (EPA) recommended that the Monitoring Programme should be flexible to take account of specific environmental issues	The Strategic Environmental Assessment (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	Clarification on the two part Monitoring Plan and feedback process. Updates

Key issues/themes raised	SEA response	Summary of action taken
and unforeseen adverse impacts should they arise during implementation of the Plan. As well as set out the various data sources, monitoring frequencies, responsibilities and reporting. EPA noted it should consider and deal with the possibility of cumulative effects and that monitoring of both positive and negative effects should be considered. The EPA recommended that "if the monitoring identifies adverse impacts during the implementation of the Plan, Uisce Éireann should ensure that suitable and effective remedial action is taken".	Monitoring Plan is therefore provided for in two parts. This has been clarified and explained further in SEA Environment Report section 10. Part 1 is plan level 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 The Environmental Action Plan also 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.	to the EAP and Monitorng Plan to incorporate comments.
Furthermore, the EPA noted the implementation of the RWRP-SW should include provisions for annual or bi-annual reporting on implementation of the Plan commitments. They recommended that the RWRP-SW implementation, monitoring and reporting should be aligned with the environmental monitoring and reporting required under the SEA legislation which will assist in evaluating the environmental performance of the Plan. Guidance on SEA-related monitoring is available on the EPA website. The EPA noted the proposed Mitigation Measures and monitoring measures are set out in Chapter 10 – Mitigation and Monitoring of the SEA Environmental Report and the inclusion of Table 10.2 Monitoring Plan: Indicators and Targets. They also welcomed the link between the Plan and SEA regarding monitoring the implementation of the Plan.	The Monitoring plan has been designed to provide a basis for the identification and continuous review of the positive, negative and cumulative impacts of the RWRP-SW. The plan refers to monitoring targets and indicators, monitoring frequencies, 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 this SEA Statement. The process for review of amendments to the RWRP-SW is outlined as part of the feedback and monitoring process in the Plan section 9.	

Key issues/themes raised	SEA response	Summary of action taken
In relation to the Mitigation measures, they acknowledged that the identified SEA mitigation measures have been integrated into the Plan which shows a clear linkage between the Plan and SEA.		
The EPA noted it as important that monitoring of the significant environmental effects of implementation of the Plan are carried out. “Bearing that in mind, we suggest for clarity, the information presented in Section 10 – Mitigation and Monitoring Plans, should be reorganised…in this context, there is merit in considering a tiered approach to presenting the monitoring information”. They suggested that the key high-level environmental protection objectives of the SEA could be set out in one table, with the accompanying monitoring targets and indicators, monitoring frequencies and information sources. They further suggested a second table could be provided to show the more detailed environmental objectives, targets and indicators, more of relevance at a project level.		
Additionally, the EPA highlighted there is merit in limiting the number of indicators currently presented. “The monitoring indicators should be meaningful, have a monitoring frequency associated with them and include thresholds/targets or triggers above which remedial action should be taken. While some of the environmental indicators described are applicable at a plan- level, others appear to be more applicable at a		

Key issues/themes raised	SEA response	Summary of action taken
project level. These should be separated out for clarity purposes. The aim should be for the higher-level SEA-specific monitoring aspects to align and inform the Plan-specific monitoring".		
The EPA suggested that the more detailed project specific monitoring elements could be separated out and used to inform the development and implementation of future projects, that may arise out of the implementing the RWRP-SW. In this context, they noted, the key overarching environmental objectives to be taken at project level, identified in the SEA could be set out to help inform any project level monitoring that would be required. This they remarked, would help promote further good SEA practice, as promoted in the EPA guidance document 'The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment' (EPA, 2021).		
The EPA highlighted that this approach should assist in linking the SEA monitoring and Plan-monitoring and reporting aspects. The EPA suggested that interim monitoring reports (annual or bi-annual) be provided over the lifetime of the RWRP-SW which would allow for remedial action to be taken where significant adverse effects are identified and enable Uisce Éireann to adapt the monitoring programme as necessary.		

Key issues/themes raised	SEA response	Summary of action taken
The EPA recommend that Uisce Éireann should screen any future amendments to the RWRP-SW for likely significant effects, using the same method of assessment applied in the “environmental assessment” of the RWRP-SW.		

5 Mitigation and Monitoring Plans

5 Mitigation and Monitoring Plans

The Mitigation and Monitoring Plans for the RWRP-SW 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-SW 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-SW which identifies the mitigation measures that specifically respond to the significant environmental effects identified for each SEA topic in the RWRP-SW SEA SAs H-J 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 West 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 2022/2023	Y - completed for the RWRP-SW
Demand Side Data Improvements: Planning for Future Developments					
EAP2	Options and Approach Development Process and	**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 2022/2023	Y - completed for the RWRP-SW

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
	Supporting Measures	**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 2022/2023 and Source risk assessments and drinking water safety plans ongoing – consider progress in Annual reviews	Y - plan level assessment completed for the RWRP-SW R - project level assessments for water sources
		EAP3.2 Link Drinking Water Safety Plans to scoping of study areas, prioritisation and options		Study area scoping, risk assessments and prioritisation	R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
		development process including consideration of catchment management opportunities.		and engagement with relevant stakeholder groups	
		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-SW.
		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 and catchment management benefits.	CBA and MCA supported by environmental/social valuation as well as qualitative assessment	Take forward into project development Include in next cycle of Regional Plans 2022 onwards	R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
Delivering Solutions – Approach					
Climate Change					
EAP4	Options and Approach Development Process and Supporting Measures	**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 SW region, consider effects on the lower Leane catchment and associated ecology and species status and ensure alignment with the Uisce Éireann Biodiversity Action Plan.	Environmental resilience as part of the climate change risk assessment informing long-term solutions.	Regional Plan SEA Environmental Reports 2022/2023 and implementation of projects. Catchment management to be considered in source risk assessment where appropriate - ongoing. Progress to be considered in Annual review.	R
		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			R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
		linking improvements to water quality reducing treatment and opportunities for improving carbon sequestration in soils and through woodland planting (also linking to biodiversity objectives)			
		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 considering opportunities for use of renewable energy sources. Ensure alignment with the Uisce Éireann Energy Efficiency Plan.	Identify how construction and operational carbon can be reduced across project development, construction and operation including potential for including renewable energy sources, such as solar panels, in project design	Progress to be considered in Annual review	R
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					

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
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
		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.					

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
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 drought.	Drought -sources at risk identified	Drought management phased for each Regional Plan area 2022 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 minimising restrictions to customers	Drought management - environmental reviews and communications strategy Drought management: • Social/environmental reviews • Communication strategy • Environmental assessment of sources at risk phased for each	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			R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
		measures in most cases and taking forward the approaches from the 2018 summer drought and 2020 spring drought.		Region Plan area 2022 onwards	
		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 Process and Supporting Measures	**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 2022/2023 and implementation of projects	Y
		EAP9.2 Apply the waste management hierarchy with any solid waste disposal limited to appropriate licensed sites.			R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : 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 2022/2023 Risk assessments and prioritization	Y - as part of RWRP-SW 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.	CBA 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 2022 onwards	R R
		EAP10.3 Comparison of combinations of options (or approach) should include assessment of cumulative effects for each Study Area (groups of WRZs) and be considered in determining the best	Best environmental solutions considered in selection of preferred solutions with mitigation built into design and costing. Opportunities for	Regional Plan SEA Environmental Reports 2022/2023	Y - as part of RWRP-SW and SEA

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended : R
		value approach. Justification for the approach selected will need to be provided.	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.	Avoid transboundary effects	Regional Plans SEA Environmental Reports 2022/2023 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 good practice	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 West 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	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.			P
		EAP12.3 Ensure environmental mitigation and study requirements are covered in option costing and risk aspects are taken into account in scheme development.			P
		EAP12.4 Review monitoring framework and update to ensure environmental mitigation and			R

Ref no.	Focus	Recommended Action for Mitigation / Further Study	Target	Monitoring (Timescale)	South West Region Progress summary: Completed: Y In progress: P Recommended: R
		study requirements are covered in option costing and risk aspects are taken into account in scheme development.			

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 for the RWRP-SW 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 EC (Assessment of Certain Plans and Programmes) Regulations 2004 (SI 435/2004). 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).

The Monitoring Plan is provided in two parts:

- Monitoring Plan – Part 1: South West plan level monitoring (Table 5.2); and
- Monitoring Plan - Part 2: Framework for project monitoring (Table 5.3)

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-SW.

Table 5.2 Monitoring Plan - Part 1: South West Regional Plan Level Monitoring

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
Reporting timescale: included in Regional Plan and SEA (developed during 2022-23)				
All topics and objectives	**RMP AT1** 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 **RMP AT2** Application of methodology for SEA and AA in the comparison and selection of Preferred Approaches for the preparation in the Regional Plans **RMP AT3** Environmental and social valuation methodology developed further as a tool using natural capital /ecosystems services assessment **RMP AT4** Transparent documentation of the appraisal and selection process	• T1 Options and plan approach to find sustainable solutions that contribute to environmental objectives	Uisce Éireann	Uisce Éireann
All topics and objectives	**RMP AT5** 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. **RMP AT6** Identification of process for undertaking the relevant options studies and feeding back where potential significant environmental effects are identified including engagement with relevant stakeholders.	• T2 Process implemented for iterative options assessment through identification, option design development stages and identification of mitigation measures and input to project costing • T3 Option development for Preferred Approach options built on the SEA and AA work and incorporating feedback to the next	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
		Framework Plan and adequate comparison with alternatives at key points		
Reporting timescale: to be phased for Regional Plan implementation 2023 onwards				
All topics and objectives	**RMP AT7** Environmental assessment, including AA, for designated international and national sites potentially affected by drought measures **RMP AT8** Communication plan for drought/freeze-thaw period actions	• T4 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 from each Regional Plan from 2022 onwards				
All topics and objectives	**RMP AT9** 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.	• T5 Monitoring plan data compiled for feeding into future Framework Plans and the Stage 8 Monitoring and Feedback process.	Uisce Éireann	Uisce Éireann
Population, economy, tourism and recreation, and human health	**RMP PH** 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	• T6 Maintained or improved access to reliable and safe drinking water meeting forecast demand • T7Reduced number of drought actions affecting supply • T8 Raised public awareness of actions to take for water	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
	5. Reduced water supply restrictions due to water quality risks	conservation with reduced household /non domestic per customer demand		
	RMP RT 1. Level of service accommodating seasonal tourism demand	See T6		
Water environment	**RMP WE** 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 – 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	• T9 Improved environmental resilience and water quality within water resource use catchments • T10 Contribution to restoration to "good" status of waters currently at "moderate", "poor" or "bad" status (WFD objective) • T11 Achieve leakage targets identified for the South West	Uisce Éireann and EPA	Uisce Éireann
	RMP FI 1. Number of outages due to flood events or power or outages	• T12 No loss of supply due to flood events	Uisce Éireann and EPA	Uisce Éireann
Biodiversity, flora and fauna	**RMP Bio** 1. Identification of existing abstractions or drinking water treatment residuals with risks to international or national designations	• T13 No adverse effects on integrity of European, national or regional level designations and, where feasible, seek to contribute to	NPWS, EPA and Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
	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	achieving favourable conservation status • T14 Improvement to aquatic biodiversity of existing waterbody sources • T15 region wide no net loss of high value habitats and improved habitat connectivity		
Material assets	**RMP MA** 1. Tonnes of residuals reused or recycled across region per year 2. Tonnes of waste disposed of to landfill for the region per year	• T16 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 (LAs)	Uisce Éireann
Landscape and visual amenity	**RMP LV** 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	• T17 Improvement or no net change in landscape quality	Uisce Éireann	Uisce Éireann
Climate change	**RMP CCM** 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 (tonnesCO2equiv)	Decarbonisation through the following: • T18 Increased contribution of renewable/low carbon energy sources for existing and new	Uisce Éireann	Uisce Éireann

SEA topics	SEA indicators	SEA targets	Source data	Responsibility
	3. Operational Carbon Intensity kgsCO2equiv/ML overall achieved for the region each year 4. Total carbon value from any carbon offsetting schemes linked to the Plan	schemes including project based sources. • T19 Minimised the annual carbon emissions from operation and reduced carbon intensity of water supply • T20 Supported carbon offsetting schemes, including upper catchment schemes linked to biodiversity and water and population wellbeing (recreational) objectives		
	RMP CCA 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	• T21 Improved resilience of environment to climate change	Uisce Éireann	Uisce Éireann
Cultural heritage	See project level monitoring	N/A		
Geology and soils	See project level monitoring	N/A		

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 Monitoring Plan – Part 2: Framework for Project Monitoring

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 **Reporting timescale: across each project develop over plan implementation period**				
***Note: Not all indicators will be relevant for all types of projects**				
All topics and objectives	**PL AT1** • Environmental screening applied for all projects to check appropriate level of study and assessment to address risks of environmental impacts 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].	• PT1 Project development to find sustainable solutions that contribute to environmental objectives	Uisce Éireann	Uisce Éireann
All topics and objectives	**PL AT2** 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.	• PT2 Process implemented for project level development feeding back information for project and regional level review	Uisce Éireann	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
Population, economy, tourism and recreation, and human health	**PL PH** 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	• PT3 Minimise extent and period of disruption to traffic related to construction • PT4 Minimise access restrictions and noise disturbance to people from construction and operation of schemes	Uisce Éireann IW (project level information)	Uisce Éireann
	PL Rec 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)	• PT5 No net loss of important recreational amenity, improved access and support for new recreational amenity	Uisce Éireann IW (project level information)	Uisce Éireann
Water environment	**PL WE** 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	• PT6 Avoids “No deterioration” in status of waters (WFD objective) • PT7 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

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	PL FI 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	• PT8 No net flood plain area lost as a result of the plan, and where possible increase functioning flood plain • PT9 Reduced flood risk or vulnerability to supply	IW (project level information) and EPA	Uisce Éireann
Biodiversity, flora and fauna	**PL Bio** For designated nature conservation sites potentially affected by water resource options: a) Area of each designated site/type affected and the likely impact b) Area of site with a predicted or recorded change in condition (positive or negative) c) 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) d) Improvement in habitat connectivity or loss of connectivity e) Improvement to aquatic habitats and fish migration where relevant f) Removal of residuals discharge to waterbodies g) Invasive species risk assessment h) Identification of potential for applying nature-based solutions or catchment management including opportunities for biodiversity enhancement	• PT10 No adverse effects on integrity of European, national or regional level designations and, where feasible, seek to contribute to achieving favourable conservation status • PT11 No net loss of valued habitats or habitat connectivity as a result of the works and, where possible, demonstrate habitat enhancement/creation • PT12 reduced invasive species risk • PT 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	**PL MA**	PT14 Minimise permanent loss of greenfield land, including agricultural, forestry or other land uses	Uisce Éireann, EPA and Local	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	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 plant designed in accordance with Uisce Éireanns Residuals Management Strategy	PT15 Minimise material consumption and waste during construction and operation of schemes PT16 Increase investment in existing and new water treatment and wastewater management infrastructure PT17 No drinking water treatment residuals sent to landfill and no reduced abstraction to other users due to new schemes	Authorities (LAs) (including project level information)	
Landscape and visual amenity	**PL LV** 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	PT18 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	**PL CCM** a) Carbon footprint (total tonnes) of construction and life time carbon tonnes including operational carbon calculated for the project b) Carbon intensity calculated of the project (kgsCO_2equiv/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	Decarbonisation through the following: • PT19 Benchmarked reduced carbon emissions from construction • PT 20 Increased contribution of renewable/low carbon energy sources • PT21 Minimise the annual carbon emissions from operation and	Uisce Éireann (including project level information)	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	e) Carbon offsetting opportunities through carbon sequestration such as woodland planting or peat bog restoration	Improve energy efficiency of water services • PT 22 Scheme related carbon offsetting- such as upper catchment management initiative/collaboration linked to biodiversity and water and population wellbeing (recreational) objectives		
	PL CCA Flood, freeze thaw and drought risk vulnerability assessment including power outages to inform scheme design.	• PT 23 Improved project resilience to climate change	Uisce Éireann	Uisce Éireann
Cultural heritage	**PL CH** a) Number of designated sites or other important archaeological or architectural heritage sites 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	• PT24 No unauthorised physical damage or alteration of the context of cultural heritage features due to Uisce Éireann activities • PT25 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
Geology and soils	**PL GS** 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	• PT26 No loss of statutory and non-statutory geological sites of interest • PT27 Minimal disturbance or loss of high-quality land as a result of the	Uisce Éireann (including project level information)	Uisce Éireann

SEA topics	SEA Project level indicators	SEA Project targets	Source data	Responsibility
	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	Framework Work and minimal net loss of soil resources • PT28 Catchment areas where raw water quality issues have been improved though soil and land management changes		

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-SW 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/south-west/

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

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