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Water Resources West

Draft Regional Plan

Strategic Environmental Assessment: Environmental Report



This report was prepared by WSP Environment & Infrastructure Solutions UK Limited (formerly known as Wood Environment & Infrastructure Solutions UK Limited), company registration number 02190074, which is carrying out these services as a subcontractor and/or agent to Wood Group UK Limited – November 2022

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Doc Ref. 852579_WRW_SEA_FINAL

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Document revisions

No.	Details	Date
1	Draft	17.10.22
2	Revised	24.10.22
3	Revisedv2	26.10.22
4	Final	15.11.22

Non-technical Summary

Introduction

Water Resources West (WRW) is the regional group of abstractors established under the Environment Agency's National Framework for Water Resources¹ (the 'National Framework') with responsibility for managing water resources in the North West of England, the West Midlands and the cross-border catchments with Wales. It comprises of five core members, Dŵr Cymru Welsh Water (DCWW), Hafren Dyfrdwy², Severn Trent Water (STW), South Staffordshire Water (SSW) and United Utilities Water (UUW).

The National Framework requires each regional group to prepare a regional plan to set out how water supply will be managed in the region for the next 25 years and beyond.

WRW has therefore prepared its Regional Plan alongside an aligned set of Water Resource Management Plans (WRMPs) from its core members. The Plan covers the period 2025 – 2085 and will address long-term regional and inter-regional, multi-sectoral water resources management pressures. It includes the water resource options from the water company's WRMP24s, Strategic Resource Options³ (SROs) and considers the needs of non-public water supply (non-PWS) abstractors as well as public water supplies.

The development of the draft Regional Plan is aligned with Government guidance^{4,5} which requires compliance with relevant environmental assessment regulations. This includes *The Environmental Assessment of Plans and Programmes Regulations 2004* (the 'Strategic Environmental Assessment (SEA) Regulations'). The SEA will be used to inform the development and selection of the water resource management options that will comprise the draft Regional Plan. As part of the process of plan preparation, the likely significant environmental effects of the plans have been assessed, and ways in which adverse effects can be avoided, minimised or mitigated and how any positive effects can be enhanced, have been identified.

This Non-Technical Summary (NTS) provides an overview of the Environmental Report produced as part of the SEA of the WRW draft Regional Plan. The following sections of this NTS:

- provide an overview of the WRW draft Regional Plan;

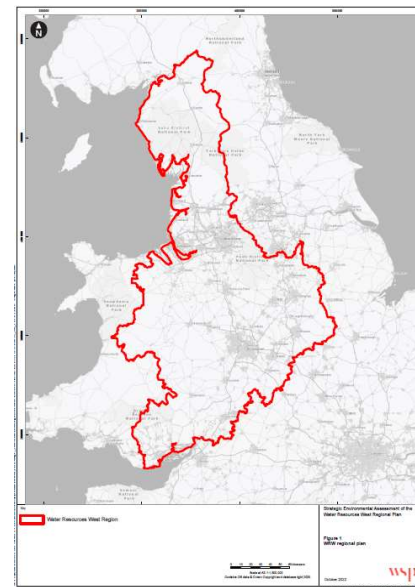


Figure NTS.1 WRW Regional Plan Area

¹ EA (2020) *Water Resources National Framework*: Appendix 2: Regional planning. Available online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872222/Appendix_2_Regional_planning.pdf

² AT 1st July 2018, Hafren Dyfrdwy combined the water service area of Dee Valley Water and Severn Trent lying in Wales.

³ The Strategic Water Resource Options (SROs) programme was initiated by Ofwat to provide at least 1,500MI/d of water to areas of England facing a water deficit. The SRO Programme includes 17 schemes which will be funded and assessed during AMP7 to determine the right portfolio of projects to be selected by Regional Plans ready for implementation in AMP8. Schemes are evaluated at a series of decision points (Gates).

⁴ UK Government (2022) *Water Resource Planning Guidance (WRPG)* [online]. Available at: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>.

⁵ Welsh Government (2022) *Guiding Principles for Developing Water Resources Management Plans*. Available at: <https://gov.wales/water-resources-management-plan-guidance>

- outline the SEA process, as applied to the WRW draft Regional Plan;
- summarise the key issues relevant to the assessment;
- outline the approach to undertaking the assessment;
- outline the likely significant effects of the WRW draft Regional Plan and any reasonable alternatives;
- summarise mitigation and enhancement measures;
- outline how the effects of the plan will be monitored; and
- set out the next steps in the SEA process.

Water Resources West (WRW) Regional Plan

Water resources management planning is being undertaken at a regional and water company level in England and Wales to ensure reliable, resilient water supplies into the future.

WRW has taken an integrated approach to preparing the Regional Plan and the WRMPs, aiming to provide a multi-sector Plan, that accounts for the needs of non-public water supply (non-PWS) abstractors as well as public water supplies. WRW member water companies have used a regionally consistent set of methodologies to reflect local, regional and national needs in the development of the plans.

Each water company has led development of their WRMP and relevant aspects of the regional plan in their area included with WRW as a single piece of work. The WRW draft Regional Plan then combines the preferred water resource options from the component WRMP24s, as well as the SROs being taken forward by the companies.

The draft Regional Plan proposes a significant reduction in water demand, through reduction in consumption and a reduction in leakage from the potable water network. Consumption reduction to 110 litres per day (l/p/d) by 2050 will be achieved through a range of measures rolled out by water companies:

- Targeted water efficiency campaigns, with household and non-household setting visits supported by partnership working.
- A significant roll-out of water meters, using enhanced or smart technologies.
- In the Midlands, adopting a policy of metering all households, linked to the water stress classification in that area.

To achieve the 110 l/p/d target, will also require government introduction of proposed⁶ water labelling on water using products.

The combined benefit of the demand management options selected, including government intervention via water labelling, is around 914 Megalitres per day (Ml/d) across the region.

The draft Regional Plan identifies that the largest need for new water resources arises in the Midlands to offset reductions in abstraction licences to meet environmental needs. STW requires a large number of supply options to tackle deficits. This includes raising the height of dams in the Derwent Valley and at other reservoirs to increase storage, investing in a number of water treatment works to increase deployable output, significant increases in interconnectivity and a small number of new sources. STW also proposes to take 75 Ml/d from the North West Transfer (NWT) for a period until it is required by Water Resources South East (WRSE). There is a

⁶ UK Government (2022) UK mandatory water efficiency labelling consultation. Available online: <https://www.gov.uk/government/consultations/uk-mandatory-water-efficiency-labelling>

variance between the draft Regional Plan regarding the 75MI/d NWT release and the STW draft WRMP24 preferred plan which includes a 25MI/d release and an adaptive pathway that increases this to 75 MI/d in 2050. Within the context of the regional plan, such changes are relatively minor and will be fully incorporated for the final WRW Regional Plan and any accompanying assessments. In addition, use of water from Minworth and Netheridge wastewater treatment works (WwTW) is included to support transfer of water to the South East. SSW does not select any supply options, as they present no deficits in the 2025-2050 horizon.

In the North West, development of new water resources is linked to supporting water transfers, both within WRW and to the South East. This also provides additional benefit to UUW's customers. The proposed new sources are: increasing groundwater abstraction capability within existing licence volumes and new river abstractions from the Rivers Ribble, Irwell and Bolin which all have water available. As part of the joined-up plan linked to the water transfers, this improves the level of service for temporary use bans to 1 in 40 years from 2031. Enabling works on the Vyrnwy Aqueduct are also required to enable the transfers.

In Wales, HD does not require any supply options, as it has no deficits to cover even in the absence of demand management policy being implemented. DCWW will be implementing two supply options, one which focuses on upgrades to the network in SEWCUS Water Resource Zone and one which looks at recovering losses from a water treatment works.

Water Resource Management Plans

Each core WRW water company's WRMP sets out how the balance between water supply and demand, and security of supply, will be maintained over a minimum of 25 years in a way that is economically, socially and environmentally sustainable.

For each Water Resource Zone⁷ (WRZ) in the WRMP area, a supply demand balance is generated for public water supply (PWS). A set of non-PWS water availability assessments will also be generated. Each supply-demand balance will be structured around a consistent "central" set of planning assumptions and will be used to identify WRZs in deficit over the plan period.

The plan process reviews as many potential solutions as possible to identify feasible options for each WRZ, which will contribute to meeting the supply demand deficit. Types of options can include:

- **demand management options** which include measures to manage the demand for water such as smart meters, rainwater harvesting, greywater recycling or household visits to install water efficiency measures;
- **distribution and leakage options** which include measures to optimise the efficiency of water networks, reduce leakage and minimise any unscheduled resource losses;
- **production efficiency options** include measures to increase the efficiency and effectiveness of treatment processes;
- **supply options** which include measures to increase supply such as greater peak output at existing groundwater sources, reservoir or surface water supply and which will include SROs; this also includes catchment management options, for example nature-based solutions;
- **non-PWS options** which include any options which increase water resource availability or reduce the need for abstraction outside of that needed for public water supplies.

⁷ Section 4.4. of the WRPG defines a water resource zone as "an area within which the sources of water and distribution of water to meet demand, is largely self-contained (apart from any agreed bulk transfers)".

All zones with deficits have then been subject to a “decision making” process using a Multi-Criteria Analysis (MCA) and option screening to identify a preferred plan (comprising of selected options) to address the supply demand deficit. WRW led the development of these tools, collaborating with the core water companies and key stakeholders, including regulators. The MCA decision-making method factors in multiple costs and benefits and consider the interaction between zones to establish a best value plan for the company and the region as whole.

Scenarios have been used to test the preferred and identified alternative plans, exploring what would happen if the plans were to be adopted and the future was different to that assumed in the “central” planning assumptions. The scenarios could be used to make the preferred plan an adaptive plan. The preferred plans from the draft WRMP24s for DCWW, HD, SSW, STW and U UW have then been integrated into the WRW draft Regional Plan.

What is Strategic Environmental Assessment (SEA)?

SEA is required under Statutory Instrument 2004 No.1633 (England) - *The Environmental Assessment of Plans and Programmes Regulations 2004*.

Throughout the course of the development of the plan, policy or programme, the aim of SEA is to identify the potential impact of options proposed in the plan in terms of their environmental, economic, and social effects. If adverse effects are identified, these options can then be avoided, or proposals modified to manage or mitigate adverse effects.

In this context, the purpose of the SEA of the draft WRW Regional Plan and is to:

- identify the potentially significant environmental effects of the draft plan in terms of the water resource management options being considered;
- help identify appropriate measures to avoid, reduce or manage adverse effects and to enhance beneficial effects associated with the implementation of the draft plan wherever possible;
- to provide a framework for monitoring the potential significant effects arising from the implementation of the draft Regional Plan;
- to give the stakeholder the opportunity to review and comment upon the environmental effects that the draft Regional Plan.

The completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs. By referencing and linking to the component WRMP24 assessments, the following aspects of each WRMP24 has been assessed:

- the revised feasible water resource options;
- the preferred water resources options;
- the preferred programme of options selected to comprise the preferred plan to address the supply demand deficit;
- any alternative plans proposed to address the supply demand deficit;
- any cumulative, secondary and/or synergistic effects of implementing the plans.

SEA comprises five key stages:

- **Stage A:** Scoping;
- **Stage B:** Develop and Refine Alternatives and Assess Effects;
- **Stage C:** Prepare Environmental Report;

- **Stage D:** Consult on the Draft Plan and Environmental Report and Prepare the Post Adoption (SEA) Statement; and
- **Stage E:** Monitor Environmental Effects.

Stage A of the SEA led to the production of a WRW Regional Plan and WRMP24 SEA Scoping Report⁸. The scoping stage itself comprises five tasks that are listed below:

- Review of other relevant policies, plans, programmes and strategies (hereafter referred to as 'plans and programmes').
- Collation and analysis of baseline information.
- Identification of key sustainability issues.
- Development of the assessment framework.
- Consultation on the scope of the SEA.

The Scoping Report sets out the proposed framework for assessing the likely significant environmental effects of the draft WRW Regional Plan and WRMP24s, and was issued for scoping consultation from the 8th April to 13th May 2021. The representations received and how they have been taken into account are presented in **Appendix B** of the Environmental Report.

Following consultation and amendment, the framework has been used for assessing the effects (including cumulative effects) of the water resource options contained in the component draft WRMP's, and any reasonable alternatives (**Stage B**).

These assessments are presented in the relevant accompanying Environmental Reports which have been used to complete the assessment of effects of the WRW draft Regional Plan, reflected in this Environmental Report completed to accompany the WRW draft Regional Plan (**Stage C**).

The WRW draft Regional Plan and accompanying documents have been submitted to the Government, for a request for publication and once directed to do so, WRW will publish the documents for consultation (**Stage D**). Following consultation, any feedback received will be shared with water companies to be considered when revising their WRMPs following the WRMP consultation. Similarly, WRW will take into account views shared with water companies through their WRMP consultation and any subsequent changes to public water supply needs or options. The revised draft Regional Plan will be sent to the Government, and if changes are likely to be significant, is likely to be subject to further assessment and consultation. Following direction from the Government, the final WRW Regional Plan will be published and implemented accordingly (anticipated Autumn 2023). In conjunction with publishing the final plan, a Post Adoption Statement will also be issued (to meet the requirements of SEA regulation 16 (4)). This will set out the results of the consultation and SEA processes and the extent to which the findings of the SEA have been accommodated in the final plan.

The SEA requires monitoring of any resulting environmental effects of the WRW Regional Plan and WRMP24s (**Stage E**).

Section 1.5 of the Environment Report describes in further detail the requirement for SEA of the WRW draft Regional Plan and the SEA process.

⁸ Wood and Ricardo (2021) Water Resources West and Water Resources Management Plan 2024 Strategic Environmental Assessment Scoping Report, Water Resources West, Dŵr Cymru Welsh Water, Hafren Dyfrdwy, Severn Trent, South Staffordshire Water, United Utilities

What are the Key Issues for the WRW Regional Plan and WRMPs?

As part of the SEA process, a review has been undertaken to identify the key economic, social and environmental issues which are relevant to the assessment of the draft WRW Regional Plan and WRMPs. These issues have been identified from a variety of sources, including a review of baseline data and other relevant plans and programmes. A summary of the issues identified as being most relevant to the assessment of the draft WRW Regional Plan and WRMPs are shown in Table NTS.1.

Table NTS.1 Summary of the Key Issues

Topic	Summary of Key Issues
Biodiversity Flora and Fauna	<ul style="list-style-type: none"> • Key pressures and risks in respect of biodiversity and nature conservation that are relevant include, <i>inter-alia</i>: <ul style="list-style-type: none"> ○ population growth; ○ habitat loss and fragmentation by development; ○ agricultural intensification and changes in agricultural management practices; ○ water abstraction, drainage or inappropriate river management; ○ lack of appropriate habitat management; ○ atmospheric pollution (acid precipitation, nitrogen deposition); ○ water pollution from both point and wider (diffuse) agricultural sources; ○ climate change and sea level rise; ○ recreational pressure and human disturbance; and invasive and non-native species. • The need to maintain, enhance and promote biodiversity and the resilience of ecosystems, including sites designated for their nature conservation value; • the need to address the climate emergency and nature emergencies together; • the need to recognise the importance of allowing wildlife to adapt to climate change; • the need to continue to increase and improve the condition of priority habitats and habitats of priority species, and restore populations of these species and other protected species; • the need to avoid, and mitigate where necessary, activities likely to cause irreversible damage to natural heritage; • the need to take opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors; • the need to prevent the spread/introduction of invasive non-native species; • the need to maintain/enhance ecological connectivity; • the need to sustainably manage biodiversity assets, taking into account the effects of climate change; • the need to recognise the key role that green infrastructure plays in supporting (<i>inter alia</i>) biodiversity, landscape, wellbeing and climate change resilience; • the need to protect and enhance the green infrastructure network; • the need to continue monitoring biodiversity and ecological indicators; • the need to work within environmental limits and capacities; • the need to prevent depletion and pollution of groundwater; • the need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of ecosystem services.
Soils, Land Use and Geology	<ul style="list-style-type: none"> • The need to protect, maintain and enhance geomorphological functions and services; • the need to influence how land is managed, promoting sustainable patterns of land use; • the need to make use of previously developed land (brownfield land) and to reduce the prevalence of derelict land in the region; • the need to conserve and enhance soil quality and function (including peatlands and carbon sequestration); • the need to protect and avoid damage to geodiversity and conserve and enhance sites designated for geological interest (including geological SSSIs); • the need to manage impacts on soil resources, including control of pollution and remediation of contaminated land, and minimise the loss of best and most versatile agricultural land; • the need to manage the land more holistically at the catchment level, benefitting landowners, other stakeholders, the environment and sustainability of natural resources (including water resources); • the need to improve the quality of agricultural land in the region.
Water - Quantity	<ul style="list-style-type: none"> • The need to maintain seasonal flows in groundwater and surface water; • the need to maintain and improve the quantity of surface and groundwater resources taking into account WFD/RBMP objectives;

Topic	Summary of Key Issues
	<ul style="list-style-type: none">• the need to restore sustainable and appropriate abstraction levels and water flow/levels in Wales' waters across the full range of regimes from low to high conditions, and meet society's needs for a resilient water supply;• the potential effects of climate change and the need to build climate change resilience into the water environment and water management;• the need to address and increase resilience to pressures on public water supply;• the need to improve the resilience, flexibility and sustainability of water resources in the WRW region, particularly in light of potential climate change impacts on surface water and groundwater;• the need to ensure that people understand the value of water.
Water - Quality	<ul style="list-style-type: none">• The need to maintain and improve the quality of water in the region's river, estuarine, coastal and groundwaters, taking into account WFD/RBMP objectives;• the potential effects of climate change and the need to build climate change resilience into the water environment and water management;• the need to prevent the deterioration of Water Framework Directive waterbodies, achieve protected area objectives and achieve water body status objectives;• the need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change impacts on surface water and groundwater;• the need to ensure sustainable abstraction to protect water quality.
Water - Flood Risk	<ul style="list-style-type: none">• The need to ensure that the continued risk of flooding is reduced or where this is not possible, mitigated effectively.
Air Quality	<ul style="list-style-type: none">• The need to minimise emissions of pollutant gases and particulates and enhance air quality;• the need to reduce the need to travel and promote sustainable modes of transport.
Climatic Factors	<ul style="list-style-type: none">• The need to reduce travel and promote sustainable modes of transport;• the need to reduce greenhouse gas (GHG) emissions arising from implementation of the WRW Regional Plan;• the need to take into account, and where possible adapt to, the potential effects of climate change through, sustainable water resource management, water use efficiencies, specific aspects of natural ecosystems (e.g. connectivity), as well as accommodating potential opportunities afforded by climate change;• the need to increase environmental resilience to the effects of climate change.
Population	<ul style="list-style-type: none">• The need to ensure that the WRW Regional Plan has a positive economic impact;• the need to ensure that water resource requirements of people and visitors, and other users such as energy and agriculture, can be met at all times, in a sustainable way, including during seasonal peaks due to tourism;• the need to ensure that water resources remain affordable, in particular for deprived or vulnerable communities;• the need to ensure that vulnerable people are not affected by implementation of measures to manage water resources;• the need to ensure public awareness of drought conditions and importance of maintaining resilient, reliable public water supplies without the need for emergency drought measures;• the need to ensure a balance between different aspects of the built and natural environment that will help to provide opportunities for local residents and tourists, including opportunities for access to, protecting and enhancing recreation resources, green infrastructure and the natural and historic environment;• the need to accommodate an increase in population, households, dwellings and development associated with other uses that might impact on demand for water whilst ensuring the continued provision of essential services including water supply.
Human Health	<ul style="list-style-type: none">• Sustained exposure to elevated air pollution levels (including exposure to elevated concentrations of particulate matter, oxides of nitrogen and sulphur) contributes to respiratory illness;• the need to ensure continuing safe, reliable and resilient provision of water services to maintain health and wellbeing of the population;• the need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas;• the need to ensure that measures to manage water resources do not adversely affect the health and well-being of any member of the community;• the need to ensure that the WRW Regional Plan minimises impacts on the ability of people to access facilities for sport, recreation, and leisure purposes;

Topic	Summary of Key Issues
	<ul style="list-style-type: none">the need to ensure that sites of nature conservation importance, heritage assets, water resources, important landscapes and public rights of way contribute to recreation and tourism opportunities and subsequently health and wellbeing and the economy.
Material Assets	<ul style="list-style-type: none">The need to promote water efficiency measures (including metering);the need to minimise current and future water demand for water resources through water efficiency measures (including metering);the need to ensure that leakage is managed at a sustainable economic level to optimise the water available;the need to maintain the balance between supply and demand for water;the need to reduce energy consumption and support low carbon and renewable energy production;the need to ensure the sustainable and efficient use of resources such as construction materials; andthe need to minimise waste arisings, promote reuse, recovery and recycling and minimise the impact of wastes on the environment and communities;the need to recognise waste as a potential resource and reuse waste productively where possible to support the development of a circular economy.
Cultural Heritage	<ul style="list-style-type: none">The need to conserve and enhance the historic significance of buildings, monuments, features, sites, places, areas and landscapes of archaeological and cultural heritage interest, and their settings;the need to conserve and enhance the World Heritage Sites within the WRW Regional Plan area;the need to avoid damage to important wetland areas with potential for paleoenvironmental deposits.
Landscape	<ul style="list-style-type: none">The need to protect, conserve and enhance landscape character, taking into account the effects of climate change and recommendations for managing change in the profile of relevant NCAs;the need to ensure the special qualities of designated landscapes (including National Parks and AONB's) are protected;the need to minimise any adverse impacts upon landscape that may result from measures in the Regional Plan, having regard to NCA profiles and the potential for effects on designated landscapes and their settings; andthe need to maintain and enhance landscape and designated sites for the enjoyment of the public.

Section 2 of the Environmental Report summarises the review of plans and programmes relevant to the WRW draft Regional Plan and SEA that is contained at Appendix C.

Section 3 of the Environmental Report presents an overview of the baseline analysis of social, economic and environmental characteristics, and identification of the key issues and their relevance to the assessment. The detailed baseline information is presented in Appendix D of the component water company draft WRMPs SEA Environmental Reports.

How have the Effects of the Draft Regional Plan and any Reasonable Alternatives been Assessed?

A draft assessment framework was developed to assess the environmental effects of the draft Regional Plan (and the component draft WRMP24s) and revised to reflect scoping consultation comments. This framework sets out a number of assessment objectives relating to the key issues identified in **Table NTS.1**. For each objective, guide questions are also provided. The assessment framework is shown in **Table NTS.2**.

Table NTS.2 Assessment Framework

Topic	Assessment Objective
Biodiversity, Flora and Fauna	1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.
	2. To protect and enhance sustainable natural resources and the ecosystem services they provide.
	3. To avoid and, minimise the risk of spread of, and, where required, manage invasive and non-native species (INNS).
Soils, Land Use and Geology	4. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.
Water – Quantity	5. To protect and enhance surface and ground water levels and flows.
Water –Quality	6. To protect and enhance the quality of surface and groundwater resources.
Water – Flood Risk	7. To reduce or manage flood risk.
Air	8. To minimise emissions of pollutant gases and particulates and enhance air quality.
Climatic Factors	9. To reduce greenhouse gas emissions.
	10. To adapt and improve resilience to the threats of climate change.
Population	11. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.
	12. To maintain and enhance tourism and recreation.
Human Health	13. To protect and enhance human health and well-being.
Material Assets - Water Resources	14. To promote and enhance the sustainable and efficient use of resilient water resources.
Material Assets – Waste and Resource Use	15. To minimise waste, promote resource efficiency and move towards a circular economy.
Cultural Heritage	16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.
Landscape	17. To conserve, protect and enhance landscape and townscape character and visual amenity.

The component draft WRMP24 options have been assessed against each of the 17 SEA Objectives, based on the nature of the effect, its timing and geographic scale, the sensitivity of the human or environmental receptor that could be affected, and how long any effect might last. Assessment matrices have been used to capture the assessment of each measure in a consistent manner.

Specific guidance has been developed for what constitutes a significant effect, a minor effect or a neutral effect for each of the SEA objectives. These ‘definitions of significance’ help to ensure a consistent approach to interpreting the significance of effects and will help the reader understand the decisions made by the assessor. The ‘definitions of significance’ are presented in **Appendix D** of the Environmental Report.

The completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs (DCWW⁹, SSW¹⁰, STW¹¹ and UUW¹²). The completion of the individual draft WRMP24 option environmental assessments provides the assurance that their effects have been identified, described and assessed when considered within the context of the WRW draft Regional Plan. To avoid unnecessary repetition, these are not duplicated in this Environmental Report; however, it is important to acknowledge that the dependencies are clear, and that where further information on a specific option is required, reference should be made to the component draft WRMP24 assessment.

The assessment of the WRW draft Regional Plan has then considered:

- The cumulative effects of the component draft WRMP24s, taking into account the effects identified for each WRMP and any reasonable alternatives, based on the individual option assessments.
- The cumulative effects of WRW draft Regional Plan in conjunction with other water resource regional plans, notably Water Resources East (WRE), Water Resources North (WReN) and Water Resources South East (WRSE), other water company plans and SROs.

Section 4 of the Environmental Report provides further information in relation to the approach to the assessment of the draft Regional Plan (and component draft WRMP24s).

What are the Likely Significant Effects of the Draft Regional Plan and any Reasonable Alternatives?

Overview

As noted above, the completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs, which are not duplicated in this Environmental Report. For clarity, a full list of the component WRMP24 preferred options are set out in **Appendix E**. Please refer to the component draft WRMP24 SEA for the individual option assessment.

The Best Value Plan (the WRW draft Regional Plan preferred programme) includes a number of supply-side options within the DCWW, STW and UUW supply areas, which would provide a combined supply increase of 892MI/d (569 MI/d by 2050), whilst demand management options within the draft Regional Plan, across the DCWW, HD, SSW, STW and UUW areas, would result in a demand management reduction of 636MI/d (by 2050). Additionally, there would be 278MI/d (by 2050) benefit arising from the Government's introduction of water labelling across the region.

Table NTS.4 presents a summary of the cumulative assessment of the strategic effects of the programme of options included in the Best Value Plan. Note where effects have been quantified, they are in aggregate, across the lifetime of the plan. The assessment draws on the SEA assessments (and other environmental assessments such as WFD and HRA) undertaken as part of the process of the preparation of the component draft WRMP24s. **Table NTS.3** presents a key to the meaning of the symbols in the assessment summary table.

⁹ WSP and Ricardo (2022) Dŵr Cymru Welsh Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

¹⁰ Ricardo and Wood (2022) Strategic Environmental Assessment: Draft Water Resources Management Plan 2024 – South Staffordshire Water.

¹¹ Ricardo and Wood (2022) Strategic Environmental: Draft Water Resources Management Plan 2024 – Severn Trent Water.

¹² WSP and Ricardo (2022) United Utilities Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

Table NTS.3 Qualitative Scoring System

Score	Description	Symbol
Major/Significant Positive Effect	Significant positive effect of the water resource option on this objective	+++
Moderate Positive Effect	Moderate positive effect of the water resource option on this objective	++
Minor Positive Effect	Minor positive effect of the water resource option on this objective	+
Neutral	Neutral effect of the water resource option on this objective	0
Minor Negative Effect	Negative effect of the water resource option on this objective	-
Moderate Negative Effect	Moderate effect of the water resource option on this objective	--
Major/Significant Negative Effect	Significant negative effect of the water resource option on this objective	---
Uncertain	The water resource option has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an assessment to be made.	?

Table NTS.4 Draft Regional Plan Assessment

SEA Objective	Construction Effects		Operation Effects	
	Positive	Negative	Positive	Negative
1. To protect and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	0	--/?	0	--/?
2. To protect and enhance sustainable natural resources and the ecosystem services they provide.	0	---	+++/?	0
3. To avoid and, where required, manage invasive and non-native species (INNS).	0	-	0	--/?
4. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.	++	---	0	---
5. To protect and enhance surface and ground water levels and flows.	0	0	+++	--/?
6. To protect and enhance the quality of surface and groundwater resources.	0	-	0	---/?
7. To reduce or manage flood risk.	0	--	++	-/?
8. To minimise emissions of pollutant gases and particulates and enhance air quality.	0	--/?	0	--
9. To reduce greenhouse gas emissions.	0	--/?	+++/?	---/?
10. To adapt and improve resilience to the threats of climate change.	0	--	+++	-
11. To promote a sustainable economy and	+++	--	+++	0

SEA Objective	Construction Effects		Operation Effects	
	Positive	Negative	Positive	Negative
maintain and enhance the economic and social well-being of local communities.				
12. To maintain and enhance tourism and recreation.	0	--	0	0
13. To protect and enhance human health and well-being.	0	-	+++	0
14. To promote and enhance the sustainable and efficient use of resilient water resources.	0	0	+++	0
15. To minimise waste, promote resource efficiency and move towards a circular economy.	+/?	---	0	--
16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	0	---	0	--
17. To conserve, protect and enhance landscape and townscape character and visual amenity.	0	---	0	--

Construction

Capital investment associated with the options in the Best Value Plan would generate supply chain benefits, employment opportunities and increased spend in the local economy by contractors and construction workers. In combination, the scale of investment associated with the options in the Best Value Plan would be substantial and in consequence, the WRW draft Regional Plan has been assessed as having an overall significant positive effect on the economy (SEA Objective 11). However, HGV movements, pipeline/tunnel works and the provision of above ground infrastructure would be likely to cause some temporary traffic disruption and other potential impacts, generating a cumulative moderate negative effect on this objective also.

No further significant positive effects from construction have been identified during the assessment of the options within the Best Value Plan.

For the majority of supply and transfer options within the Best Value Plan, the respective component draft WRMP24 SEAs concluded that there would be minor or moderate negative effects on biodiversity (**SEA Objective 1**) during the construction phase. This reflects the potential

for the construction of water resources infrastructure to result in the loss of/disturbance to habitats and species as a result of, for example, land take, emissions to air, dust deposition and noise. However, a small number of options were identified as having significant negative or significant negative uncertain effects during construction as they would impinge on designated biodiversity sites, including European sites, such as Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) (one option would directly encroach on such sites), Sites of Special Scientific Interest (SSSIs) and ancient woodland. However, with regard to European sites, the HRA appropriate assessments of the component draft WRMP24 options concluded that there are sufficient standard and best practice project-level mitigation measures that can be implemented during construction to avoid adverse effects on the integrity of any European sites. Overall, considering the potential for adverse effects on nationally designated conservation sites (SSSIs and ancient woodlands), a significant negative uncertain effect was identified. However, this is a provisional conclusion, and it is expected that between draft plan and final plan, further option engineering work will be undertaken (including mitigation), that once taken into account is likely to lessen the effects identified.

The Biodiversity Net Gain (BNG) assessment of the component draft WRMP24s identified that there would be a temporary and permanent loss of habitats during the construction phase of the many of the supply side options included in the Best Value Plan, which, when taken together, would result in a significant negative effect on sustainable natural resources (**SEA Objective 2**).

Construction and operation of water resources infrastructure could affect existing land uses, due to land take associated with new development. This may result in clearance of vegetation and loss of soil levels leading to the loss of soil function and processes. In this regard, a number of the options within the Best Value Plan would impact upon land in various agricultural grades including Grade 1, Grade 2 and Grade 3 (i.e. “Best and Most Versatile”), including temporary disturbance (e.g. for the construction of below ground infrastructure such as pipelines) as well as permanent loss (e.g. associated with the construction of above ground infrastructure). Some of the options that form the draft Best Value Plan would take place within or near to SSSIs designated for their geological value and would result in significant effects on geodiversity. As such, overall the draft Regional Plan has been assessed as having a significant negative effect on soils, geodiversity and land use (**SEA Objective 4**). However, some of the options included in the Best Value Plan would take place on previously developed land (PDL) land or existing operational land which may support achievement of the objective, hence a moderate positive effect has also been assessed during construction.

Construction of the options within the Best Value Plan will generate emissions to air which could affect local air quality, principally associated with vehicle movements. Vehicle emissions could affect sensitive receptors along transport corridors and effects are likely to be more pronounced where development is located within/in close proximity to Air Quality Management Areas (AQMAs), of which, a small number of options are likely to have an effect in this regard. Overall, it is concluded that the options included in the Best Value Plan would likely have a likely significant negative effect on air quality (**SEA Objective 8**) during the construction phase due to their scale, however, there remains some uncertainty, reflecting that the exact location of certain options (namely demand management/metering options) is currently unknown.

For the majority of options that comprise the draft Regional Plan, there would be carbon emissions arising from embodied carbon (in, for example, construction materials) in addition to the operation of plant and machinery and vehicle movements to transport materials and equipment to site. For a number of options emissions are anticipated to be significant and whilst in some cases embodied/construction carbon for specific options has been calculated, this has not been completed for all options in the component draft WRMP24s and hence there remains some uncertainty. As such, overall, the draft Regional Plan has therefore been assessed as having a significant negative uncertain effect on greenhouse gas emissions (**SEA Objective 9**). Additionally, the options contained within the Best Value Plan (in particular the supply side options) would cumulatively require significant quantities of materials such as concrete, steel and plastic, for

construction. Reflecting the requirement for significant construction materials, there is likely to be a significant amount of waste generated, which has been assessed as having a significant negative effect on waste and resource use (**SEA Objective 15**), although there is some potential for re-use of materials the presence and extent is uncertain and hence a minor positive uncertain effect is also recorded against this objective.

The development of water resources infrastructure may result in both direct and indirect (e.g. impacts on setting) adverse effects on the significance of heritage assets including scheduled monuments, listed buildings and registered parks and gardens where they are in close proximity to works. However, on most occasions, for the options included in the Best Value Plan, any effects would be temporary (i.e. for the duration of construction) and taking into account the scale of construction activity at each site, effects in most cases are not predicted to be significant. However, a limited number of options within the Best Value Plan were assessed as individually having significant negative effects on cultural heritage as construction works would intersect with one or more designated heritage assets including a World Heritage Site (two options would both affect the same site), scheduled monuments (two options would affect such features) and a listed building (one option would involve works to a listed reservoir dam). Overall, the WRW draft Regional Plan is therefore considered to have significant negative effects on cultural heritage (**SEA Objective 16**).

The construction of a number of options within the Best Value Plan would likely have negative effects on landscape/townscape as construction works would be visually intrusive. Some of the options within the Best Value Plan are situated within designated landscapes such as National Parks and an AONB and as such, in some cases these options were assessed as individually having a significant negative effect on landscape. However, given the distance between options, no additional cumulative effects are anticipated. Many options are within rural or semi-rural landscapes and will likely have negative effects during construction phase. Where works are in close proximity to residential and recreational receptors, construction activity associated with the options within the draft Best Value Plan may have short term effects on visual amenity. Overall, the WRW draft Regional Plan has therefore been assessed as having a significant negative effect on landscape (**SEA Objective 17**).

No further significant negative effects have been identified during the assessment of the construction phase of the draft Regional Plan.

Operation

It is assumed that in the operational phase there would be BNG greater than the loss seen during the construction phase (consistent with the BNG requirements of the Environment Act 2021 and national policy) and hence would lead to an overall net gain in biodiversity for the WRW draft Regional Plan. A significant positive score has therefore been assessed against sustainable natural resources (**SEA Objective 2**) reflecting the scale of loss during the construction phase (that would then see a net gain in the operational phase). However, there is some uncertainty over the extent of the positive effects of the programme of options in the Best Value Plan. Further work will be undertaken by the member companies between draft and final Regional Plan to take account of wider net gain opportunities based on landholdings, assessment management and biodiversity commitments to deliver BNG across their capital programmes.

During operation, the demand management options within the Best Value Plan would cumulatively result in a reduction in demand of 636MI/d, whilst the benefit arising from the Government's introduction of water labelling across each of the water company areas within the draft Regional Plan would total 278MI/d, which is considered to be a cumulatively significant positive effect on water quantity (**SEA Objective 5**). The Best Value Plan also includes a number of environmental destination options. These are designed to provide environmental enhancement (including WFD) by reducing unsustainable abstraction and building resilience through more sustainable water resources options which also contributes to the significant positive effect. It is however, noted that during operation, the majority of the supply side options could result in negative effects on water

quantity associated with additional abstraction, hence a moderate negative effect has also been identified.

Demand management/water efficiency/leakage options included in the draft Best Value Plan are anticipated to lead to a cumulative significant reduction in carbon emissions linked to a reduction in water consumption (with associated reductions in the requirement for pumping and treatment of raw water and treatment of waste water). Whilst operational carbon emissions reductions have been calculated for some options, as noted above, it is incomplete for all options included in the draft plan, and hence there remains some uncertainty. Overall, a significant positive uncertain effect has been assessed against greenhouse gas emissions (**SEA Objective 9**). In addition, the operation of a number of options within the Best Value Plan would require energy for the pumping and treatment of water and vehicle movements (for example related to the operation of water treatment facilities), which cumulatively would generate significant operational carbon emissions; however, as highlighted above, operational carbon values have not been calculated for all options and hence there remains some uncertainty and as such a significant negative uncertain effect has also been identified against **SEA Objective 9**.

Cumulatively the options within the Best Value Plan would increase the capacity by supply by 892MI/d (569MI/d by 2050) and would support water trading, in addition to a demand management reduction of 636MI/d (by 2050), whilst the benefit arising from the Government's introduction of water labelling across each of the water company areas within the draft Regional Plan would total 278MI/d (by 2050). This would make a significant contribution towards securing a continual supply of clean drinking water and increase resilience of this supply, thereby increasing resilience and adaptability to the effects of climate change (**SEA Objective 10**). However, it is noted that some options in the draft regional Plan are located within Flood Zone 3 which may reduce resilience to climate change, as the operation of such new infrastructure would be at risk to flooding and hence a minor negative effect has also been identified against this objective.

The delivery of 892MI/d (overall), in addition to a demand management reduction of 636MI/d and the 278MI/d benefit arising from the Government's introduction of water labelling across each of the water company areas within the draft Regional Plan, alongside the trading of water, will, in-turn, support population and economic growth and human health and wellbeing, which would also support achievement of a cumulative significant positive effect against **SEA Objective 11** (economy) and **SEA Objective 13** (human health). Furthermore, the additional supply provision, demand management reduction and benefit arising from water labelling will help to support the resilience of water resources in the region and in the South East, which assessed as having a cumulative significant positive effect on water resource use (**SEA Objective 14**).

No other significant positive effects were identified in the assessment of the operational phase of the draft Regional Plan.

A significant negative uncertain effect was identified against biodiversity (**SEA Objective 1**) during operation as the HRA appropriate assessments of the component UU WRMP24 have identified that there are some residual uncertainties in respect of the precise effects of aquifer drawdown and surface water abstractions on the interest features of a number of European sites. Groundwater modelling and further studies are being completed with findings expected before submission of the final Regional Plan (and hence the final HRA). For STW, the HRA has highlighted that a HRA Stage 2 Appropriate Assessment is required for 23 individual options, covering 18 from the preferred plan and five alternative plan options. Although effects alone are not anticipated, the potential for in combination effects on the Peak District Dale SAC, the Severn Estuary SAC and Ramsar and the Humber Estuary suite of European sites requires further investigation and assessment as part of the final HRA and mitigation measures may be required to avoid adverse effects. There would be no additional effects on European sites beyond those identified in the appropriate assessments for the component water company draft WRMPs, as summarised above. Other significant effects identified on designated sites and features have been identified for two options (arising from the permanent loss of SSSIs) and one other option (due to permanent effects on ancient woodland).

As noted above, some of the options that form the Best Value Plan would take place within or near to SSSIs designated for their geological value and would result in significant effects on geodiversity which would last beyond the construction phase and throughout the operational phase. As such, overall the draft Regional Plan has been assessed as having a significant negative effect on soils, geodiversity and land use (**SEA Objective 4**) during operation.

A significant negative uncertain effect was identified with respect to water quality (**SEA Objective 6**) during operation, as the WFD assessment of the component WRMPs found that the operation of a number of the supply options included within the Best Value Plan could reduce river flows or groundwater levels which could have an impact on water quality potentially causing a deterioration in WFD status. The findings of the WFD assessment of the Best Value Plan has highlighted risks for options in the draft plan. These assessments are on a precautionary basis linked to the availability of information at this stage and WRW will continue to explore these potential impacts and whether additional mitigation measures may need to be built into option design. It should also be noted that the current WFD assessment is without consideration of additional mitigation not currently in the scheme design that could make the scheme WFD compliant. As such, risks and effects are provisional.

No other significant negative effects were identified in the assessment of the operational phase of the draft Regional Plan.

The detailed assessment of the draft Regional Plan is contained in Section 5.3 of the Environmental Report, whilst the assessments of the options within the plan are contained within Section 6 of each of the respective SEA Environmental Reports of the component draft WRMP24s. A complete list of the component draft WRMP24 options contained within the draft best value plan is contained within **Appendix E**.

Reasonable Alternative

To provide additional resilience, and ensure alignment with the NWT SRO Full Solution, a reasonable plan alternative (to UUWs preferred plan) has been developed by UUW, which includes the seven preferred supply options included in UUW's preferred plan, plus an additional two. As such the reasonable alternative for WRW draft Regional Plan reflects the reasonable alternative identified for the UUW draft WRMP24. When considering the range and significance of cumulative effects identified against the 17 SEA objectives, the addition of two supply options does not material affect the range of likely significant effects identified, although it is noted that in terms of the quantum of positive and negative effects, the quantified effects will increase, as follows:

- **SEA Objective 9.** In total, the construction of the reasonable alternative plan supply side options would require materials with an additional 29,643 tCO₂e over and above that of the draft Best Value Plan. Construction of the two additional options would also generate a substantial volume of vehicle movements which, together with the operation of plant and machinery, will additionally contribute to carbon emissions. In the operational phase, the reasonable alternative plan would result in an additional 5,746 tCO₂e emissions per annum over and above that of the draft Best Value Plan.
- **SEA Objectives 10, 11, 13 and 14.** In the operational phase, the reasonable alternative plan would support the delivery of an additional 29MI/d of clean drinking water on top of that of the draft Best Value Plan, which would improve resilience and adaptability to the effects of climate change, support population and economic growth, contribute towards maintaining health and aid sustainable water resource provision.
- **SEA Objective 15.** The reasonable alternative plan options would require an additional 143,423 tonnes of concrete, 2,355 tonnes of steel and 34 tonnes of plastic when compared to the draft Best Value Plan. Such quantities would be likely to be associated with a significant amount of waste generated.

The assessment of the reasonable alternative plan is contained in Section 5.4.

The assessment of the cumulative effects of the draft Regional Plan in-combination with other plans and programmes are reviewed in Section 5.5. As the regional plan contains proposals that could affect Wales, Section 5.6 considers the contribution that the draft Regional Plan will make to the well-being goals for Wales contained in the Well-being of Future Generations (Wales) Act 2015 and the objective for the sustainable management of natural resources established in Environment (Wales) Act 2016. Detailed option assessments are provided in the appendices of the Environmental Reports of the respective component WRMP24s.

What are the Proposed Mitigation and Enhancement Measures?

The potential effects of the WRW draft Regional Plan are summarised in the sections above and described in Section 5.3 of this Environmental Report. In some cases, there is an opportunity to reduce some of the potential negative effects identified, subject to further investigation. The detail of this mitigation needs to be considered during the planning phases of each of the component draft WRMP24s and reflected in the development of the preferred options if and when they are taken forward for implementation. This is detailed in the component draft WRMP24 SEA Environmental Reports and is not duplicated here. **Further work, also linked to the progress of SROs, is identified and described in Section 5.7 of this Environmental Report.**

How will the effects of the Regional Plan be monitored?

Once the Regional Plan is implemented and specific options deployed, its effects on the environment and people will need to be taken into account, and as such will need to be monitored. Monitoring the significant effects of the Regional Plan can help to answer questions such as:

- Were the SEA predictions of effects accurate?
- Is the Regional Plan contributing to the achievement of the SEA objectives?
- Are mitigation measures performing as well as expected?
- Are there any adverse effects? Are these within acceptable limits, or is remedial action desirable?

Section 6.4 of the Environmental Report identifies a number of potential indicators that could be used for monitoring the effects of the Regional Plan's implementation. Monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Directive will be presented in the Post Adoption Statement.

What are the Next Steps in the SEA Process?

This Environmental Report is being issued for consultation to the SEA consultation bodies (the Environment Agency, Historic England and Natural England in England and Natural Resources Wales, Cadw and the Welsh Government in Wales) and provided as part of the evidence base to support the consultation on the draft Regional Plan. The consultation will run from **16th November 2022 to 22nd February 2023**.

Following consultation, any feedback received will be shared with water companies to be considered when revising their WRMPs following the WRMP consultation. Similarly, WRW will take into account views shared with water companies through their WRMP consultation and any subsequent changes to public water supply needs or options. The updated and final WRW Regional Plan will, following direction from Government, then be published.

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1. Introduction

1.1 Overview

- 1.1.1 Water Resources West (WRW) is the regional group of abstractors established under the Environment Agency's National Framework for Water Resources¹³ (the 'National Framework') with responsibility for managing water resources in the North West of England, the West Midlands and the cross-border catchments with Wales. It comprises of five core members, Dŵr Cymru Welsh Water (DCWW), Hafren Dyfrdwy¹⁴ (HD), Severn Trent Water (STW), South Staffordshire Water (SSW) and United Utilities Water (UUW). The extent and relationship to the core member companies is illustrated in **Figure 1.1** and **Figure 1.2**.
- 1.1.2 The National Framework requires each regional group to prepare a regional plan to set out how the supply of water for people, business, industry and agriculture will be managed in the region. The plans aim to create resilient water supplies for all users, while protecting and enhancing the environment and creating wider social benefits for the next 25 years and beyond.
- 1.1.3 In response, WRW has prepared a draft Regional Plan alongside an aligned set of Water Resource Management Plans (WRMPs). It covers the period 2025 to 2085, will address long-term regional and inter-regional, multi-sectoral water resources management pressures. It includes the water resource options from the water company's WRMP24s, Strategic Resource Options¹⁵ (SROs) and takes into account the water supply needs of non-public water supply (non-PWS) abstractors as well as public water supplies. It includes all or part of the operational areas of DCWW, HD, STW, SSW and UUW.
- 1.1.4 The development of the draft Regional Plan is aligned with the Water Resources Planning Guideline¹⁶ and the Welsh Government Guiding Principles¹⁷, as applicable to England and Wales which requires compliance with *The Environmental Assessment of Plans and Programmes Regulations 2004* (the 'Strategic Environmental Assessment (SEA) Regulations'). The SEA Regulations require an assessment of the likely significant environmental effects of the plans and identifies ways in which adverse effects can be avoided, minimised or mitigated and how any positive effects can be enhanced. In doing so, the SEA will be used to inform the development and selection of the water resource management options that will comprise the draft Regional Plan.
- 1.1.5 **This Environmental Report presents the findings of the SEA of WRW's draft Regional Plan.**

¹³ EA (2020) *Water Resources National Framework*: Appendix 2: Regional planning. Available online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872222/Appendix_2_Regional_planning.pdf

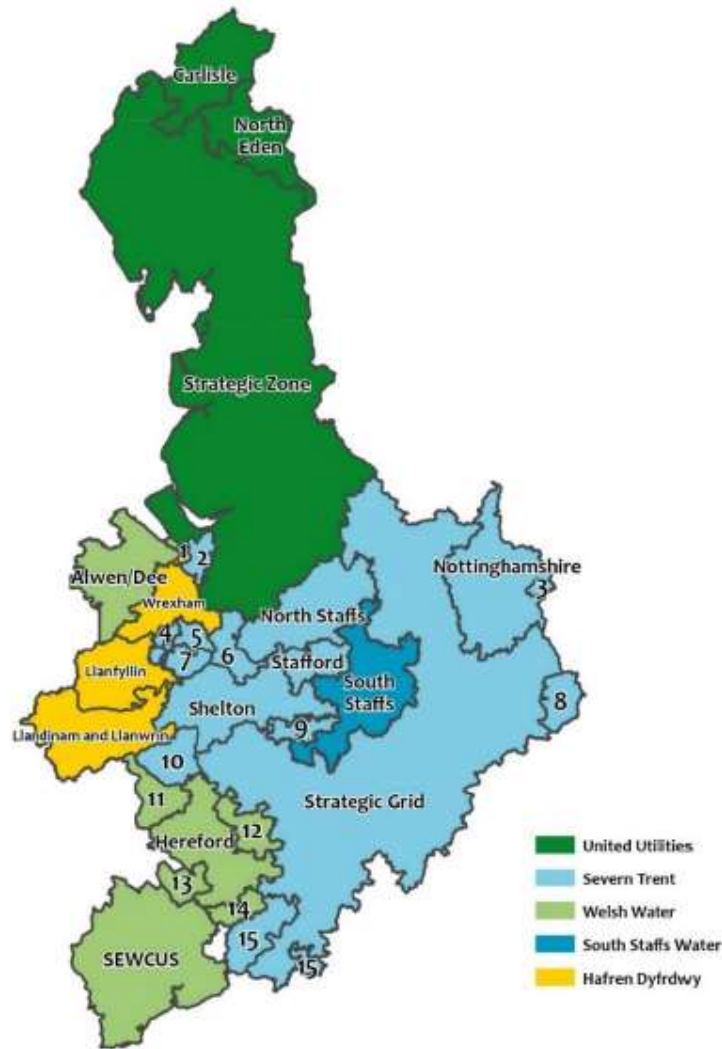
¹⁴ AT 1st July 2018, Hafren Dyfrdwy combined the water service area of Dee Valley Water and Severn Trent lying in Wales.

¹⁵ The Strategic Water Resource Options (SROs) programme has been initiated by Ofwat to provide at least 1500MI/d of water to areas of England facing a water deficit. The SRO Programme includes 17 schemes which will be funded and assessed during AMP7 to determine the right portfolio of projects to be selected by Regional Plans ready for implementation in AMP8. Schemes are evaluated at a series of decision points (Gates).

¹⁶ UK Government (2022) *Water Resource Planning Guidance (WRPG)* [online]. Available at: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>.

¹⁷ Welsh Government (2022) *Guiding Principles for Developing Water Resources Management Plans*. Available at: <https://gov.wales/water-resources-management-plan-guidance>

Figure 1.2 WRW Core Member Water Companies and Respective Water Resource Zones within the Regional Plan Area



No.	Name	Company	No.	Name	Company
1	Saltney	Hafren Dyfrdwy	9	Wolverhampton	Severn Trent
2	Chester	Severn Trent	10	Bishops Castle	Severn Trent
3	Newark	Severn Trent	11	Pileth	Welsh Water
4	Mardy	Severn Trent	12	Whitbourne	Welsh Water
5	Kinsall	Severn Trent	13	Vowchurch	Welsh Water
6	Whitchurch and Wem	Severn Trent	14	Ross on Wye	Welsh Water
7	Ruyton	Severn Trent	15	Forest and Stroud	Severn Trent
8	Rutland	Severn Trent			

1.2 Purpose of the Environmental Report

1.2.1 The purpose of the report is:

- to ensure that the likely significant environmental effects of the draft Regional Plan and any reasonable alternatives are identified, characterised and assessed;
- to help identify appropriate measures to avoid, reduce or mitigate adverse effects and to enhance beneficial effects associated with the implementation of the draft Regional Plan wherever possible;

- to provide a framework for monitoring the potential significant effects arising from the implementation of the draft Regional Plan;
- to give the stakeholder the opportunity to review and comment upon the environmental effects that the draft Regional Plan; and
- to demonstrate that the draft Regional Plan has been developed in a manner consistent with the requirements of the SEA Regulations.

1.3 Water Resource Planning

- 1.3.1 Water resources management planning is being undertaken regionally and by all water companies in England and Wales in order to ensure reliable, resilient water supplies over the long-term planning horizon.
- 1.3.2 Water resources management planning includes working out and forecasting how much water customers will need over a defined planning period (assessing demand) and how best to provide it (assessing options to reduce or constrain demand growth and/or augment reliable supplies of water) in an efficient, timely manner (programme appraisal). Companies (individually, and in collaboration across a region) identify the preferred, 'best value' programme of demand management and water supply options to develop an overall strategy to maintain a balance between reliable supply and demand.

Water Resources West Regional Plan

- 1.3.3 WRW is taking an integrated approach to preparing the Regional Plan and the WRMPs and aims to provide a Regional Plan that is multi-sector and takes account of the water supply needs of non-public water supply (non-PWS) abstractors as well as public water supplies. WRW member water companies have used a regionally consistent set of methodologies to reflect local, regional and national needs into the development of the plans.
- 1.3.4 Each water company is leading development of the WRMP and relevant aspects of the regional plan in the parts of their area included with WRW as a single piece of work. This has necessitated a high degree of integration and fostered greater collaboration between companies and stakeholders. The draft WRW Regional Plan then combines the preferred water resource options from the member water companies' draft WRMP24s, as well as the SROs being taken forward by the companies.
- 1.3.5 In March 2020, WRW published its Initial Resource Position¹⁸. This identified that by 2050, an estimated 166 million litres per day of additional water would be needed for public water supplies, and in the region of an additional 41 million litres per day needed for other abstractors. In an update¹⁹ (published in February 2021) to its resource position, WRW noted that the need maybe greater than previously estimated. WRW published its Emerging Regional Plan²⁰ in January 2022. This updated the forecast, taking into account a commitment to achieve a 50% reduction in leakage from the public water supply network by 2050 and a per capita consumption reduction to 110 litres/person/day (l/p/d). The updated WRW forecast identified that 215 Ml/d of new water would be needed to

¹⁸ WRW (2020) *Initial Resource Position, March 2020*. Available from <https://waterresourceswest.co.uk/s/WRW-Initial-Resource-Position.pdf> [Accessed August 2022].

¹⁹ WRW (2021) *Update on our Resource Position, February 2021*. Available from <https://waterresourceswest.co.uk/s/WRW-Update-on-Resource-Position-February-2021-web.pdf> [Accessed March 2022].

²⁰ WRW (2022) *Emerging Regional Plan, January 2022*. Available from: <https://static1.squarespace.com/static/5e67889204d86850e1fdcece/t/61e5a4e237970d62de92fa10/1642439906757/WRW+Emerging+Regional+Plan+Executive+Summary.pdf>

meet public supply demand by 2031 and that an additional 63 MI/d would be needed by 2050, for non-public water supply sectors.

- 1.3.6 Following reconciliation with other regions (which confirmed other regional water resource requirements), the draft Regional Plan projections, taking into account demand and leakage commitments, show that by 2050 the WRW region will need an additional 223 million litres per day (MI/d) to meet public water supply needs and 97 MI/d to meet the needs of other sectors. Actions included aim to help increase public water supply resilience to extreme droughts and help meet future demand in the region. It is estimated that the plan includes proposals that will cost £9.7bn over the plan lifetime but will bring over £2 billion net benefits to the region.

Water Resource Management Plans

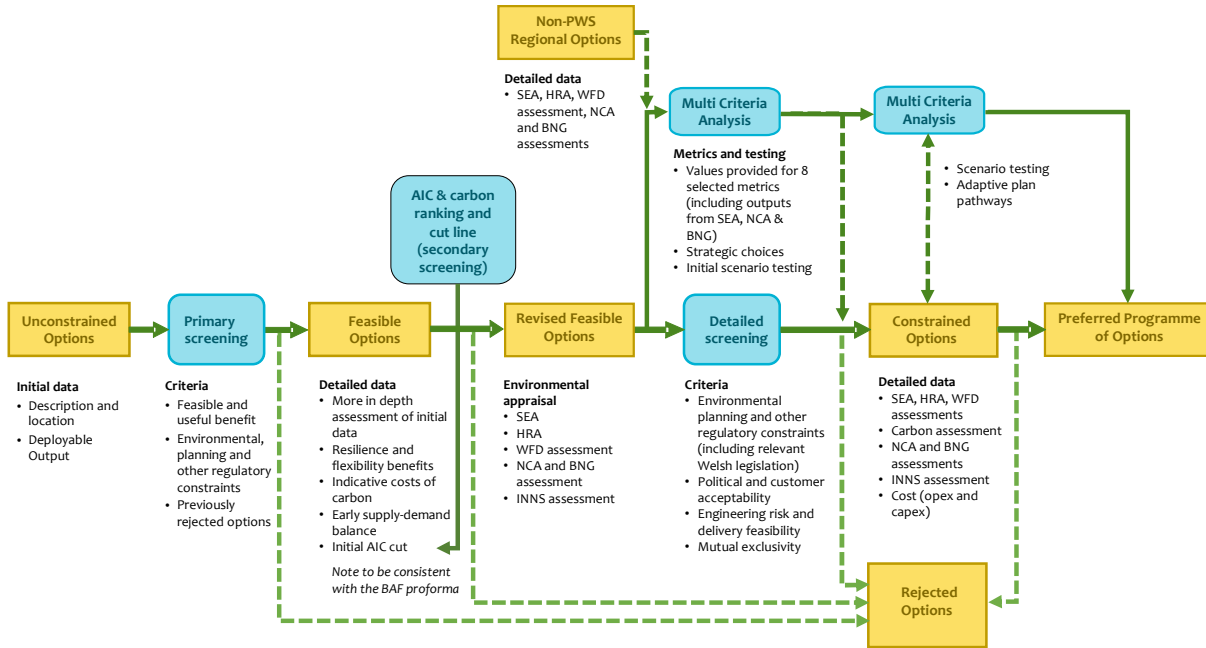
- 1.3.7 Each core WRW water company's WRMP sets out how the balance between water supply and demand, and security of supply, will be maintained over a minimum of 25 years in a way that is economically, socially and environmentally sustainable.
- 1.3.8 For each Water Resource Zone²¹ (WRZ) in the WRMP area, a supply demand balance is generated for public water supply (PWS). A set of non-PWS water availability assessments is also generated. Each supply-demand balance is structured around a consistent "central" set of planning assumptions and used to identify WRZs in deficit over the plan period.
- 1.3.9 The plan process initially reviews as many potential solutions as possible (the 'unconstrained list' of options) to identify 'feasible' options for each WRZ which will contribute to meeting the supply demand deficit in one or more zones. Types of options considered to provide additional water resources to meet any forecast deficit in a WRZ can include:
- **demand management options** which include measures to manage the demand for water such as smart meters, rainwater harvesting, greywater recycling or household visits to install water efficiency measures;
 - **distribution and leakage options** which include measures to optimise the efficiency of water networks, reduce leakage and minimise any unscheduled resource losses;
 - **production efficiency options** include measures to increase the efficiency and effectiveness of treatment processes;
 - **supply options** which include measures to increase supply such as greater peak output at existing groundwater sources, reservoir or surface water supply and which will include SROs; this also includes catchment management options, for example nature-based solutions;
 - **non-PWS options** which include any options which increase water resource availability or reduce the need for abstraction outside of that needed for public water supplies.

²¹ Section 4.4. of the WRPG defines a water resource zone as "an area within which the sources of water and distribution of water to meet demand, is largely self-contained (apart from any agreed bulk transfers)".

- 1.3.10 Options tend to be generated from the company responsible for the WRMP but can also be joint²² (where more than one company is working in partnership), provided by third parties or be multi-sector.
- 1.3.11 All zones with deficits have then been subject to a “decision making” process using a Multi-Criteria Analysis (MCA) and option screening to identify a preferred plan (comprising of selected options) to address the supply demand deficit. WRW led the development of these tools, collaborating with the core water companies and key stakeholders, including regulators. The MCA decision-making method factors in multiple costs and benefits and consider the interaction between zones to establish a best value plan for the company (and for the region as whole).
- 1.3.12 Scenarios have been used to test the preferred and any identified alternative plans. They have been used to explore what would happen if one of these plans was adopted and the future was different to that assumed in the “central” planning assumptions. The scenarios can be used to make the preferred plan an adaptive plan (in which different options are taken forward after key decision points if circumstances change).
- 1.3.13 The process, and key decision points in the development of the WRMP plan and WRW Regional Plan are illustrated in **Figure 1.3**.
- 1.3.14 Environmental assessment information (derived from the SEA and other regulatory assessments) has been provided for the following key decision points:
- **detailed screening of revised feasible options** using a Red-Amber-Green (RAG) score, which grades an option to a given criterion on a satisfactory to unsatisfactory basis (Green being satisfactory, Red being un-satisfactory). The detailed screening included a criterion that explicitly used the findings of the SEA, in terms of outputs from the revised feasible option assessments: ‘Does the option meet the social and environmental objectives of the relevant SEA?’.
 - **MCA of the revised feasible options**, in which the SEA objectives were mapped onto decision-making metrics enabling option comparison.
 - **scenario testing** of the constrained options.
 - selection of the preferred programme **of options**.

²² There are five Strategic Resource Options (SROs) being taken forward by the companies (the Severn Thames Transfer, Grand Union Canal transfer, Minworth Effluent Reuse, Severn Trent Sources and the North West Transfer (formerly Vymwy Reservoir Source and United Utilities Sources)). The Severn to Thames transfer is an example of partnership between STW, U UW and Thames Water.

Figure 1.34 Environmental assessments into option and plan development



1.4 Water Resources West Draft Regional Plan

1.4.1 The draft Regional Plan proposes a significant reduction in water demand, through reduction in consumption and a reduction in leakage from the potable water network. Consumption reduction to 110 l/p/d by 2050 will be achieved through a range of measures rolled out by water companies:

- Targeted water efficiency campaigns, with household and non-household setting visits supported by partnership working.
- A significant roll-out of water meters, using enhanced or smart technologies.
- In the Midlands, adopting a policy of metering all households, linked to the water stress classification in that area.

1.4.2 To achieve the 110 l/p/d target will also require government introduction of proposed²³ water labelling on water using products.

1.4.3 The combined benefit of the demand management options selected, including government intervention via water labelling, is around 914 MI/d across the region.

1.4.4 The draft Regional Plan identifies that the largest need for new water resources arises in the Midlands to offset reductions in abstraction licences to meet environmental needs. STW requires a large number of supply options to tackle deficits. This includes raising the height of dams in the Derwent Valley and at other reservoirs to increase storage, investing in a number of water treatment works to increase deployable output, significant increases in interconnectivity and a small number of new sources. STW also proposes to take 75 MI/d from the North West Transfer (NWT) for a period until it is required by Water Resources South East (WRSE). There is a variance between the draft Regional Plan regarding the 75MI/d NWT release and the STW draft WRMP24 preferred plan which includes a 25MI/d release and an adaptive pathway that increases this to 75 MI/d in 2050.

²³ UK Government (2022) UK mandatory water efficiency labelling consultation. Available online: <https://www.gov.uk/government/consultations/uk-mandatory-water-efficiency-labelling>

The draft Regional Plan includes Option 303A (which involves a 75MI/d release from Vyrnwy Reservoir, noting, 25 MI/d would be via the Afon Vyrnwy and 50 MI/d via the bypass pipeline) whereas the draft STW preferred programme includes Option 303C (which involves a 25MI/d release from Vyrnwy Reservoir). This reflects a late change request by STW, to change from 75 MI/d in 2031 to 25 MI/d in 2031, with an adaptive pathway that increases this to 75 MI/d in 2050. Within the context of the regional plan, such changes are relatively minor and reflected in the range of potential changes in the adaptive plan over the long term; the same schemes are selected and the same transfers are involved, but there are some changes to the dates and volumes of water. The changes will be fully incorporated for the final WRW Regional Plan and any accompanying assessments. In addition, use of water from Minworth and Netheridge wastewater treatment works (WwTW) is included to support transfer of water to the South East. SSW does not select any supply options, as they present no deficits in the 2025-2050 horizon.

- 1.4.5 In the North West, development of new water resources is linked to supporting water transfers, both within WRW and to the South East. This also provides additional benefit to UUW's customers. The proposed new sources are: increasing groundwater abstraction capability within existing licence volumes and new river abstractions from the Rivers Ribble, Irwell and Bolin which all have water available. As part of the joined-up plan linked to the water transfers, this improves the level of service for temporary use bans to 1 in 40 years from 2031. Enabling works on the Vyrnwy Aqueduct are also required to enable the transfers.
- 1.4.6 In Wales, HD does not require any supply options, as it has no deficits to cover even in the absence of demand management policy being implemented. DCWW will be implementing two supply options, one which focuses on upgrades to the network in SEWCUS WRZ and one which looks at recovering losses from a water treatment works.
- 1.4.7 A complete list of the component WRMP24 preferred options contained within the draft best value plan is contained within **Appendix E**.

Strategic Transfers

- 1.4.8 Two strategic transfers from WRW to WRSE are included in the draft Regional Plan. These are the Grand Union Canal transfer and the River Severn to River Thames.
- The Grand Union Canal (GUC) strategic transfer will utilise the existing canal infrastructure to transfer water from the Midlands to areas of planning deficit in Hertfordshire and North West London. The scheme plans to utilise treated discharge from Minworth WwTW as the resilient source of water to supply this canal transfer. This transfer has been selected by WRSE to supply 50 MI/d of water into the South East starting in 2031 and raising to 100 MI/d by 2040.
 - The Severn to Thames Transfer (STT) will convey raw water from the River Severn into the River Thames via an interconnector. WRSE has assessed many variants of this and selected the 500 MI/d pipeline option as part of their adaptive plan. The earliest this could come into operation is 2040, however in the reconciliation baseline scenario it is first used to provide a supply demand balance benefit to the South East in 2050. While this transfer can access available water at high flows in the lower Severn, it also has multiple support options that can be called upon to support abstraction from the Severn (the Severn Trent Sources (STS)).
- 1.4.9 In addition, the North West Transfer (NWT), which is one of the support elements of the STT, is also selected to meet needs within WRW. This is part of a joined-up adaptive plan, which uses 75 MI/d of this water by STW in a low regrets way until it is needed by the South East. STW can develop other sources to be ready whenever the need in the South East arises. At that point this element of the NWT can switch over to WRSE, via the STT.

- 1.4.10 STW faces a significant loss of abstraction licence in the Nottinghamshire area, initially in the 2030's but also in the longer term. There are limited options in this area to provide alternative sources, and the main ones are located upstream in the Derwent Valley. One option is to stop an existing transfer to Yorkshire Water, freeing up water to meet STW's needs, but this would have detrimental impacts for Yorkshire Water. Other options involve increasing reservoir storage in the Derwent Valley in various ways. It is not yet clear if reservoir storage could be increased to a size large enough to meet both STW's and Yorkshire Water's need. Decision points in 2025 about the feasibility and 2030 about best value, allow the best option to be in place by 2035.
- 1.4.11 The GUC, Minworth Effluent Reuse, STS, STT, NWT and Derwent reservoir are all SROs and subject to the separate gated²⁴ decision making process, supported by separate environmental assessments. Where possible, the environmental assessments have been aligned with the SRO assessments.

1.5 Strategic Environmental Assessment

Overview

- 1.5.1 SEA became a statutory requirement following the adoption²⁵ of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, when it was transposed into UK regulations. Where plans or programmes could affect more than one country in the UK, then *The Environmental Assessment of Plans and Programmes Regulations 2004* (Statutory Instrument 2004 No.1633) apply.
- 1.5.2 Throughout the course of the development of the plan, policy or programme, the aim of SEA is to identify the potential impact of options proposed in the plan in terms of their environmental, economic and social effects. If any adverse effects are identified, these options can then be avoided or proposals modified to manage or mitigate adverse effects.

Applying SEA to the Water Resources West Regional Plan

- 1.5.3 The SEA Regulation 5 requires “*an environmental assessment ... of certain plans and programmes which are likely to have significant effects on the environment*”. Plans and programmes are defined as those:
- “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”* (Regulation 2 (1)).
- 1.5.4 Guidance produced by the European Commission (EC)²⁶ indicates that in preparing plans for ensuring water resources, privatised utilities companies can be considered an authority because they are providing services that would be carried out by public authorities in a

²⁴ Regulators Alliance for Progressing Infrastructure Development (RAPID) was established in 2019 to “*help accelerate the development of new water infrastructure and design future regulatory frameworks. The joint team is made up of the 3 water regulators Ofwat, Environment Agency and Drinking Water Inspectorate*”. Available online <https://www.ofwat.gov.uk/regulated-companies/rapid/3/> [Accessed July 2022]

²⁵ EU law has ceased to apply in the UK under the terms of the Withdrawal Agreement and EU Treaties. The European Union (Withdrawal) Act 2018 (EUWA) has established a new body of domestic law known as retained EU law. Any references to EU Directives in this Environmental Report should be read as references to the domestic legislation that implemented the Directive (including that domestic legislation as it is revised or replaced from time to time).

²⁶ EC (2003) *Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*. Available online: http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf

- non-privatised regime. The preparation of a WRMP is a statutory requirement and therefore meets the requirements of SEA Regulation 2.
- 1.5.5 Plans and programmes that may have significant effects on the environment are identified as those:
- “which are prepared for... water management... and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC [the Environmental Impact Assessment Directive]; or*
- which, in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of Directive 92/43/EEC [the Habitats Directive]” (Regulation 5 (2)).*
- 1.5.6 Broadly, this includes plans that may include development of infrastructure to source, store, transfer or manage water, or may affect sites that have European designations (Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and Ramsar sites).
- 1.5.7 Regulator²⁷ guidance states that regional groups must assess whether the options in the regional plan are subject to SEA and must comply with any other statutory requirements and legal directions. The government²⁸ and industry²⁹ guidance is then referenced. As it is possible that the draft Regional Plan, reflecting the component WRMPs could have significant environments on England and Wales, the WRW draft Regional Plan will be subject to SEA and the UK SEA Regulations will apply.

Applying SEA to the Regional Plan

- 1.5.8 SEA of the WRW draft Regional Plan is required based on the scope of the potential effects that could arise, particularly given the number and area covered by European designated conservation sites in the operational area covered by the WRW region. In this context, the purpose of the SEA of the draft Regional Plan is to:
- identify the potentially significant environmental effects of the draft plan in terms of the water resource management options being considered;
 - help identify appropriate measures to avoid, reduce or manage adverse effects and to enhance beneficial effects associated with the implementation of the draft plan wherever possible;
 - to provide a framework for monitoring the potential significant effects arising from the implementation of the draft Regional Plan;
 - to give the stakeholder the opportunity to review and comment upon the environmental effects that the draft Regional Plan.

²⁷ EA, OfWAT and NRW (2022) *Water Resource Planning Guideline [online]*. Available at: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline> and EA (2020) *Water Resources National Framework: Appendix 2: Regional planning*. Available online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872222/Appendix_2_Regional_planning.pdf

²⁸ Office of the Deputy Prime Minister (ODPM), Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland (2005) *A Practical Guide to the SEA Directive and European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites* and Welsh Government (2015) *Strategic Environmental Assessment (SEA) in Wales*

²⁹ UKWIR (2021) *Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans*. Report Ref. No. 21/WR/02/15

- 1.5.9 The completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs (DCWW³⁰, SSW³¹, STW³² and UUW³³). By referencing and linking to the component draft WRMP24 assessments, the following aspects of each draft WRMP24 has been assessed:
- the revised feasible water resource options;
 - the preferred water resources options;
 - the preferred programme of options selected to comprise the preferred plan to address the supply demand deficit;
 - any alternative plans proposed to address the supply demand deficit;
 - any cumulative, secondary and/or synergistic effects of implementing the plans.
- 1.5.10 All preferred options selected in the component draft WRMP24s have also been included in the WRW draft Regional Plan, and so, the completion of the individual draft WRMP24 option environmental assessments provides the assurance that their effects have been identified, described and assessed when considered within the context of the WRW draft Regional Plan.
- 1.5.11 The SEA of the WRW draft Regional Plan therefore identifies, describes and evaluates the cumulative effects identified for all the component draft WRMP24s, along with consideration of the cumulative effects with other Regional Plans (notably for WRE and WRSE).
- 1.5.12 Where relevant, any assessment work that has already been completed e.g. as part of the RAPID gated submission process for the SROs has been used to inform the assessments of the options as they are presented.

1.6 Stages of Strategic Environmental Assessment

- 1.6.1 SEA comprises five key stages:
- **Stage A:** Scoping;
 - **Stage B:** Develop and Refine Alternatives and Assess Effects;
 - **Stage C:** Prepare Environmental Report;
 - **Stage D:** Consult on the Draft Plan and Environmental Report and Prepare the Post Adoption (SEA) Statement; and
 - **Stage E:** Monitor Environmental Effects.
- 1.6.2 **Stage A** of the SEA led to the production of a WRW Regional Plan and WRMP24 SEA Scoping Report³⁴ (as the work was undertaken as part of the development of the consistent suite of assessment methodologies to be applied to the WRMPs within the

³⁰ WSP and Ricardo (2022) Dŵr Cymru Welsh Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

³¹ Ricardo and Wood (2022) Strategic Environmental Assessment: Draft Water Resources Management Plan 2024 – South Staffordshire Water.

³² Ricardo and Wood (2022) Strategic Environmental: Draft Water Resources Management Plan 2024 – Severn Trent Water.

³³ WSP and Ricardo (2022) United Utilities Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

³⁴ Wood and Ricardo (2021) Water Resources West and Water Resources Management Plan 2024 Strategic Environmental Assessment Scoping Report, Water Resources West, Dŵr Cymru Welsh Water, Hafren Dyfrdwy, Severn Trent, South Staffordshire Water, United Utilities

WRW region as well as the regional plan itself). The scoping stage itself comprises five tasks that are listed below:

- Review of other relevant policies, plans, programmes and strategies (hereafter referred to as ‘plans and programmes’).
 - Collation and analysis of baseline information.
 - Identification of key sustainability issues.
 - Development of the assessment framework.
 - Consultation on the scope of the SEA.
- 1.6.3 Information collected and analysed (as part of tasks i and ii) covers England and Wales reflecting the WRW region. The Scoping Report set out the proposed framework for assessing the likely significant environmental effects of the WRW Regional Plan and WRMP24s). It was issued for scoping consultation for 5 weeks from the 8th April to the 13th May 2021. The representations received and how they have been taken into account are presented in **Appendix B**.
- 1.6.4 Following consultation, and amendment, the assessment framework has been used for assessing the likely significant effects (including cumulative effects) of the water resource options contained in the component draft WRMP24s, which are then reflected in the assessment of the cumulative effects of the WRW draft Regional Plan and any reasonable alternatives (**Stage B**).
- 1.6.5 These assessment of the feasible and preferred options of the component draft WRMP24s are presented in the relevant accompanying Environmental Reports which has then been used to complete the assessment of effects of the WRW draft Regional Plan, reflected in this Environmental Report completed to accompany the WRW draft Regional Plan (**Stage C**).
- 1.6.6 The WRW draft Regional Plan and accompanying documents including the Environmental Report have been submitted to the Government, for a request for publication and once directed to do so, WRW will publish the documents for consultation (**Stage D**). Following consultation, any feedback received on the regional plan consultation will be shared with water companies so they can take it into account in revising their WRMPs following the WRMP consultation. Similarly, WRW will take into account views shared with water companies through their WRMP consultation and any subsequent changes to public water supply needs or options. The revised draft Regional Plan will be sent to the Government, and if changes are likely to be significant, is likely to be subject to further assessment and consultation. Following direction from the Government, the final WRW Regional Plan will be published and implemented accordingly (anticipated Autumn 2023). In conjunction with publishing the final plan, a Post Adoption Statement will also be issued (to meet the requirements of SEA regulation 16 (4)). This will set out the results of the consultation and SEA processes and the extent to which the findings of the SEA have been accommodated in the final plan.
- 1.6.7 The SEA requires monitoring of any resulting environmental effects of the WRW draft Regional Plan (**Stage E**).

1.7 Habitats Regulations Assessment

- 1.7.1 Regulations 63 and 64 of *The Conservation of Habitats and Species Regulations (2017)* (the ‘Habitats Regulations’) transpose the provisions of Articles 6(3) and 6(4) of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the ‘Habitats Directive’) as they relate to plans or projects in England and Wales.

- Regulation 63 states that if a plan or project is “(a) is likely to have a significant effect on a European site³⁵ or a European offshore marine site³⁶ (either alone or in combination with other plans or projects); and (b) is not directly connected with or necessary to the management of the site” then the competent authority must “...make an appropriate assessment of the implications for the site in view of that site’s conservation objectives” before the giving consent or authorisation (etc.).
- 1.7.2 The plan or project can only be given effect if it can be concluded (following an ‘appropriate assessment’) that it “...will not adversely affect the integrity” of a site, unless the provisions of Regulation 64 are met.
- 1.7.3 The process by which Regulation 63 (and, if applicable, Regulation 64) is met is known as HRA³⁷. An HRA determines whether there will be any ‘likely significant effects’ on any European site as a result of a plan’s implementation (either on its own or ‘in combination’ with other plans or projects)³⁸ and, if so, whether there will be any ‘adverse effects on site integrity’³⁹.
- 1.7.4 Water resource plans (whether Regional Plans or WRMPs) are not explicitly included within this legislation, although the regulator guidance⁴⁰ requires that “regional groups must assess whether the options in the regional plan are subject to Habitats Regulations Assessment”, taking into account if the preferred plan “would be likely to have a significant effect on a European site (either alone or in combination with other plans or projects)”.
- 1.7.5 WRW are required to prepare the Regional Plan and are therefore the Competent Authority for an HRA. As with the SEA, the completion of the WRW draft Regional Plan HRA has been contingent on the completion of the component draft WRMP24s and their respective HRAs. By referencing and linking to the component WRMP24 assessments, the HRA of the WRW draft Regional Plan focuses on the in-combination assessment of the effects of the plan as a whole and in combination with other regional plans.
- 1.7.6 Whilst the HRAs has been undertaken and reported separately from the SEAs, its findings have been used as appropriate to inform the findings of this SEA, notably against the biodiversity, fauna and flora topic.

1.8 Water Framework Directive Assessment

- 1.8.1 The Water Framework Directive⁴¹ (WFD) has been enacted into UK legislation as *The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017* in England and Wales.

³⁵ Strictly, ‘European sites’ are: any Special Area of Conservation (SAC) from the point at which the European Commission and the UK Government agreed the site as a ‘Site of Community Importance’ (SCI) (if this was before 31 Jan 2020); any classified Special Protection Area (SPA); and any candidate SAC (cSAC). However, the term is also commonly used when referring to potential SPAs (pSPAs), to which the provisions of Article 4(4) of Directive 2009/147/EC (the ‘new wild birds directive’) apply; and to possible SACs (pSACs) and listed Ramsar Sites. “European site” is therefore used in this proposal in its broadest sense, as an umbrella term for all of the above designated sites.

³⁶ ‘European offshore marine sites’ are defined by Regulation 18 of *The Conservation of Offshore Marine Habitats and Species Regulations 2017*; these regulations cover waters (and hence sites) over 12 nautical miles from the coast.

³⁷ The term ‘Appropriate Assessment’ has been historically used to describe the process of assessment; however, the process is now more accurately termed ‘HRA’, with the term ‘Appropriate Assessment’ limited to the specific stage within the process.

³⁸ Also referred to as the ‘test of significance’.

³⁹ Also referred to as the ‘integrity test’.

⁴⁰ EA, Ofwat and NRW (2022) *Water Resources Planning Guideline* and EA (2020) *Water Resources National Framework: Appendix 2: Regional planning*.

⁴¹ European Union (2000) Directive 2000/60/EC of the European Parliament and of the Council. Following the UK’s exit from the European Union on 31.12.20, the Directive no longer applies to the UK.

- 1.8.2 The WFD sets a default objective for all rivers, lakes, estuaries, groundwater and coastal water bodies to achieve ‘good’ status or potential by 2027 at the latest. The current (baseline) status (e.g. 2015 classification), and the measures required to achieve the 2027 status objective, are set out for each water body in the relevant River Basin Management Plans (RBMPs), prepared by the EA and NRW every six years. The current RBMPs (known as the ‘Cycle 2 plans’) were published in February 2016 and are expected to be updated in September 2022.
- 1.8.3 WRW (for the draft Regional Plan) must be able to demonstrate that the plan will not cause a deterioration in respect of these baseline conditions. Furthermore, for those water bodies that are not currently attaining good status, WRW must be able to confirm that it would not preclude the delivery of measures to facilitate the improvements needed to attain good status.
- 1.8.4 A separate WFD assessments has been undertaken to provide the evidence base to respond to these requirements. As with the SEA, the completion of the WRW draft Regional Plan WFD assessment has been contingent on the completion of the component draft WRMP24s and their respective WFD assessments. By referencing and linking to the component WRMP24 assessments, the WFD assessment of the WRW draft Regional Plan focuses on the assessment of the cumulative effects of the plan as a whole and in conjunction with other regional plans on water bodies, notable the Trent and the Humber. Where appropriate, the findings have been used to inform this SEA, notably against the water quality topic.

1.9 Welsh legislation

The Well-being of Future Generations (Wales) Act 2015

- 1.9.1 Section 3 of *The Well-being of Future Generations (Wales) Act 2015* (WFGA) places a duty on Welsh public bodies to carry out sustainable development. This includes setting out objectives that are designed to maximise its contribution to achieving the seven well-being goals, and taking all reasonable steps (in exercising its functions) to meet those objectives. These requirements apply to many of the public bodies in Wales, and to those functions delivered in Wales by a public body located outside Wales.
- 1.9.2 The water companies are not a public body; however, the WFGA, as noted in section 6(3), can apply to other parties “*who exercise functions of a public nature*”. Preparing long-term plans for ensuring water resources in line with the statutory requirements⁴² is considered to be within this definition.
- 1.9.3 The Water Resources Planning Guideline (WRPG)⁴³ sets out that water companies “*should consider how your plan could contribute to the Well-being of Future Generations (Wales) Act 2015, if you supply customers in Wales or your plan affects sites in Wales*”.
- 1.9.4 The requirements of the WFGA could be met through either a standalone assessment, or integrated with other assessments, such as SEA. A high-level assessment has been completed and included as part of this SEA.

The Environment (Wales) Act 2016

- 1.9.5 *The Environment (Wales) Act 2016* introduced a new legislative approach for the sustainable management of natural resources (SMNR). The Act seeks to maintain and

⁴² Water Industry Act 1991, as amended by the Water Act 2003 and the Water Act 2014

⁴³ EA, OfWAT and NRW (2022) *Water Resources Planning Guideline*, 5th bullet point after heading ‘Wales’ in paragraph 4.1.1.

enhance the resilience of Wales' ecosystems and the services and benefits they provide and, in so doing, meet the needs of the present generation without compromising the ability of future generations to meet their needs. Section 3(1) of the Environment (Wales) Act 2016 defines SMNR as:

“-using natural resources in a way and at a rate that promotes achievement of the SMNR objective;

-taking other action that promotes achievement of that objective; and

-not taking action that hinders achievement of that objective.”

1.9.6 The objective for SMNR referred to above is *“to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing—*

(a) meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and

(b) contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015”.

1.9.7 Section 6 of the Act places a duty on public authorities to *“seek to maintain and enhance biodiversity”* so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to *“promote the resilience of ecosystems”*.

1.9.8 In line with the legislation, consideration has been given to the effects on Wales in the assessment undertaken and reported in this Environmental Report.

1.10 Environmental Report Structure

1.10.1 The remainder of this Environmental Report is structured as follows:

- **Section 2: Review of Plans and Programmes** - Provides an overview of the review of those plans and programmes relevant to the draft WRW Regional Plan and SEA that is contained at **Appendix C**;
- **Section 3: Baseline Analysis** - Presents an overview of the baseline analysis and identifies the key issues relevant to the draft plan and SEA;
- **Section 4: Approach to the Assessment** - Outlines the revised approach to the SEA of the draft WRW Regional Plan including the assessment framework comprising assessment objectives and guide questions, categorisation of effects, matrices and definitions of significance/thresholds (**Appendix D**);
- **Section 5: Assessment of the Draft Regional Plan and Alternatives** - Presents the findings of the assessment of the draft WRW Regional Plan and any reasonable alternatives, focusing on the consideration of cumulative effects and mitigation;
- **Section 6: Next Steps** - Details the next steps in the SEA process and presents views on how the environmental effects of the draft WRW Regional Plan will be monitored.

1.10.2 The report also contains the following appendices:

- **Appendix A: Quality Assurance Checklist.**
- **Appendix B: Schedule of Scoping Consultation Responses.**
- **Appendix C: Review of Plans and Programmes.**
- **Appendix D: Definitions of Significance.**

- **Appendix E: Draft Best Value Plan Options.**

1.11 How to Comment on the Environment Report

- 1.11.1 This Environmental Report is being issued for consultation to the SEA consultation bodies (Natural Resources Wales, Cadw and the Welsh Government in Wales and the Environment Agency, Historic England and Natural England in England) and provided as part of the evidence base to support the consultation on the WRW draft Regional Plan. The consultation will run from **16th November 2022 – 22nd February 2023**.
- 1.11.2 Please e-mail your responses to waterresourceswest@outlook.com.

2. Review of Plans and Programmes

2.1 Introduction

- 2.1.1 The SEA Regulations require a report containing “an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes” (Schedule 2(1)) as well as “The environmental protection objectives, established at international (European) Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation” (Schedule 2(5)).
- 2.1.2 Identifying other relevant plans, policies and programmes, as well as environmental protection and social objectives, is one of the first steps in undertaking SEA, forming part of Stage A of the SEA process. The review identifies how the WRW draft Regional Plan might be influenced by other regional and local plans, policies, programmes and other objectives which the WRW draft Regional Plan should consider. This information helps to identify and inform the objectives for the SEA process.
- 2.1.3 Relevant regional and local plans, policies and programmes were identified from the wide range that has been produced. The emphasis is on “relevant”: plans and programmes that have no likely interaction with the WRW draft Regional Plan (i.e., they are unlikely to influence the plan, or be influenced by it), have been excluded from the review. Important and relevant regional and local plans, policies and programmes and strategic level plans that fall within the area under consideration identified in Section 1 above have been considered.

2.2 Overview

- 2.2.1 The findings of the review of local and regional policy, plans and programmes are set out in **Table 2.1** and in **Appendix C**. **Appendix C** contains the table that sets out the purpose and objectives of the policies, plans and programmes, their potential relationship with the WRW Regional Plan, and the potential implications of the plan objectives for the objectives of the SEA. as the WRW Regional Plan covers such a large area, the local plans and policies have not been reviewed in detail. These have been reviewed as part of the individual water companies’ (DCWW, STW, SSW, UUW) WRMP24 SEA process and are contained in the respective Environmental Reports.

Table 2.1 Summary of the Regional and Local Policy, Plans and Programmes Relevant to the SEA of the Regional Plan

International
Conservation of Migratory Species (CMS) (1979) The Bonn Convention on the Conservation of Migratory Species of Wild Animals Council of Europe (1979) The Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention) Council of Europe (1985) The Granada Convention for the Protection of the Architectural Heritage of Europe Council of Europe (1992) Convention on the Protection of Archaeological Heritage (The Valetta Convention) Council of Europe (2000), European Landscape Convention (The Florence Convention) (became binding March 2007) Council of Europe (2003) European Soils Charter European Commission (1991) The Nitrates Directive 91/676/EEC European Commission (1991) Urban Waste Water Treatment Directive 1991/271/EEC European Commission (1992) The Habitats Directive 1992/43/EEC European Commission (1998) Drinking Water Directive 1998/83/EC European Commission (1999) Directive on the Landfill of Waste 99/31/EC European Commission (2000) The Water Framework Directive 2000/60/EC

European Commission (2001) Directive on the Assessment of the Effects of Certain Plans and Programmes on the Environment (The SEA Directive) 2001/42/EC
 European Commission (2002) Directive on the Energy Performance of Buildings 2002/91/EC
 European Commission (2002) The Environment Noise Directive 2002/49/EC
 European Commission (2004) Environmental Liability Directive 2004/35/EC
 European Commission (2005) Thematic Strategy on Air Pollution
 European Commission (2006) The Bathing Waters Directive 2006/7/EC
 European Commission (2006) Directive on animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals 2006/88/EC
 European Commission (2006) Directive on the protection of groundwater against pollution and deterioration 2006/118/EC
 European Commission (2006) Fresh Water Fish Directive 2006/44/EC
 European Commission (2006) Mining Waste Directive 2006/21/EC
 European Commission (2006) Thematic Strategy for Soil Protection
 European Commission (2007) The Eel Directive 2007/1100/EC
 European Commission (2007) Floods Directive 2007/60/EC
 European Commission (2008) Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC and Air Quality Framework Fourth Daughter Directive 2004/107/EC and previous directives (96/62/EC; 99/30/EC; 2000/69/EC & 2002/3/EC)
 European Commission (2008) Directive on Waste (Directive 75/442/EEC, 2006/12/EC 2008/98/EC as amended)
 European Commission (2008) Environmental Quality Standards Directive 2008/105/EC
 European Commission (2008) Marine Strategy Framework Directive 2008/56/EC
 European Commission (2009) Directive on the Conservation of Wild Birds 2009/147/EC (codified version of Council Directive 79/409/EEC as amended)
 European Commission (2009) Promotion of the use of energy from renewable sources Directive 2009/28/EC
 European Commission (2010) Industrial Emissions Directive (integrated pollution prevention and control) 2010/75/EU
 European Commission (2011) Directives on Environmental Impact Assessment (Codified Directive 2011/92/EU and Revised Directive 2014/52/EU)
 European Commission (2011) A Resource- Efficient Europe- Flagship Initiative Under the Europe 2020 Strategy, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (COM 2011/21)
 European Commission (2011) A Roadmap for Moving to a Competitive Low Carbon Economy in 2050
 European Commission (2012) A Blueprint to Safeguard Europe's Water Resources
 European Commission (2012) Energy Efficiency Directive 2012/27/EU as amended by Directive (EU) 2018/2002
 European Commission (2014) The EU Regulation on invasive alien (non-native) species 1143/2014/EU
 European Commission (2014) A Policy Framework for Climate and Energy in the Period from 2020 to 2030
 European Commission (2015) 'Closing the loop - An EU Action Plan for the Circular Economy' policy package
 European Commission (2016) National Emissions reduction Commitments (NEC) Directive 2016/2284/EU
 European Commission (2020) Biodiversity strategy for 2030
 European Commission (2022) Eighth Environmental Action Programme
 European Commission (2021) EU strategy on adaptation to climate change
 ICOMOS (2011) Guidance on Heritage Impact Assessments for Cultural World Heritage Properties
 IUCN (2013) World Heritage Advice Note: Environmental Assessment
 UNEP (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora
 UNESCO (1971) Ramsar Convention on Wetlands of International Importance
 UNESCO (1972) Convention Concerning the Protection of the World Cultural and Natural Heritage.
 UNESCO (2001) Convention on the Protection of Underwater Cultural Heritage
 United Nations (1992) Convention on Biological Diversity (The Rio Convention)
 United Nations (1997) The Kyoto Protocol to the UN Framework Convention on Climate Change
 United Nations Economic Commission for Europe (1998), Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention)
 United Nations (2002) The World Summit on Sustainable Development
 United Nations (2016) The Paris Agreement
 United Nations Framework Convention on Climate Change (UNFCCC) (2011) The Cancun Agreements
 World Commission on Environment and Development (1987) Our Common Future (The Brundtland Report)
 World Health Organisation (2004) Children's Environment and Health Action Plan for Europe

National

BEIS (2011) National Policy Statements for Energy Infrastructure
 BEIS (2013) UK Renewable Energy Roadmap
 BEIS (2015) Future Electricity Networks
 BEIS (2020) Energy white paper: Powering our net zero future
 BEIS (2021) Heat and buildings strategy
 BEIS (2021) Net Zero Strategy: Build Back Greener
 Cadw, CCW and ICOMOS (UK) (International Council on Monuments and Sites) (2001) Register of Landscapes of Historic Importance
 Canal & River Trust (2015) Living Waterways Transform Places & Enrich Lives: Our 10 Year Strategy
 Canal and River Trust (2015) Water Resources Strategy 2015 – 2020
 Centre for Environment Fisheries and Aquaculture Science and Natural Resources Wales (2021) Assessment of Salmon Stocks and Fisheries in England and Wales 2020
 Climate Change Committee (2020) The path to Net Zero and progress on reducing emissions in Wales
 Countryside Council for Wales (CCW) (2003) Priority Habitats of Wales
 Department for Culture, Media and Sport (DCMS) (2001) The Historic Environment – A Force for the Future
 DCMS and Welsh Government (2007) Heritage Protection for the 21st Century
 DCMS (2013) Scheduled Monuments & Nationally Important but Non-Scheduled Monuments

DCMS (2016) The Culture White Paper
 Defra (2004) Rural Strategy
 Defra (2005) Making space for water: taking forward a new government strategy for flood and coastal erosion risk management in England
 Defra (2006) Shoreline Management Plan Guidance Defra (2007) Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt
 Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
 Defra (2009) Safeguarding our Soils – A Strategy for England
 Defra, Department of the Environment (NI), Scottish Government and Welsh Assembly Government (2010) Air Pollution: Action in a Changing Climate
 Defra (2010) Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network
 Defra (2011) UK National Ecosystem Assessment and Defra (2014), UK National Ecosystems Assessment Follow on, Synthesis of Key Findings
 Defra (2011) Water for Life - Water White Paper
 Defra (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services
 Defra (2011) Mainstreaming Sustainable Development
 Defra (2011) The Natural Choice: Securing the Value of Nature
 Defra (2011) Natural Environment White Paper
 Defra (2012) National Policy Statement for Waste Water
 Defra (2013) The National Adaptation Programme – Making the Country Resilient to a Changing Climate
 Defra (2013) What nature can do for you
 Defra (2015) The government's response to the Natural Capital Committee's Third State of Natural Capital report
 Defra (2015) The Great Britain Invasive Non-native Species Strategy
 Defra (2016) Guiding principles for water resources planning for water companies operating wholly or mainly in England
 Defra (2017) Air Quality Plan for Nitrogen Dioxide (NO₂) in UK
 Defra (2018) The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting
 Defra (2020) Drought Plan Direction 2020
 Defra (2020) National food strategy for England
 Defra (2020) Natural Capital Committee's Seventh Annual Report
 Defra (2020) The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024
 Defra (2020) Water abstraction plan: Environment
 Defra (2021) Waste Management Plan for England
 Defra and the Environment Agency (2018) Resources and Waste Strategy for England
 Defra, Environment Agency, Natural England, Forestry Commission England (2016) Creating a great place for living
 Defra and the Law Commission (2018) Draft National Policy Statement for Water Resources Infrastructure
 Defra and Welsh Government (2014), River Basin Planning Guidance
 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) Renewable and Low Carbon Energy
 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) Strategic environmental assessment and sustainability appraisal
 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2021) National Planning Policy Framework 2021
 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (various) Planning Practice Guidance
 Department for Transport (2022) UK Electric Vehicle Infrastructure Strategy
 Environment Agency (2004) Catchment Flood Management Plans: Guidelines – Volume 1 Policy
 Environment Agency (2007) Soil: A Precious Resource
 Environment Agency (2008) Better Sea Trout and Salmon Fisheries: Our Strategy for 2008-2021
 Environment Agency (2009) Water for People and the Environment - Water Resources Strategy for England and Wales
 Environment Agency (2010) Water Resources Action Plan for England and Wales
 Environment Agency (2013) Areas of Water Stress: Final Classification
 Environment Agency (2013) Climate Change Approaches in Water Resources Planning: New Methods
 Environment Agency (2013) Managing Water Abstraction
 Environment Agency (2017) Drought response: our framework for England
 Environment Agency (2017) Groundwater Protection Technical Guidance
 Environment Agency (2018) The Environment Agency's Approach to Groundwater Protection
 Environment Agency (2020) EA2025 creating a better place
 Environment Agency (2020) Meeting our future water needs: a national framework for water resources
 Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England
 Environment Agency (2020) Water Company Drought Plan guideline
 Environment Agency (2021) Water resources planning guideline supplementary guidance – Environment and society in decision-making
 Environment Agency, Natural Resources Wales and Ofwat (2022) Water Resources Planning Guideline
 Environment Agency (undated) Hydroecology: Integration for modern regulation
 Environment Agency (undated) Restoring Sustainable Abstraction Programme
 Environment Agency (undated) WFD River Basin Characterisation Project: Technical Assessment Method - River abstraction and flow regulation
 English Heritage (2008) Climate Change and the Historic Environment
 English Heritage (2010) Heritage at Risk
 Future Generations Commissioner for Wales (2020) The Future Generations Report 2020
 Historic England (2015) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3
 Historic England (2016) Historic England Advice Note 8: Sustainability Appraisal and Strategic Environmental Assessment
 The Historic Environment Group (2018) Historic Environment and Climate Change Sector Adaptation Plan
 HM Government (1975) Salmon and Freshwater Fisheries Act, 1975

HM Government (1975) Reservoirs Act
 HM Government (1979) Ancient Monuments and Archaeological Areas Act 1979
 HM Government (1981) Wildlife and Countryside Act, 1981
 HM Government (1990) Environmental Protection Act
 HM Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990
 HM Government (1990) Town and Country Planning Act 1990
 HM Government (1991 and 1994) Land Drainage Act
 HM Government (1991) Water Industry Act 1991 (as amended by the Flood and Water Management Act 2010)
 HM Government (1991) Water Resources Act 1991
 HM Government (1994) The Conservation (Natural Habitats, &c.) Regulations 1994
 HM Government (1994) UK Biodiversity Action Plan
 HM Government (1994) Urban Waste Water Treatment (England and Wales) Regulations 1994
 HM Government (1995) Environment Act 1995
 HM Government (2000) The Countryside and Rights of Way (CROW) Act 2000
 HM Government (2002) The National Heritage Act 2002
 HM Government (2003) The Water Act 2003
 HM Government (2004) The Environmental Assessment of Plans and Programmes Regulations 2004
 HM Government (2005) Securing the Future; Delivering UK Sustainable Development Strategy
 HM Government (2006) Climate Change and Sustainable Energy Act 2006
 HM Government (2006) Natural Environment and Rural Communities Act 2006
 HM Government (2007) Water Resources Management Plan Regulations 2007
 HM Government (2008) The Climate Change Act 2008 and The Climate Change Act 2008 (2050 Target Amendment) Order 2019
 HM Government (2008) The Energy Act 2008
 HM Government (2008) Planning Act 2008
 HM Government (2009) The Eels (England and Wales) Regulations 2009 (as amended 2011)
 HM Government (2009) The Groundwater (England and Wales) Regulations 2009
 HM Government (2009) Marine and Coastal Access Act 2009
 HM Government (2009) Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 SI 3104
 HM Government (2009) The UK Renewable Energy Strategy
 HM Government (2010) Flood and Water Management Act 2010
 HM Government (2011) Localism Act 2011
 HM Government (2011) UK Marine Policy Statement
 HM Government (2011) Water for Life: White Paper
 HM Government (2013) The Energy Act 2013
 HM Government (2014) Water Act 2014
 HM Government (2015) The Environmental Damage (Prevention and Remediation) (England) Regulations 2015
 HM Government (2015) Infrastructure Act 2015
 HM Government (2015) The Nitrate Pollution Prevention Regulations 2015
 HM Government (2015) Ozone-Depleting Substances Regulations 2015
 HM Government (2015) Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015
 HM Government (2016) Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018)
 HM Government (2017) Conservation of Habitats and Species Regulations 2017 (and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019)
 HM Government (2017) The Water Environment (WFD) (England and Wales) Regulations 2017
 HM Government (2017, updated 2019) UK Clean Growth Strategy: Leading the way to a low carbon future
 HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment
 HM Government (2018) The Water Supply (Water Quality) Regulations 2018
 HM Government (2019) the Invasive Alien species (Enforcement and Permitting) Order 2019
 HM Government (2020) The Agriculture Act 2020
 HM Government (2020) Energy White Paper: Powering our Net Zero Future
 HM Government (2021) The Environment Act
 HM Government (2022) UK Climate Change Risk Assessment 2022
 HM Treasury (2016) National Infrastructure Delivery Plan
 JNCC and Defra (2012) UK Post-2010 Biodiversity Framework
 Ministry for Housing Communities and Local Government (MHCLG, formerly Department for Communities and Local Government (2014) National Planning Policy for Waste
 MHCLG (2019) National Planning Policy Framework 2019
 National Assembly for Wales (2015) Well-being and Future Generations (Wales) Act 2015
 National Assembly for Wales (2016) Historic Environment (Wales) Act 2016
 National Assembly for Wales (2016) Environment (Wales) Act 2016
 National Infrastructure Commission (2018) Preparing for a Drier Future, England's Water Infrastructure Needs
 Natural England (2011) UK Geodiversity Action Plan
 Natural England (2016) A narrative for conserving freshwater and wetland habitats in England
 Natural England (2016) Conservation 21: Natural England's conservation strategy for the 21st century
 Natural England and the Environment Agency (2014) Protected Species and Development: Advice for Local Planning Authorities
 Natural Resources Wales (2016) The State of Natural Resources Report (SoNaRR)
 Natural Resources Wales (2020) Salmon and sea trout plan of action for Wales
 Ofwat (2008) Water Supply and Demand Policy
 Ofwat (2016) Water 2020
 Ofwat (2017) Resilience in the Round
 Public Health Wales (2017) Creating a Healthier, Happier and Fairer Wales
 UKCIP (2018) UK Climate Projections UKCP18
 UKTAG: Phase 3 Review of Environmental Standards
 Valuing Our Environment Partnership (2010) Valuing the Welsh Historic Environment

Wales Biodiversity Partnership (2015) Nature Recovery Action Plan Wales – the Biodiversity Strategy for Wales
 Waterwise (2017) Water Efficiency Strategy for the UK
 Water UK (2016) Water Resources Long-term Planning Framework (2015 – 2065)
 Welsh Government (1998) Technical Advice Note 14: Coastal Planning
 Welsh Government (2004) Technical Advice Note 15: Development and Flood Risk
 Welsh Government (2008) One Wales One Planet: The Sustainable Development Scheme for Wales
 Welsh Government (2009) Technical Advice Note 5: Nature Conservation and Planning
 Welsh Government (2010) National Transport Plan
 Welsh Government (2012) Energy Wales: A Low Carbon Transition
 Welsh Government (2012) Historic Environment Strategy for Wales
 Welsh Government (2014, updated 2019) Energy Wales: A Low Carbon Transition Delivery Plan
 Welsh Government (2014) Welsh Rural Development Plan Programme document 2014-2020
 Welsh Government (2015) Nature Recovery Plan for Wales
 Welsh Government (2015) Water Strategy for Wales
 Welsh Government (2016) Energy Efficiency in Wales: A Strategy for the next 10 years 2016-2026
 Welsh Government (2016) Guiding Principles for Developing Water Resources Management Plans (WRMP's) for 2020
 Welsh Government (2016) Taking Wales Forward 2016-2021
 Welsh Government (2016) Technical Advice Note 12: Design
 Welsh Government (2017) Future Landscapes: Delivering for Wales
 Welsh Government (2017) Natural Resources Policy
 Welsh Government (2017) Prosperity for All: National Strategy (2017) and Annual Report 2018
 Welsh Government (2017) Prosperity for All: Economic Action Plan
 Welsh Government (2017) Technical Advice Note 24: The Historic Environment
 Welsh Government (2018) Priorities for the Historic Environment of Wales
 Welsh Government (2018) Woodlands for Wales: The Welsh Government's Strategy for Woodlands and Trees
 Welsh Government (2019) Prosperity for All: A Low Carbon Wales
 Welsh Government (2019) Welsh National Marine Plan
 Welsh Government (2020) Agriculture (Wales) White Paper (2020)
 Welsh Government (2020) Historic Environment and Climate Change in Wales
 Welsh Government (2020) National Strategy for Flood and Coastal Erosion Risk Management in Wales
 Welsh Government (2020) The Nature Recovery Action Plan for Wales 2020 – 21
 Welsh Government (2020) Strategic Equality Plan 2020-2024
 Welsh Government (2020) Welcome to Wales: Priorities for the visitor economy 2020 – 2025
 Welsh Government (2021) Future Wales: The National Plan 2040
 Welsh Government (2021) Our Economic Resilience & Reconstruction Mission
 Welsh Government (2021) Planning Policy Wales (Edition 11)

Regional

Water Company (various) Drought Plans
 Water Company (various) Water Resources Management Plans
 Dŵr Cymru Welsh Water (2018) Welsh Water 2050
 Dŵr Cymru Welsh Water (2019) Final Water Resources Management Plan 2019
 Dŵr Cymru Welsh Water (2020) Making time for nature 2020: Welsh Water's revised plan for maintaining and enhancing biodiversity
 Dŵr Cymru Welsh Water (Undated) Our Plan PR19 Business Plan 2020-2025
 Natural England (Various) Site Improvement Plans
 Natural Resources Wales (2015) (Various) River Basin Management Plans
 Natural Resources Wales (Various) Area Statements
 Regional Transport Plans (Various)
 Torfaen County Borough Council (2011) Blaenavon Industrial Landscape World Heritage Site Management Plan
 Welsh Government (2018) Castles and Town Walls of King Edward in Gwynedd World Heritage Site: World Heritage Site Management Plan 2018 – 28

Sub-Regional/Local

AONB Management Units (various) AONB Management Plans
 Defra (Various) Eel Management Plans
 Economic Plans (various)
 Environment Agency/Natural Resources Wales (various) Catchment Flood Management Plans
 Environment Agency/Natural Resources Wales (various) River Basin Management Plans
 Environment Agency, Natural Resources Wales and Natural Scotland (2016) River Basin District Flood Risk Management Plans
 Environment Agency, Natural Resources Wales and SEPA (2016) Flood Risk Management Plans (various)
 Environment Agency Waterway Plans
 Environment Agency and Natural Resources Wales (various) Salmon Action Plans
 Landscape Character Assessments (various)
 Local Biodiversity Action Plans (LBAPs), including Species and Habitats Action Plans (various)
 Local Geodiversity action Plans (LGAPs) (Various)
 Local Planning Authorities (various) Water Cycle Studies
 Local Planning Authority (various) Land Use Plans
 Local Planning Authority (various) Local Plans/Local Development Plans
 Local and Strategic Flood Risk Management Strategies (FRMs)
 Local Transport Plans (various)
 Local Wildlife Trust Strategies (various)

National Park Management Plans (various)
 Natural England, Site Improvement Plans (SIPs) for Natura 2000 Sites (various)
 Natural England National Character Area (NCA) Profiles (various)
 Natural England and Environment Agency (various) River Restoration, Surface Water and Water Level Management Plans
 Natural Resources Wales (Various) Catchment Abstraction Management (Licencing) Strategies (CAMS) Public Rights of Way
 Improvement Plans (ROWIP)
 Public Services Boards (PSBs) (Various) PSB Assessments and Local Well-being Plans
 Shoreline Management Plans (various)
 Sub-regional strategies (various)
 Water Resource Management Plans (various)
 World Heritage Site Management Plans (Various)

2.3 Policy Objectives Relevant to the Plan Assessment

2.3.1 The review of plans and programmes presented in **Appendix C** has identified a number of objectives and policy messages relevant to the WRW draft Regional Plan. Reflecting the topics identified in Schedule 2 of the SEA regulations, these objectives and messages are set out for the following topic areas:

- Biodiversity, Flora and Fauna;
- Geology Land use and Soils;
- Water (including flood risk);
- Air Quality;
- Climatic Factors;
- Population and Human Health;
- Material Assets and Resource Use;
- Cultural Heritage; and
- Landscape.

2.3.2 The policy objectives and messages identified from the review of other plans and programmes are summarised in **Table 2.2**. It is important that the assessment takes these into account as this will help to highlight any areas where the draft plan will help or hinder the achievement of the objectives of the other plans. Only the key sources are included; however, it is acknowledged that many other plans and programmes could also be included. The relevance of the key objectives and policy measures to the assessment of the WRW draft Regional Plan is also indicated in **Table 2.2**.

Table 2.2 Key Policy Objectives Identified in Other Plans and Programmes relevant to the Assessment of the WRW Regional Plan

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
Biodiversity, Flora and Fauna		
Conservation and enhancement of the levels and variety of biodiversity, including designated sites,	Bern Convention; Bonn Convention; Habitats Directive; Invasive Alien Species Regulation; Ramsar Convention on Wetlands; Birds Directive; Biodiversity 2020; EU Biodiversity Strategy for 2030; Marine Strategy Framework Directive; UK post 2010 Biodiversity Framework; Eel	Yes

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
priority species and habitats	Regulations: Wildlife and Countryside Act; The Natural Environment and Rural Communities Act; UK Biodiversity Action Plan; Marine and Coastal Access Act; Conservation of Habitats & Species Regulations; Better Sea Trout and Salmon Fisheries; The Great Britain Invasive Non-native Species Strategy; A Green Future: Our 25 Year Plan to Improve the Environment; UK Marine Policy Statement; Countryside and Rights of Way Act; National Planning Policy Framework; Planning Policy Wales Edition 11; The State of Natural Resources Report (SoNaRR); Salmon and sea trout plan of action for Wales; Natural Resources Policy (NRP); Nature Recovery Action Plan NRAP; Protected Species and Development; Local Biodiversity Action Plans (BAP) including Species and Habitats Action Plans (various); Local Planning Authority Local Plans (various); AONB Management Plans; National Park Management Plans (various); Site Improvement Plans (various).	
Soils, Land Use and Geology		
Protection and enhancement of soil quality, promoting sustainable patterns of land use and protecting designated geological features	Safeguarding our Soils – A Strategy for England; Thematic Strategy for Soil Protection; National Planning Policy Framework; Planning Policy Wales Edition 11; Soil: A Precious Resource; Local Planning Authority Local Plans (various); AONB Management Plans; National Park Management Plans (various).	Yes
Water (including flood risk)		
Protection and enhancement of all water supplies and resources	Bathing Waters Directives; Conservation of Habitats & Species Regulations; Water Supply (Water Quality) Regulations; Drinking Water Directive; Habitats Directive; Nitrates Directive; Urban Waste Water Directive; Water Framework Directive; Environmental Quality Standards Directive; Blueprint to Safeguard Europe's Water Resources; Wildlife & Countryside Act; Restoring Sustainable Abstraction Programme; Climate Change Approaches in Water Resources Planning; Drought response: our framework for England; Water Resources Planning Guideline; Future Water; Meeting our future water needs: a national framework for water resources; A Green Future: Our 25 Year Plan to Improve the Environment; National Planning Policy Framework; Water Resources Long-term Planning Framework (2015 – 2065); Planning Policy Wales Edition 11; River Basin Management Plans (various); Water Company Drought Plans (various); Water Company Water Resource Management Plans (various); Abstraction Licensing Strategies (various); Local Planning Authority Local Plans (various).	Yes

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
Promoting the sustainable and efficient use of water	<p>Water Framework Directive; Blueprint to Safeguard Europe’s Water Resources; The Water Environment (WFD) (England and Wales) Regulations; Water for People and the Environment; Managing Water Abstraction; Restoring Sustainable Abstraction Programme; The Environment Agency’s Approach to Groundwater Protection; Meeting our future water needs: a national framework for water resources; Water Act; Water Supply and Demand Policy; A Green Future: Our 25 Year Plan to Improve the Environment; National Planning Policy Framework; Planning Policy Wales Edition 11; Water Strategy for Wales;</p> <p>River Basin Management Plans (various); Water Company Drought Plans (various); Water Company Water Resource Management Plans (various); Abstraction Licensing Strategies (various); Local Planning Authority Local Plans (various).</p>	Yes
Minimising flood risk and improving flood control infrastructure	<p>Floods Directive; Water Framework Directive; Flood and Water Management Act; Shoreline Management Plan Guidance; National Strategy for Flood and Coastal Erosion Risk Management in Wales; National Flood and Coastal Erosion Risk Management Strategy for England; Welsh National Marine Plan; Flood and Water Management Act; National Planning Policy Framework; Planning Policy Wales Edition 11 Shoreline Management Plans (various); Catchment Flood Management Plans (various); River Basin Management Plans (various); Catchment Flood Management Plans (various); Local Planning Authority Local Plans (various).</p>	Yes
Air		
Ensuring air quality is maintained or enhanced and that emissions of air pollutants are kept to a minimum	<p>Ambient Air Quality and Cleaner Air for Europe Direct; Industrial Emissions Directive; Air Pollution: Action in a Changing Climate; Air Quality Strategy for England, Scotland, Wales and Northern Ireland; Air Quality Plan for Nitrogen Dioxide (NO₂) in UK; National Planning Policy Framework; Planning Policy Wales Edition 11; Local Planning Authority Local Plans (various).</p>	Yes
Climatic Factors		
Minimising emissions of greenhouse gases that cause climate change	<p>Kyoto Protocol; Paris Agreement; Climate Change Act; Renewable Energy Roadmap; UK Sustainable Development Strategy; UK Renewable Energy Strategy; National Planning Policy Framework; HM Government – Energy White Paper: Powering our Net Zero Future; UK Clean Growth Strategy: Leading the way to a low carbon future ; Energy Wales: A Low Carbon Transition; Climate Change Committee - The path to Net Zero and progress on reducing emissions in Wales; UK Climate Change Risk</p>	Yes

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
	Assessment; Local Planning Authority Local Plans (various).	
Minimising the effects of climate change on natural resources, inhabitants and the economy	EU Strategy on Adaptation to Climate Change; UK Sustainable Development Strategy; National Strategy for Flood and Coastal Erosion Risk Management in Wales; National Flood and Coastal Erosion Risk Management Strategy for England; National Planning Policy Framework; The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting; Planning Policy Wales Edition 11; Water Resources Management Plans (various); River Basin Management Plans (various); Shoreline Management Plans (various); Catchment Flood Management Plans (various); UK Climate Change Risk Assessment; Local Planning Authority Local Plans (various).	Yes
Population and Human Health		
Addressing deprivation and reducing inequality	World Summit on Sustainable Development; Europe 2020; Sustainable Development Strategy; National Planning Policy Framework; Future Wales: The National Plan 2040; Planning Policy Wales Edition 11; The Future Generations Report 2020; Strategic Equality Plan 2020-2024; Local Planning Authority Local Plans (various).	Yes
Promoting improvements to health and well-being	Aarhus Convention; Sustainable Development Strategy; World Summit on Sustainable Development; Eighth Environmental Action Programme; National Planning Policy Framework; Planning Policy Wales Edition 11; Creating a Healthier, Happier and Fairer Wales; Local Planning Authority Local Plans (various).	Yes
Providing high quality services, community facilities and social infrastructure that is accessible to all	National Planning Policy Framework; The National Plan 2040; Planning Policy Wales Edition 11; The Future Generations Report 2020; Local Planning Authority Local Plans (various).	No
Achieving sustainable economic growth and promoting key sectors in the local economy	World Summit on Sustainable Development; Europe 2020; UK Marine Policy Statement; Sustainable Development Strategy; National Planning Policy Framework; Planning Policy Wales Edition 11; Prosperity for All: Economic Action Plan; Prosperity for All: National Strategy; Local Planning Authority Local Plans (various).	Yes
Improving and expanding the tourism economy	National Planning Policy Framework; Planning Policy Wales Edition 11; Prosperity for All: Economic Action Plan; Prosperity for All: National Strategy; Future Wales: The National Plan 2040; Welcome to Wales: Priorities for the visitor economy 2020 – 2025	Yes

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
	Local Planning Authority Local Plans (various); AONB Management Plans (various); National Park Management Plans (various). Local Planning Authority Local Plans (various).	
Maximising job opportunities for all and enhancing the quality of employment opportunities	National Planning Policy Framework; Planning Policy Wales Edition 11; Prosperity for All: National Strategy; Our Economic Resilience & Reconstruction Mission; Local Planning Authority Local Plans (various).	Yes
Minimising noise pollution	Environment Noise Directive; National Planning Policy Framework; Local Planning Authority Local Plans (various).	Yes
Promoting sustainable transport	Sustainable Development Strategy; A Roadmap for Moving to a Competitive Low Carbon Economy in 2050; National Planning Policy Framework; Planning Policy Wales Edition 11; The National Plan 2040; Local Planning Authority Local Plans (various).	No
Material Assets and Resource Use		
Minimising waste production, promoting re-use and recycling	Landfill of Waste Directive; Waste Management Plan for England; National Planning Policy Framework; Planning Policy Wales Edition 11; National Planning Policy for Waste; Local Planning Authority Local Plans (various).	Yes
Promoting the most effective and efficient use of natural resources	World Summit on Sustainable Development; Eighth Environmental Action Programme; Energy 2020; Europe 2020; UK Sustainable Development Strategy; National Planning Policy Framework; Planning Policy Wales Edition 11; National Planning Policy for Waste;; Local Planning Authority Local Plans (various).	Yes
Promoting the use of sustainable/renewable energy	Eighth Environmental Action Programme; National Policy Statements for Energy Infrastructure; UK Renewable Energy Roadmap; Future Electricity Networks; Energy white paper: Powering our net zero future; Net Zero Strategy: Build Back Greener; Energy 2020; A Roadmap for Moving to a Competitive Low Carbon Economy in 2050;; Sustainable Development Strategy;; Climate Change Act; UK Renewable Energy Strategy; UK Renewable Energy Roadmap; UK Sustainable Development Strategy; Resources and Waste Strategy for England; Renewable and Low Carbon Energy; National Planning Policy Framework; Planning Policy Wales Edition 11; Local Planning Authority Local Plans (various).	Yes
Promoting the use of sustainable design and construction and	Energy 2020; Energy Efficiency Directive; A Roadmap for Moving to a Competitive Low Carbon Economy in 2050; Renewable Energy Directive; UK Sustainable Development Strategy; Energy Wales; National Planning Policy	Yes

Key Objectives and Policy Messages	Key Sources	Relevant to the SEA?
encouraging energy efficiency	Framework; Planning Policy Wales Edition 11; Local Planning Authority Local Plans (various).	
Cultural Heritage		
Protecting and enhancing cultural heritage and archaeological sites	World Heritage Convention; The Historic Environment – A Force for the Future; Scheduled Monuments & Nationally Important but Non-Scheduled Monuments; Ancient Monuments and Archaeological Areas Act; Planning (Listed Buildings and Conservation Areas) Act; National Planning Policy Framework; Valuing the Welsh Historic Environment; Future Wales: The National Plan 2040; Planning Policy Wales Edition 11; Technical Advice Note 24 The historic Environment; the Setting of Heritage Assets; Historic England Advice Note 8; Priorities for the Historic Environment of Wales; Priorities for the Historic Environment of Wales; Historic Environment and Climate Change in Wales; Local Planning Authority Local Plans (various).	Yes
Landscape		
Protecting and enhancing the quality and distinctiveness of natural landscapes and environmental resources	European Landscape Convention; National Planning Policy Framework; Future Wales: The National Plan 2040; Planning Policy Wales Edition 11; Future Landscapes: Delivering for Wales; AONB Management Plans (various); Local Planning Authority Local Plans (various); National Park Management Plans (various).	Yes

3. Baseline Analysis

3.1 Introduction

3.1.1 Schedule 2 of the SEA Regulations require the completion of an Environmental Report that contains:

“The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme” (Schedule 2(2));

“The environmental characteristics of areas likely to be significantly affected” (Schedule 2(3)); and

“Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds(1) and the Habitats Directive”, (Schedule 2(4)).

3.1.2 Only with a knowledge of existing conditions, and a consideration of their likely evolution, can the effects of the draft WRW Regional Plan be identified, described and assessed and its subsequent success or otherwise be monitored. Appendices of the draft WRMP24 SEA Environmental Reports identify and characterise current environmental baseline conditions, along with their likely evolution. Baseline conditions can be found in Appendix D of the Environmental Reports containing the SEA of draft WRMP24s for DCWW, SSW, STW and U UW. This information is not repeated in this assessment.

3.1.3 The analysis of baseline information is presented for the following topics:

- Biodiversity, Flora and Fauna;
- Geology Land use and Soils;
- Water (including flood risk);
- Air Quality;
- Climatic Factors;
- Population and Human Health;
- Material Assets and Resource Use;
- Cultural Heritage; and
- Landscape.

3.1.4 Each topic includes further sub-topics with information structured according to the following:

- Baseline Characteristics;
- Likely Evolution of the Baseline without the Plan;
- Key Issues Relevant to the Assessment of the Plan.

3.1.5 The data has been drawn from a variety of sources, such as the water companies themselves, the Office for National Statistics (ONS), government departments (such as BEIS, Defra and DLUHC), regulators (such as NRW, NE and the EA) and a number of the plans and programmes reviewed as part of the SEA process.

3.2 Summary of the Key Issues

3.2.1 The key issues arising from the review of baseline conditions are summarised for each topic in **Table 3.1**.

Table 3.1 Summary of the Key Issues

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
Biodiversity Flora and Fauna	<p><u>Relevance</u></p> <p>The construction of water resources infrastructure can affect biodiversity and ecosystem resilience. Impacts may be direct (for example, the loss of, or damage to, habitats and species) or indirect (for example, disturbance due to noise and emissions to air associated with construction works).</p> <p>The operation of water resources infrastructure can have a range of positive and negative impacts on habitats and species and wider ecosystem resilience due to, for example, changes in hydrology, changes in water chemistry and the spread of invasive non-native species. Water infrastructure can contribute positively to biodiversity, introducing new features that can provide opportunities for nature and wildlife in the medium to long term.</p> <p>Discharges associated with the construction and operation of water resources infrastructure e.g., desalination can adversely affect marine habitats.</p> <p><u>Key Issues</u></p> <p>Key pressures and risks in respect of biodiversity and nature conservation that are relevant include, inter-alia:</p> <ul style="list-style-type: none"> • Key pressures and risks in respect of biodiversity and nature conservation that are relevant include, inter-alia: <ul style="list-style-type: none"> ○ population growth; ○ habitat loss and fragmentation by development; ○ agricultural intensification and changes in agricultural management practices; ○ water abstraction, drainage or inappropriate river management; ○ lack of appropriate habitat management; ○ atmospheric pollution (acid precipitation, nitrogen deposition); ○ water pollution from both point and wider (diffuse) agricultural sources; ○ climate change and sea level rise; ○ recreational pressure and human disturbance; and invasive and non-native species. • The need to maintain, enhance and promote biodiversity and the resilience of ecosystems, including sites designated for their nature conservation value; • the need to address the climate emergency and nature emergencies together; • the need to recognise the importance of allowing wildlife to adapt to climate change; 	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 7: Flood Risk</p> <p>Objective 10: Climatic Factors</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
Soils, Land Use and Geology	<p>Relevance</p> <p>Soils are a non-renewable resource vulnerable to changes in both hydrology and land use.</p> <p>Hydrogeology will affect the distribution and movement of groundwater and surface water and is a key consideration for water resources planning.</p> <p>The construction of water resources infrastructure can affect land use and soil. Impacts may be direct (for example, the loss of, or damage to, land and soil from new development) or indirect (for example, the location of new infrastructure affecting adjacent land uses). The appropriate management and control of soils and sediments that are excavated, moved and/or stored during construction is key to their long-term sustainability.</p> <p>Key Issues</p> <ul style="list-style-type: none"> • the need to continue to increase and improve the condition of priority habitats and habitats of priority species, and restore populations of these species and other protected species; • the need to avoid, and mitigate where necessary, activities likely to cause irreversible damage to natural heritage; • the need to take opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors; • the need to prevent the spread/introduction of invasive non-native species; • the need to maintain/enhance ecological connectivity; • the need to sustainably manage biodiversity assets, taking into account the effects of climate change; • the need to recognise the key role that green infrastructure plays in supporting (<i>inter alia</i>) biodiversity, landscape, wellbeing and climate change resilience; • the need to protect and enhance the green infrastructure network; • the need to continue monitoring biodiversity and ecological indicators; • the need to work within environmental limits and capacities; • the need to prevent depletion and pollution of groundwater; • the need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of ecosystem services. 	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soil, Land Use and Geology</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<ul style="list-style-type: none"> the need to make use of previously developed land (brownfield land) and to reduce the prevalence of derelict land in the region; the need to conserve and enhance soil quality and function (including peatlands and carbon sequestration); the need to protect and avoid damage to geodiversity and conserve and enhance sites designated for geological interest (including geological SSSIs); the need to manage impacts on soil resources, including control of pollution and remediation of contaminated land, and minimise the loss of best and most versatile agricultural land; the need to manage the land more holistically at the catchment level, benefitting landowners, other stakeholders, the environment and sustainability of natural resources (including water resources); the need to improve the quality of agricultural land in the region. 	
Water - Quantity	<p><u>Relevance</u></p> <p>There is growing pressure on water resources in parts of the UK, particularly the south east and east of England with proposals to meet the demand from other parts of the country including WRW.</p> <p>The construction of water resources infrastructure would be expected to increase the volume and resilience of the water supply.</p> <p>The volume and flow of water significantly affects ecological functioning and the broader environment and can be affected (potentially positively or negatively) by water resources infrastructure through, for example, changes in supply and abstraction.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to maintain seasonal flows in groundwater and surface water; the need to maintain and improve the quantity of surface and groundwater resources taking into account WFD/RBMP objectives; the need to restore sustainable and appropriate abstraction levels and water flow/levels in Wales' waters across the full range of regimes from low to high conditions, and meet society's needs for a resilient water supply; the potential effects of climate change and the need to build climate change resilience into the water environment and water management; The need to address and increase resilience to pressures on public water supply; the need to improve the resilience, flexibility and sustainability of water resources in the WRW region, 	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 11: Economy</p> <p>Objective 13: Human Health</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p>particularly in light of potential climate change impacts on surface water and groundwater;</p> <ul style="list-style-type: none"> the need to ensure that people understand the value of water. 	
Water - Quality	<p><u>Relevance</u></p> <p>Reliable access to water of good quality is an essential aspect of water resources planning.</p> <p>The construction of water resources infrastructure would be expected to help ensure a robust future supply of good quality water in a changing climate.</p> <p>The construction and operation of water resources infrastructure can have adverse impacts on water quality due to, for example, pollution.</p> <p>The operation of water resources infrastructure can have both positive and negative impacts on water quality associated with, in particular, changes to water levels as a result of abstraction or discharge. This in-turn can affect the resilience of ecosystems.</p> <p>The historic pollution of groundwater and nitrate concentrations present an issue for water resources infrastructure and ensuring drinking water standards are met.</p>	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 11: Economy</p> <p>Objective 13: Human Health</p>
	<p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to maintain and improve the quality of water in the region's river, estuarine, coastal and groundwaters, taking into account WFD/RBMP objectives; the potential effects of climate change and the need to build climate change resilience into the water environment and water management; the need to prevent the deterioration of Water Framework Directive waterbodies, achieve protected area objectives and achieve water body status objectives; the need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change impacts on surface water and groundwater; the need to ensure sustainable abstraction to protect water quality. 	
Water - Flood Risk	<p><u>Relevance</u></p> <p>Flood risk presents a significant planning issue in the development of major infrastructure projects, both in terms of the infrastructure itself being flooded during its construction and operational phases and the changes to flood risk resulting from the infrastructure, such as increased run-off raising the flood risk in downstream areas.</p>	<p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 7: Flood Risk</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p>The operation of water resources infrastructure (e.g., reservoirs) may provide an opportunity to address flood risk issues (for example, by providing extra space for flood water storage).</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to ensure that the continued risk of flooding is reduced or where this is not possible, mitigated effectively. 	<p>Objective 10: Climatic Factors</p> <p>Objective 11: Economy</p> <p>Objective 13: Human Health</p>
Air Quality	<p><u>Relevance</u></p> <p>Air quality is sensitive to changes in traffic volume and emissions from other sources such as construction plant and machinery. Increases in transport movements and works associated with the construction and operation of nationally significant water resources infrastructure could affect air quality, particularly in areas with existing air quality issues. For example, construction traffic can lead to increased nitrogen deposition in sensitive habitats.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to minimise emissions of pollutant gases and particulates and enhance air quality; the need to reduce the need to travel and promote sustainable modes of transport. 	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soil, Land Use and Geology and Soils</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 8: Air Quality</p> <p>Objective 13: Human Health</p>
Climatic Factors	<p><u>Relevance</u></p> <p>The availability of additional water supplies can increase the resilience of the existing water network and broader environment and support adaptation to the effects of climate change such as drought.</p> <p>The construction and operation of water resources infrastructure is likely to result in a change in energy use and greenhouse gas emissions, noting that new infrastructure may replace older, less energy efficient infrastructure with higher emissions.</p> <p>The energy requirements associated with different types of water resources infrastructure will vary with the scope for the use of renewable energy greater for certain infrastructure types than for others.</p> <p>Water resources infrastructure may be vulnerable to the effects of climate change such as flood risk and coastal change.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to reduce travel and promote sustainable modes of transport; the need to reduce greenhouse gas (GHG) emissions arising from implementation of the WRW Regional Plan; the need to take into account, and where possible adapt to, the potential effects of climate change through, sustainable water resource management, water use 	<p>Objective 1: Biodiversity</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 7: Flood Risk</p> <p>Objective 9: Greenhouse Gases</p> <p>Objective 10: Climatic Factors</p> <p>Objective 13: Human Health</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p>efficiencies, specific aspects of natural ecosystems (e.g. connectivity), as well as accommodating potential opportunities afforded by climate change;</p> <ul style="list-style-type: none"> the need to increase environmental resilience to the effects of climate change. 	
Population	<p><u>Relevance</u></p> <p>The growing population within the WRW area and Wales will increase the demand for water resources.</p> <p>Long-term growth of the economy would be expected to lead to an increase in demand for water for commercial and industrial purposes. In turn, the risk of drought or interruptions to accessing water may pose a risk to economic productivity.</p> <p>The construction of large-scale water resources infrastructure can represent a significant capital investment with the potential to create employment opportunities, deliver supply chain benefits and contribute to skills development in the working population.</p> <p>The operation of water resources infrastructure can support long term socio-economic growth by ensuring sufficient supplies of water are made available to meet demand.</p> <p>The affordability of water, protection of vulnerable customers and delivering best value for money is a key consideration in water company investment decisions.</p> <p>The construction and operation of water resources infrastructure can adversely affect businesses and communities, principally due to disruption.</p> <p>Consumer preference and consumer behaviour can have a strong influence on the demand for water resources.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> The need to ensure that the WRW Regional Plan has a positive economic impact; the need to ensure that water resource requirements of people and visitors, and other users such as energy and agriculture, can be met at all times, in a sustainable way, including during seasonal peaks due to tourism; the need to ensure that water resources remain affordable, in particular for deprived or vulnerable communities; the need to ensure that vulnerable people are not affected by implementation of measures to manage water resources; the need to ensure public awareness of drought conditions and importance of maintaining resilient, reliable public water supplies without the need for emergency drought measures; the need to ensure a balance between different aspects of the built and natural environment that will help to provide opportunities for local residents and tourists, including opportunities for access to, protecting and 	<p>Objective 11. Economy</p> <p>Objective 12. Tourism and Recreation</p> <p>Objective 13. Human Health</p> <p>Objective 14. Water Resources</p> <p>Objective 15. Waste and Resource Use</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p>enhancing recreation resources, green infrastructure and the natural and historic environment;</p> <ul style="list-style-type: none"> the need to accommodate an increase in population, households, dwellings and development associated with other uses that might impact on demand for water whilst ensuring the continued provision of essential services including water supply. 	
Human Health	<p><u>Relevance</u></p> <p>A reliable source of clean water is required for basic sanitation and to ensure human health.</p> <p>The increase in the severity of drought, particularly in the south and east of England, poses a risk to health.</p> <p>The detection and removal of chemicals in the drinking water supply, or in treated waste water returned to the environment, is an important aspect of maintaining a wholesome water supply.</p> <p>Certain aspects of water resources infrastructure, such as reservoirs, can provide valuable recreational opportunities, both for water sports and for users of the associated land such as walkers and cyclists.</p> <p>The construction and operation of water resources infrastructure can have adverse effects on human health for example, due to noise disturbance or loss of open space.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> Sustained exposure to elevated air pollution levels (including exposure to elevated concentrations of particulate matter, oxides of nitrogen and sulphur) contributes to respiratory illness; the need to ensure continuing safe, reliable and resilient provision of water services to maintain health and wellbeing of the population; the need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas; the need to ensure that measures to manage water resources do not adversely affect the health and wellbeing of any member of the community; the need to ensure that the WRW Regional Plan minimises impacts on the ability of people to access facilities for sport, recreation, and leisure purposes; the need to ensure that sites of nature conservation importance, heritage assets, water resources, important landscapes and public rights of way contribute to recreation and tourism opportunities and subsequently health and wellbeing and the economy. 	<p>Objective 11. Economy</p> <p>Objective 12. Tourism and Recreation</p> <p>Objective 13. Human Health</p>
Material Assets	<p><u>Relevance</u></p> <p>Large scale infrastructure projects have the potential to generate very high volumes of waste during both construction</p>	<p>Objective 1: Biodiversity</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p>and operation. This waste should be managed in accordance with the waste hierarchy.</p> <p>Large scale water resources infrastructure may require both short-term (i.e. during construction) and long-term (i.e. during operation) use of materials that are non-renewable or are imported. In doing, so schemes may have an environmental impact that extends outside the water company operational area.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> • The need to promote water efficiency measures (including metering); • the need to minimise current and future water demand for water resources through water efficiency measures (including metering); • the need to ensure that leakage is managed at a sustainable economic level to optimise the water available; • the need to maintain the balance between supply and demand for water; • the need to reduce energy consumption and support low carbon and renewable energy production; • the need to ensure the sustainable and efficient use of resources such as construction materials; • the need to minimise waste arisings, promote reuse, recovery and recycling and minimise the impact of wastes on the environment and communities; • the need to recognise waste as a potential resource and reuse waste productively where possible to support the development of a circular economy. 	<p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 5: Water Quality</p> <p>Objective 6: Water Quantity</p> <p>Objective 9: Greenhouse Gases</p> <p>Objective 10: Climatic Factors</p> <p>Objective 11. Economy</p> <p>Objective 14. Water Resources</p> <p>Objective 15. Waste and Resource Use</p>
Cultural Heritage	<p><u>Relevance</u></p> <p>Wetlands are fragile and vulnerable to subtle changes arising from development that can affect paleoenvironmental deposits and archaeological assets. Other aspects of the wider historic environment that could be affected include disruption to historically important water sources, the flooding or drying of deep archaeological sites and assets such as mills and bridges which can be affected by local water levels.</p> <p>The construction and operation of large-scale water resources infrastructure can have adverse impacts on the significance of heritage assets and archaeological remains both directly (through the loss of, or damage to, assets) or indirectly (through effects on setting).</p> <p>Cultural landscape is a function of the interaction between human traditions, landscape and the environment and is a highly valued feature of some areas such as National Parks.</p> <p>Existing water resources infrastructure including, for example, pumping stations and reservoirs can be historically important in their own right.</p>	<p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 11. Economy</p> <p>Objective 12. Tourism and Recreation</p> <p>Objective 13. Human Health</p> <p>Objective 16: Cultural Heritage</p> <p>Objective 17: Landscape</p>

Topic	Summary of Key Issues	SEA Objectives link (see Section 4)
	<p><u>Key Issues</u></p> <ul style="list-style-type: none"> • The need to conserve and enhance the historic significance of buildings, monuments, features, sites, places, areas and landscapes of archaeological and cultural heritage interest, and their settings; • the need to conserve and enhance the World Heritage Sites within the WRW Regional Plan area; • the need to avoid damage to important wetland areas with potential for paleoenvironmental deposits. 	
Landscape	<p><u>Relevance</u></p> <p>The construction and operation of water resources infrastructure can have adverse impacts on landscape character, visual amenity and tranquillity. Where works are located in areas of high landscape value (for example, National Parks), these effects could be significant.</p> <p>Water infrastructure can also contribute positively to landscapes, introducing new features that can provide opportunities for nature and wildlife in the medium to long term.</p> <p><u>Key Issues</u></p> <ul style="list-style-type: none"> • The need to protect, conserve and enhance landscape character, taking into account the effects of climate change and recommendations for managing change in the profile of relevant NCAs; • the need to ensure the special qualities of designated landscapes (including National Parks and AONB's) are protected; • the need to minimise any adverse impacts upon landscape that may result from measures in the Regional Plan, having regard to NCA profiles and the potential for effects on designated landscapes and their settings; and • the need to maintain and enhance landscape and designated sites for the enjoyment of the public. 	<p>Objective 1: Biodiversity</p> <p>Objective 4: Soils, Land Use and Geology</p> <p>Objective 11. Economy</p> <p>Objective 12. Tourism and Recreation</p> <p>Objective 13. Human Health</p> <p>Objective 16: Cultural Heritage</p> <p>Objective 17: Landscape and Townscape</p>

3.3 Limitations of the Data and Assumptions Made

- 3.3.1 The information used has been sourced, so far as is possible, from recent datasets utilising a wide range of authoritative and official sources. It is important to acknowledge that there are variable time lags between raw data collection and its publication. Consequently, at the time of this Scoping Report's publication, the baseline or predicted future trends may have varied from those described above.
- 3.3.2 The data gathered to complete this baseline pre-dates the Covid-19 pandemic and its environmental, social and economic effects. Data that relates to these changes is only becoming available periodically and it may well be a number of years before the effects of the crisis can be determined, along with whether changes to the topics covered in the

baseline have been short-term or sustained. This is an additional uncertainty within the assessment, and where relevant, some qualitative commentary may be provided.

4. Approach to the Assessment

4.1 Introduction

- 4.1.1 This section describes the approach to the assessment of the WRW draft Regional Plan (which has also been applied to the assessment of the component draft WRMP24s). It draws on the information contained in **Sections 2 and 3**, as well as the more detailed information contained in **Appendices C** (as well as that collated and presented in Appendix D of the Environmental Reports completed to accompany the draft WRMP24s), to define the scope of the assessment (in terms of the environmental and socio-economic issues to be considered) and sets out the SEA objectives and guide questions that comprise the assessment framework. The section then outlines how this assessment framework has been used to assess the WRW draft Regional Plan.

4.2 The Scope of the Assessment

Topics

- 4.2.1 The aim of this SEA is to identify, describe and evaluate the likely significant effects of implementing the WRW draft Regional Plan on the environment. Schedule 2 of the SEA Regulations require that the assessment includes information on the *“likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to”*.
- 4.2.2 The key policy objectives identified from the review of other plans and programmes relevant to the assessment of the WRW draft Regional Plan (Section 2) and the key economic, social and environmental issues arising from the analysis of the baseline (Section 3), together with the characteristics of the water resource management options, have been used to define the scope of the assessment in terms of the topics set out in Schedule 2 of the SEA Regulations.
- 4.2.3 **In this instance, all SEA topics identified by Schedule 2 of the SEA Regulations have been scoped in for assessment.**

Geographic Scope

- 4.2.4 The geographic extent of the SEA reflects the WRW draft Regional Plan area and includes all or part of the operational areas covered by the component draft WRMP24s (the notable exception being DCWW, where only seven of the company’s 24 WRZs are within the plan area).
- 4.2.5 In considering the adverse operational effects on European sites, and reflecting the approach taken in the HRA of the component WRMPs, a precautionary study area extending at least 20km of any operational facilities or new infrastructure required to deliver each option (including temporary infrastructure) has been used. This is an intentionally large buffer that can also reliably capture the vast majority of possible interactions with ‘mobile species’ in terrestrial environments. This could also extend outside the boundary of the WRW draft Regional Plan. When considering hydrological connectivity and the potential effects of an individual option, a distance beyond 20km has

also on occasion been required. The 20km distance used goes beyond that outlined in the revised UKWIR guidance⁴⁴.

Timescales

4.2.6 When considering the timing of potential effects of the WRW draft Regional Plan, the assessment has classified effects as ‘short,’ ‘medium’ or ‘long-term.’ This reflects an intention to capture the differences that could arise at different timescales, consistent with the requirements of Schedule 1 (2)(a) of the SEA Regulations where the assessment of the effects should have regard to “*the probability, duration, frequency and reversibility of the effects*”.

4.2.7 **Table 4.1** below summarises the timescales applied in the SEA informed by the 5-year cycle of plan preparation and review. For the purposes of this assessment, short-term is considered as up to 1 year, medium-term (from 1 year to 5 years and so to the end of the plan review cycle) and long-term is for the period beyond 5 years (anticipating the next Regional Plan for 2029 and beyond, noting that some of the current preferred options can be implemented in 2050 or later).

Table 4.1 Duration of Short, Medium and Long Term

Estimated Length (years)	Duration
0-1 years	Short
>1-5 years	Medium
Over 5 years	Long

4.3 Assessment Framework

4.3.1 The SEA objectives and guide questions used in the assessment of the WRW draft Regional Plan reflect the topics contained in Schedule 2 (6) of the SEA regulations and have been informed by:

- the previous SEA assessment frameworks used to complete the SEA of DCWW, SSW, STW and UUW’s WRMP19s;
- the suggested core set of objectives in the All Company Working Group (ACWG) 2020 report ‘Strategic Environmental Assessment: Core Objective Identification’;
- the review of relevant plans and programmes and the associated key policy objectives and messages (**Section 2** and **Appendices C**);
- the baseline information and key issues contained in Section 3;
- the draft assessment framework presented in the WRW and draft WRMPs SEA Scoping Report, issued for scoping consultation in April 2021 (noting that an integrated approach to assessment has been undertaken, and this report set out the

⁴⁴ UKWIR (2021) *Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans*. Report Ref. No. 21/WR/02/15]

aligned approach to assessment that has then been employed for the SEA of WRW draft Regional Plan and the draft WRMP24s for DCWW, HD, SSW, STW and UUW's);

- scoping consultation responses received from (**Appendix B**).

4.3.2 The assessment framework is presented in **Table 4.2**. It contains 17 assessment objectives, and so extends from 12 the number of SEA objectives previously used for WRMP19 by DCWW and UUW, and reduces from 22 the numbers used by STW and SSW. It has been revised to reflect the scoping consultations responses and has been used to completion of the assessment of WRW draft Regional Plan.

Table 4.2 Revised Assessment Framework

Topic	Assessment Objective	Guide Questions
Biodiversity, Flora and Fauna	1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	<ul style="list-style-type: none"> • Will it protect, restore and enhance where possible, the most important sites for nature conservation (e.g., internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)? • Will it protect, restore and enhance non-designated sites and local biodiversity? • Will it provide opportunities for new terrestrial and aquatic habitat creation or restoration and/or link existing habitats as part of the development process? • Will it provide opportunities to deliver biodiversity net gain? • Will it lead to a change in the ecological quality of habitats? • Will it protect, restore and enhance where appropriate, coastal and marine habitats and species? • Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems? • Will it maintain and enhance the green infrastructure network and the biodiversity it supports?
	2. To protect and enhance sustainable natural resources and the ecosystem services they provide.	<ul style="list-style-type: none"> • Will it protect or enhance natural capital and ecosystem services? • Will it maintain and enhance ecosystem resilience? • Will it contribute to the sustainable management of natural habitats and ecosystems, i.e., within their limits and capacities taking into account climate change adaptability? • Will it provide opportunities for climate adaptation and protect the climate resilience of vulnerable and priority sites?
	3. To avoid and minimise the spread of, and, where required, manage invasive and non-native species (INNS).	<ul style="list-style-type: none"> • Will it prevent or minimise the risk of spread/introduction of invasive non-native species? • Will it contribute to the eradication of invasive and non-native species, where they are already present and it is technically and economically feasible to do so?

Topic	Assessment Objective	Guide Questions
Soils, Land Use and Geology	4. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.	<ul style="list-style-type: none"> • Will additional land be required for the development or implementation of the option or will the option require below ground works leading to land sterilisation? • Will it avoid damage to, protect and enhance where possible protected sites designated for their geological interest (GCR sites, SSSI and RIGS) and features of wider geodiversity interest? • Will it minimise the loss of best and most versatile agricultural land? • Will it avoid adverse effects on other land uses (such as forestry)? • Will it minimise land contamination? • Will it ensure efficient use of land (e.g., make use of previously developed land)? • Will it contribute towards a catchment-wide approach to land management?
Water – Quantity	5. To protect and enhance surface and ground water levels and flows.	<ul style="list-style-type: none"> • Will it minimise the demand for water resources? • Will it result in changes to river flows, channel morphologies, wetted width or river levels? • Will it result in changes to groundwater levels? • Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans? • Will it alter the flow regime of surface waters?
Water – Quality	6. To protect and enhance the quality of surface and groundwater resources.	<ul style="list-style-type: none"> • Will it prevent pollution and protect and improve surface, groundwater, estuarine and coastal water quality? • Will it prevent the deterioration of Water Framework Directive (WFD) waterbody status (or potential)? • Will it support the achievement of WFD protected area objectives? • Will it ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body? • Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans? • Will the option prevent nutrient loading in water bodies?
Water – Flood Risk	7. To reduce or manage flood risk.	<ul style="list-style-type: none"> • Will the option be at risk of flooding now or in the future? • Will it have the potential to cause or exacerbate flooding in the catchment area including the risks to people and property, now or in the future? • Will it have the potential to help alleviate or mitigate flooding in the catchment area including to people and property now or in the future? E.g., will it avoid reducing flood plain storage, or provide opportunities to improve flood risk management? • Will it promote the use of sustainable drainage systems?

Topic	Assessment Objective	Guide Questions
		<ul style="list-style-type: none"> Will it promote opportunities for collaborative working with other risk management authorities?
Air	8. To minimise emissions of pollutant gases and particulates and enhance air quality.	<ul style="list-style-type: none"> Will it maintain or enhance ambient air quality, keeping pollution below Local Air Quality Management thresholds (e.g., in Air Quality Management Areas or sensitive habitats)?
Climatic Factors	9. To reduce greenhouse gas emissions.	<ul style="list-style-type: none"> Will it reduce or minimise greenhouse gas emissions? Will it have a low level of embodied carbon? Will it provide new infrastructure that is energy efficient and/or minimizes the use of energy? Will it provide new infrastructure that could contribute or make use of renewable energy sources? Will the option affect carbon sequestration?
	10. To adapt and improve resilience to the threats of climate change.	<ul style="list-style-type: none"> Will it improve resilience and/or adaptability to the likely effects of climate change, e.g., by increasing resilience of water supplies or catchments? Will it increase environmental resilience to the effects of climate change including to impacts on flood risk and water quality? Will coastal erosion have consequences on the operation of this option now or in the future, taking account of expected climate change sea level rise?
Population	11. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.	<ul style="list-style-type: none"> Will it ensure that sufficient water resources infrastructure is in place to support predicted population increases? Will it ensure sufficient infrastructure is in place to sustain a seasonal influx of tourists? Will it help to meet the employment needs of local people? Will it ensure that an affordable supply of water is maintained, and vulnerable customers protected? Will it contribute to sustaining and growing the local and regional economy? Will it avoid disruption through effects on the transport network? Will it avoid negative effects on built assets/ existing infrastructure including transport?
	12. To maintain and enhance tourism and recreation.	<ul style="list-style-type: none"> Will it protect and enhance public access to, and enjoyment of, green and blue infrastructure, open space/recreational facilities and the natural and historic environment, and in doing so help promote healthy lifestyles including mental well-being?
Human Health	13. To protect and enhance human health and well-being.	<ul style="list-style-type: none"> Will it ensure the continuity of a safe and secure drinking water supply? Will it help to protect or improve drinking water quality? Will it maintain surface water and bathing water quality within statutory standards?

Topic	Assessment Objective	Guide Questions
		<ul style="list-style-type: none"> • Will it help to promote healthy communities and avoid risks to health and wellbeing (for example, due to noise resulting from construction traffic or disruption to safe and reliable water/sewerage services)? • Will it raise awareness of the importance and value of the water environment for health and well-being? • Will it be located in an area considered to be significantly more health deprived than others in the region? • Will it improve opportunities for social interaction and community cohesion?
Material Assets – Water Resources	14. To promote and enhance the sustainable and efficient use of resilient water resources.	<ul style="list-style-type: none"> • Will it lead to reduced leakage from the supply network? • Will it improve efficiency in water consumption? • Will it ensure sustainable abstractions, taking account of water resource availability? • Will it enable efficient water resource management to help maintain a supply-demand balance? • Will it increase the resilience of water resources, now and into the future? • Will it contribute towards improving the awareness of water sustainability?
Material Assets – Waste and Resource Use	15. To minimise waste, promote resource efficiency and move towards a circular economy.	<ul style="list-style-type: none"> • Will it make use of existing infrastructure? • Will it promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill? • Will it help to encourage sustainable design or use of sustainable materials (e.g., supplied from local resources)?
Cultural Heritage	16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	<ul style="list-style-type: none"> • Will it avoid damage to, conserve or enhance the historic environment, including heritage assets and their settings such as historic buildings, conservation areas, features, places and spaces, that enhance local distinctiveness? • Will it avoid or minimise damage to archaeologically important sites? • Will the hydrological setting of water-dependent assets be altered, such as important wetland areas with potential for paleo-environmental deposits? • Will it avoid damage to important wetland areas with potential for paleoenvironmental deposits? • Will it improve access, value, understanding or enjoyment of heritage assets and culturally/historically important assets in the region? • Will it protect or enhance (where relevant) Welsh language and culture?
Landscape	17. To conserve, protect and enhance landscape and townscape character and visual amenity.	<ul style="list-style-type: none"> • Will it avoid adverse effects to, and enhance where possible, protected/designated landscapes and the settings of designated landscapes (including woodlands) such as National Parks or AONBs?

Topic	Assessment Objective	Guide Questions
		<ul style="list-style-type: none">• Will it help to protect and improve non-designated areas of natural beauty and distinctiveness (e.g., woodlands) and avoid the loss of landscape features and local distinctiveness?• Will it protect and enhance landscape character, townscape, seascape and green infrastructure?• Will it minimise adverse visual impacts?

4.4 Assessment Methodology

4.4.1 The completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs (DCWW⁴⁵, SSW⁴⁶, STW⁴⁷ and U UW⁴⁸). The completion of the individual draft WRMP24 option environmental assessments provides the assurance that their effects have been identified, described and assessed when considered within the context of the WRW draft Regional Plan. To avoid unnecessary repetition, these are not duplicated in this assessment; however, it is important to acknowledge that the dependencies is clear, and that where further information on a specific option is required, reference should be made to the component draft WRMP24 assessment.

4.4.2 The assessment of the WRW draft Regional Plan has then considered:

- The cumulative effects of the component WRMP24s, taking into account the effects identified for each WRMP and any reasonable alternatives, based on the individual option assessments.
- The cumulative effects of WRW draft Regional Plan in conjunction with other water resource regional plans, notably WRE, WReN and WRSE, other water company plans and SROs.

Option Assessment

4.4.3 The effects of the component draft WRMP24 have been assessed in a staged process, complementary to the development of the plans, and reflecting the decision-making requirements, as follows:

- **Revised feasible** option assessment: a high-level assessment of all revised feasible options (including resource management and demand management options) against the 17 SEA assessment objectives detailed in Table 4.2 with findings used to inform the MCA (for plan decision making) and detailed screening of options (for the WRMPs).

⁴⁵ WSP and Ricardo (2022) Dŵr Cymru Welsh Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

⁴⁶ Ricardo and Wood (2022) Strategic Environmental Assessment: Draft Water Resources Management Plan 2024 – South Staffordshire Water.

⁴⁷ Ricardo and Wood (2022) Strategic Environmental: Draft Water Resources Management Plan 2024 – Severn Trent Water.

⁴⁸ WSP and Ricardo (2022) United Utilities Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

- **Preferred option assessment:** for those options selected, a more detailed assessment has been undertaken of the preferred plan options against the 17 SEA assessment objectives detailed in Table 4.2.
 - **Preferred programme assessment:** the cumulative effects of the preferred programme of options has been completed, to ensure that the effects of the draft Plan have been identified, described and evaluated.
 - **Reasonable alternative plan assessments:** the cumulative effects of any reasonable alternative plans has been identified, described and evaluated for consideration along with the preferred plan.
- 4.4.4 Both the construction and operational effects of each element have been assessed against all of the SEA objectives that comprise the assessment framework. To support this, designated sites and features within 10km of each option have been identified and GIS mapped and proximities identified. Using the assessment framework, GIS mapping and taking account the nature, extent and duration of proposed option works and subsequent operation ensures a comprehensive consideration of any likely effects. It also recognises that the environmental effects are likely to be different in their nature, scale and significance during construction as opposed to their operation. For those options that would not require construction works per se and may be ongoing in nature (for example, the installation of water efficient devices, audits and educational programmes), construction in the context of the SEA refers to any enabling/installation works or option implementation.
- 4.4.5 The assessment of effects includes consideration of the following:
- the nature of the potential effect (what is expected to happen);
 - the timing and duration of the potential effect (e.g., short, medium or long term);
 - the geographic scale of the potential effect (e.g., local, regional, national);
 - the location of the potential effect (e.g., whether it affects rural or urban communities, or those in particular parts of a water company area); and
 - the potential effect on vulnerable communities or sensitive sites.
- 4.4.6 Where relevant, other information and assessments including the HRA and WFD Assessment have been referenced as appropriate. Where the assessment is of a revised WRMP19 option, the assessment will take into account, where appropriate, the previous assessment findings and any regulators and stakeholder feedback already received.
- 4.4.7 A matrix similar to that shown in **Table 4.3** has been used to capture the assessment of in a consistent manner; a key to the meaning of the symbols is presented in **Table 4.4**.

Table 4.3 Example Options Assessment Matrix

Option	Stage	1. Biodiversity	2. Sustainability Natural Resources	3. INNS	4. Soils, Geodiversity and Land Use	5. Water Quantity	6. Water Quality	7. Flood Risk	8. Air Quality	9. Greenhouse Gas Emissions	10. Climate Resilience	11. Economy	12. Tourism and Recreation	13. Human Health and Well-being	14. Water Resource Use	15. Waste and Resource Use	16. Cultural Heritage	17. Landscape
Option Name	Construction (negative)	--/?	--	0	--/?	-	-	--	0	--/?	--	--/?	--/?	--/?	-	--/?	-	--
	Construction (positive)	0	0	0	0	0	0	0	0	0	0	+++/?	0	+	0	+/?	0	0
	Operation (negative)	--/?	-	0	0	--	--/?	--	-	--	--	0	0	0	-	0	0	0
	Operation (positive)	+	+	0	0	+	+	+	0	+	+	++	+	++	+	+	0	0

Construction	
Objective 1: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 1: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 2: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 2: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 3: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 3: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 4: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 4: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 5: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 5: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 6: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 6: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 7: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 7: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 8: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 8: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 9: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 9: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 10: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 10: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 11: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 11: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 12: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 12: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 13: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 13: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 14: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 14: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 15: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 15: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 16: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 16: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 17: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 17: Minor/Moderate/Major positive uncertain effect - due to...	

Operation	
Objective 1: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 1: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 2: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 2: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 3: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 3: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 4: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 4: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 5: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 5: Minor/Moderate/Major positive uncertain effect - due to...	
Objective 6: Minor/Moderate/Major negative uncertain effect - due to...	
Objective 6: Minor/Moderate/Major positive uncertain effect - due to...	

Table 4.4 Qualitative Scoring System

Score	Description	Symbol
Major/Significant Positive Effect	Significant positive effect of the water resource option on this objective	+++
Moderate Positive Effect	Moderate positive effect of the water resource option on this objective	++
Minor Positive Effect	Minor positive effect of the water resource option on this objective	+
Neutral	Neutral effect of the water resource option on this objective	0
Minor Negative Effect	Negative effect of the water resource option on this objective	-
Moderate Negative Effect	Moderate effect of the water resource option on this objective	--
Major/Significant Negative Effect	Significant negative effect of the water resource option on this objective	---
Uncertain	The water resource option has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an assessment to be made.	?

Assessment of the Draft Regional Plan

- 4.4.8 The assessment of the WRW draft Regional Plan has been undertaken using the outputs of the cumulative effects of the individual component WRMP24s and synthesising the findings to assess the construction and operational effects against the 17 SEA objectives. Where relevant, reference has also been made to the HRA and WFD assessment of the WRW draft Regional Plan.

Reasonable Alternative Plan Assessment

- 4.4.9 SEA Regulation 12(2) requires the identification, description and evaluation of “*the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*”. The EC guidance⁴⁹ on the SEA Directive discusses possible interpretations of handling ‘reasonable alternatives’. It states that “*The alternatives chosen should be realistic. Part of the reason for studying alternatives is to find ways of reducing or avoiding the significant adverse effects of the proposed plan or programme. Part of the reason for studying alternatives is to find ways of reducing or avoiding the significant adverse effects of the proposed plan or programme*”. Echoing this, Government guidance⁵⁰ of the SEA states “*Only reasonable, realistic and relevant alternatives need to be put forward. It is helpful if they are sufficiently distinct to enable meaningful comparisons to be made of the environmental implications of each*”. It is an area of plan making that has received considerable scrutiny and challenge.
- 4.4.10 For the purposes of this SEA, the revised feasible options that have been considered as part of the development of the component WRMP24s will also be reasonable alternative options for the WRW draft Regional Plan. In addition, reasonable alternatives that operate at the plan level have also been considered and in consequence, the UJW draft WRMP24 NWT SRO Full Solution has been considered.

Assessment of Secondary, Cumulative and Synergistic Effects

- 4.4.11 The SEA Regulations require that the cumulative effects of the WRW draft Regional Plan are assessed. This will focus on the effects of the draft plan in conjunction with other plans and programmes. This includes:
- effects of the WRW draft Regional Plan with other regional plans;
 - effects of the WRW draft Regional Plan with adjacent water company plans and projects (SROs);
 - effects of the WRW draft Regional Plan with other plans e.g., Local Plans, National Policy Statements (NPSs);
 - effects of the WRW draft Regional Plan with other Nationally Significant Infrastructure Projects (NSIPs).
- 4.4.12 When considering the above, the assessment has been qualitative.

⁴⁹ EC (2003) *Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*.

⁵⁰ Office of the Deputy Prime Minister et al (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf [Accessed June 2019]

Definitions and Thresholds of Significance

- 4.4.13 Specific guidance has been developed for what constitutes a significant (major) effect, a moderate effect, a minor effect or a neutral effect for each of the SEA objectives. These 'definitions and thresholds of significance' help to ensure a consistent approach to interpreting the significance of effects and helps the reader understand the decisions made by the assessor.
- 4.4.14 An example is provided for biodiversity in **Table 4.5** with the full suite of definitions presented in **Appendix D**.
- 4.4.15 In developing the definitions and thresholds of significant effects, information has been drawn from:
- the previous definitions and thresholds used in the SEAs of DCWW, SSW, STW and UUW's WRMP19s;
 - suggested definitions and thresholds for assessment scoring from the All Company Working Group (ACWG) for application to the SROs;
 - suggested definitions and thresholds detailed in the WRSE Scoping Report, for application to the SEA of the WRSE Regional Plan;
 - an evaluation of the range of quantitative values (such as yield, capex, embodied carbon, operational carbon and material quantities) available for a selection of the DCWW, STW, SSW and UUW's WRMP19 options for different option types (e.g., supply-side options such as reservoirs, transfers, boreholes, enhanced treatment);
 - scoping consultation feedback;
 - practical revisions made when applying the thresholds to the revised feasible option assessment.

Table 4.5 Example Definitions of Significant Effects

SEA Objectives	Guide Questions	Score		Description
1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	Will it protect, restore and enhance where possible, the most important sites for nature conservation (e.g., internationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?	+++	Major/Significant Positive	The option would result in a major enhancement on the quality of designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat quality and availability. The option would result in a major increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or large amounts of creation or enhancement of habitat, promoting a major increase in ecosystem structure and function.
	Will it protect, restore and enhance non-designated sites and local biodiversity? Will it provide opportunities for new terrestrial and aquatic habitat creation or restoration and/or link existing habitats as part of the development process? Will it provide opportunities to	++	Moderate Positive	The option would result in a moderate enhancement on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat creation and enhancement measures. The option would result in a moderate increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or moderate amounts of creation or enhancement of habitat, promoting a moderate increase in ecosystem structure and function.
		+	Minor Positive	The option would result in a minor enhancement of the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat creation and enhancement measures. The option would result in a minor increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or small amounts of creation or

SEA Objectives	Guide Questions	Score	Description	
	deliver biodiversity net gain? Will it lead to a change in the ecological quality of habitats? Will it protect, restore and enhance where appropriate, coastal and marine habitats and species? Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems? Will it maintain and enhance the green infrastructure network and the biodiversity it supports?		enhancement of habitat, promoting a minor increase in ecosystem structure and function.	
		0	Neutral	The option would not result in any effects on designated or non-designated sites including habitats and/or species).
		-	Minor Negative	The option would result in a minor negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a minor decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or small losses or degradation of habitat leading to a minor loss of ecosystem structure and function.
		--	Moderate Negative	The option would result in a moderate negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a moderate decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or moderate loss or degradation of habitat leading to a moderate loss of ecosystem structure and function.
		---	Major/Significant Negative	The option would result in a major negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a major decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or large losses or degradation of habitat leading to a major loss of ecosystem structure and function.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain

4.5 Contribution to Wales’ Well-being Goals and the Objective for the Sustainable Management of Natural Resources

4.5.1 Using the information from the completion of the assessment of likely significant effects, a high-level analysis of the impact that the WRW draft Regional Plan will have on the achievement of the seven well-being goals for Wales and the objective for SMNR has been undertaken, reflecting that the WRW Regional Plan includes parts of Wales within its region. Whilst effects have been reported at the plan level (and so will combine effects on both Wales and England) the contributions towards well-being goals have been described qualitatively to avoid overstatement of benefits to Wales alone.

4.6 Difficulties Encountered in Undertaking the Assessment

4.6.1 The SEA Regulations requires the identification of any difficulties (such as technical deficiencies or lack of knowledge) encountered during the assessment process. The difficulties encountered in undertaking the SEA of the WRW draft Regional Plan reflect the difficulties encountered when completing the component WRMPs and which are summarised below:

- Reflecting the strategic nature of the draft WRMP and SEA, for many supply options exact site locations and pipeline routes are approximated at this stage whilst the final

design of new infrastructure is unknown. For some option types (e.g. leakage reduction options), the location of works are not known at this stage and would (if taken forward) be subject to more detailed analysis during the implementation of the WRMP. In consequence, effects on some objectives such as biodiversity are uncertain for these options. Where this is the case, the assessment has reflected this uncertainty.

- Whilst the assessment of the cumulative effects of the implementation of the component draft WRMP24s and other plans and programmes has been based on the most up to date information available at the time of writing, in many cases there is a lack of detailed information at this stage to make robust conclusions. Such issues where present in the component draft WRMP24 assessment have been repeated in this assessment.
- 4.6.2 The quantification of some effects e.g. embodied and greenhouse gas emissions, materials used and capex/opex has been variable across option types and component draft WRMP24s. The quantification of these effects at the WRW draft Regional Plan level has therefore been affected and in consequence, the SEA has provided qualitative commentary to avoid partiality in the presentation of assessment findings.

Principles of Assessment

- 4.6.3 To help anticipate and address the uncertainties that affect the delivery of the regional plan assessments, WRW (as a member of the Inter-regional Environmental Assessment discussion group, under the Regional Coordination Group (RCG) prepared and circulated a draft set of principles for discussion⁵¹ with the the EA, NRW, the National Assessment Unit (NAU) and Natural England. These principles are summarised as follows (with comments on their application to the WRW draft Regional Plan assessment also included):
- **Proportionality:** that the assessment undertaken will be proportionate to the level and detail relevant to plan-making. The application of this principle to the assessment of a WRW draft Regional Plan means that it will be less fine-grained than would be relevant or appropriate when compared to that necessary for the assessment of individual WRMP or an SRO.
 - **Uncertainty:** uncertainties in the component WRMPs or SROs have been reflected in the assessment of the respective Regional Plan (and in the case of the WRW draft Regional Plan, the Regional Plan assessment does not resolve the uncertainties).
 - **Planning context:** that the detail of content – and thus associated environmental assessment are subject to inter-related and ongoing change. The WRW draft Regional Plan, component draft WRMPs and SROs are subject to change, dependent on further evidence becoming available (whether additional policy, modelling, studies, consultation responses and/or regulator feedback). Given the long-term nature of the planning period covered some matters can only reasonably be resolved subject to future investigations being completed with outputs being then reflected in future commitment. In such circumstances, any such dependencies will be highlighted.
 - **Consistency:** assessment findings between the WRW draft Regional Plan, component draft WRMP24s and SROs has, as far as possible, been aligned within regions and when considering the cumulative effects of relevant schemes, across

⁵¹ WRW, WRE and WReN (2022) *A proportionate approach to cumulative and in-combination assessment in regional water resource plan-making* (Discussion Paper, dated 17 March 2022).

regions; however, the degree to which this is achieved will be consistent with the principle of proportionality.

- 4.6.4 A meeting was held with the identified regulators on the 21st April 2022 to discuss the principles. There was broad agreement on the proposed principles and their application to the regional plan assessments. These have therefore been applied in completing the SEA of the WRW draft Regional Plan.

5. Assessment of the Draft Regional Plan and Alternatives

5.1 Introduction

5.1.1 This section describes the findings of the assessment of the WRW draft Regional Plan. In particular, it presents:

- **Section 5.2: Component Draft WRMP24 Preferred Option Assessment** which outlines that the effects of the preferred options of the component draft WRMP24s have been identified, described and evaluated.
- **Section 5.3: Draft Regional Plan Assessment** which sets out the likely significant effects of the draft Regional Plan as a whole.
- **Section 5.4: Reasonable Alternative and Adaptive Plan Assessment** to identify, describe and evaluate the effects of the reasonable alternative plan (reflecting that identified by UUW).
- **Section 5.5: Secondary, Cumulative and Synergistic Effects Assessment** to identify, describe and evaluate the cumulative effects assessment of the preferred programme taking into account other relevant plans.
- **Section 5.6: Contribution of the Draft Regional Plan to Wales' Well-being Goals and the Objective for SMNR.**
- **Section 5.7: Mitigation and Enhancement.**

5.2 Component Draft WRMP24 Preferred Options Assessment

5.2.1 The completion of the WRW draft Regional Plan SEA has been contingent on the completion of the component draft WRMP24s and their respective SEAs (DCWW⁵², SSW⁵³, STW⁵⁴ and UUW⁵⁵). The completion of the individual draft WRMP24 option environmental assessments provides the assurance that their effects have been identified, described and assessed when considered within the context of the WRW draft Regional Plan. To avoid unnecessary repetition, these are not duplicated in this assessment, however, a complete list of the component WRMP24 options contained within the draft best value plan is contained within **Appendix E**.

⁵² WSP and Ricardo (2022) Dŵr Cymru Welsh Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

⁵³ Ricardo and Wood (2022) Strategic Environmental Assessment: Draft Water Resources Management Plan 2024 – South Staffordshire Water.

⁵⁴ Ricardo and Wood (2022) Strategic Environmental: Draft Water Resources Management Plan 2024 – Severn Trent Water.

⁵⁵ WSP and Ricardo (2022) United Utilities Water: Strategic Environmental Assessment of the Water Resources Management Plan 2024 – Environmental Report.

5.3 Draft Regional Plan Assessment

- 5.3.1 The draft best value plan includes a number of supply-side options within the DCWW, STW and UUW supply areas, which would provide a combined supply increase of 892MI/d (569MI/d by 2050), whilst demand management options within the draft best value plan, across the DCWW, HD, SSW, STW and UUW areas, would result in a demand management reduction of 636MI/d (by 2050). Additionally, there would be 278MI/d (by 2050) benefit arising from the Government's introduction of water labelling across the region. A complete list of the component WRMP24 options contained within the draft best value plan is contained within **Appendix E**.
- 5.3.2 **Table 5.1** presents the cumulative assessment of the strategic effects of the programme of options included in the draft best value plan. Note where effects have been quantified, they are in aggregate, across the lifetime of the plan. The assessment draws on the SEA assessments (and other environmental assessments such as WFD and HRA) undertaken as part of the process of the preparation of the component draft WRMP24s.

Table 5.1 Draft Regional Plan Assessment

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
1. To protect and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	0	---/?	0	---/?	<p>Construction Effects</p> <p>For the majority of supply and transfer options within the draft best value plan, the respective WRMP24 SEA options assessments concluded that there would be minor or moderate negative effects on biodiversity (SEA Objective 1) during the construction phase. This reflects the potential for the construction of water resources infrastructure to result in the loss of/disturbance to habitats and species as a result of, for example, land take, emissions to air, dust deposition and noise. However, a small number of STW options were identified as having significant negative or significant negative uncertain effects during construction:</p> <ul style="list-style-type: none"> • Option 6 is surrounded by two European sites and three areas of ancient woodland are within the proposed boundary of storage increase; • Option 31C and 31D will result in the permanent/partial loss of SSSIs designated for their geological features; • Option 128Z intersects a number of SSSIs and areas of ancient woodland; • Option 187C and 557 are in proximity to areas of ancient woodland; and • Option 190 also intersects ancient woodland and the HRA identified uncertainties and suggests scheme level investigations may be required. <p>With regard to European sites, as highlighted in the HRA of the draft best value plan, the respective HRA screening of the each of the component WRMPs identified the potential for construction activities associated with the implementation of the draft best value plan options to result in likely significant effects on European sites. Such effects may arise due to, for example, the physical loss of habitats associated with the development of new infrastructure and the laying</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					<p>of pipelines, noise disturbance, emissions to air and light pollution related to construction works and vehicle movements and the release of contaminants to ground and waterbodies. However, the appropriate assessments of the component WRMP options conclude that there are sufficient standard and best practice project-level mitigation measures that can be implemented during construction to avoid adverse effects on the integrity of any European sites.</p> <p>The formal HRA screening confirms that no European sites would be affected by in-combination effects arising from the draft best value plan options contained in two different component WRMPs. Options are not located in close geographical proximity to one another, or do not have concurrent phasing such that the likelihood of in combination effects occurring during construction would be very low. In consequence, it is not possible for there to be in 'inter-option' effects during the construction phase.</p> <p>Overall, considering the potential for adverse effects on nationally designated conservation sites (SSSIs and ancient woodlands), a significant negative uncertain effect is identified. However, this is a provisional conclusion, and it is expected that between draft plan and final plan, further option engineering work will be undertaken (including mitigation), that once taken into account is likely to lessen the effects identified.</p> <p>Operational Effects With regard to operation, the HRA appropriate assessments have identified that there are some residual uncertainties in respect of the precise effects of aquifer drawdown in respect of the interest features of the Manchester Mosses SAC (Option WR149), Martin Mere SPA / Martin Mere Ramsar (Option WR107a2), Mersey Estuary SPA / Mersey Estuary Ramsar (Options WR111 and WR113, as well as Options WR015 and WR076 that involve abstraction from surface waterbodies that flow into the downstream Manchester Ship Canal and Mersey), Ribble and Alt Estuaries Ramsar / Sefton Coast SAC</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
2. To protect and enhance sustainable natural	0	---	+++/?	0	<p>(Option WR107a2) and Ribble and Alt Estuaries SPA / Ribble and Alt Estuaries Ramsar (Option WR107a2). However, these uncertainties will be resolved with the development of groundwater models for the Lower Mersey and North Merseyside and Manchester and East Cheshire and before submission of the final Regional Plan (and hence the final HRA). Notwithstanding this, it would be possible for the Regional Plan to manage these uncertainties by identifying specific alternative 'no adverse effects' options that would be employed if options (or subsets of options) prove unachievable due to their impact on European sites.</p> <p>For STW, the HRA has highlighted that a HRA Stage 2 Appropriate Assessment is required for 23 individual options, covering 18 from the preferred plan and five alternative plan options. Although effects alone are not anticipated, the potential for in combination effects on the Peak District Dale SAC, the Severn Estuary SAC and Ramsar and the Humber Estuary suite of European sites requires further investigation and assessment as part of the final HRA and mitigation measures may be required to avoid adverse effects.</p> <p>There would be no additional effects on European sites beyond those identified in the appropriate assessments for the component water company draft WRMPs, as summarised above.</p> <p>Other significant effects identified on designated sites and features have been identified for Options 31C and 31D (arising from the permanent loss of SSSIs, identified during construction) and 187C (due to effects on ancient woodland).</p> <p>Overall, a significant negative uncertain effect is identified.</p> <p>Construction Effects The BNG assessment of the component WRMPs identifies that there would be a temporary and permanent loss of habitats during the</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
resources and the ecosystem services they provide.					<p>construction phase of the many of the supply side options included in the draft best value plan, which, when taken together, would be significant.</p> <p>Operational Effects It is assumed that in the operational phase there would then be a net gain leading to an overall net gain in biodiversity for the preferred programme.</p> <p>A significant positive score is assessed reflecting the scale of loss during the construction phase (that would then see a net gain in the operational phase). However, there is some uncertainty over the extent of the positive effects of the preferred programme of options. Further work will be undertaken by the member companies between draft and final Regional Plan to take account of wider net gain opportunities based on landholdings, assessment management and biodiversity commitments to deliver BNG across their capital programme.</p>
3. To avoid and, where required, manage invasive and non-native species (INNS).	0	-	0	--/?	<p>Construction Effects Overall, the options within the draft best value plan are considered to have a minor negative effect on INNS, reflecting the fact that construction of a number of the STW options within the draft best value plan could potentially result in increased distribution of terrestrial and/or aquatic INNS, however, in such cases the risk considered to be minor when taking into account the implementation of standard biosecurity measures during construction.</p> <p>Operational Effects Overall, moderate negative effects are assessed for the draft best value plan with respect to INNS during operation. The presence and extent of negative effect is uncertain given that the INNS risk assessments of the component WRMPs identify minor or no risk for nearly all of the options that form the draft best value plan. Two options within the draft best value plan, however, have been</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					<p>assessed in the component draft WRMP24s as having potentially moderate negative effects on INNS during operation:</p> <ul style="list-style-type: none"> STW Option 169 (Terminate raw water export to Yorkshire Water); which would provide STW with an anticipated additional 59MI/d raw water in the Derwent Reservoirs, which would be stored and utilised during dry periods, previously exported to Yorkshire Water. The INNS assessment of the option identified a potential risk of increase in flow/overspill which could increase the number of propagules (seeds, eggs, etc.) in downstream reaches. However, it is assumed that maintenance will be undertaken under best practice mitigation measures in view of the company wide biosecurity plan. UU Option WR049d (New surface water (River Ribble)) ; which would involve a new abstraction on the River Ribble near Salmesbury, primary treatment (if required) and transfer and discharge into Rivington WTW. The INNS assessment highlights that high impact INNS are present within the locale of the source water abstraction e.g., zebra mussel, and that these species are not present in the locale of the receptor waterbody, which would be located adjacent to a SSSI. INNS risks are associated with potential wash-out points located at an interstage pumping station and at WTW (out of source water catchment). The INNS assessment highlights that without mitigation the INNS risk is potentially high, however, the risk would be reduced to medium through design mitigation/ site specific biosecurity measures.
4. To protect and enhance soil quantity, quality and functionality and	++	---	0	---	<p>Construction and Operational Effects Construction and operation of water resources infrastructure could affect existing land uses, due to land take associated with new development. This may result in clearance of vegetation and loss of</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
geodiversity and ensure the appropriate and efficient use of land.					<p>soil levels leading to the loss of soil function and processes. In this regard, a number of the options within the draft best value plan would impact upon land in various agricultural grades including Grade 1, Grade 2 and Grade 3 (i.e. “Best and Most Versatile”), including temporary disturbance (e.g. for the construction of below ground infrastructure such as pipelines) as well as permanent loss (e.g. associated with the construction of above ground infrastructure).</p> <p>Some of the STW options that form the draft best value plan would take place within or near to SSSIs designated for their geological value and would result in significant effects on geodiversity.</p> <p>However, some of the preferred programme options would take place on PDL land or existing operational land which may support achievement of the objective, hence a moderate positive effect has also been assessed during construction.</p>
5. To protect and enhance surface and ground water levels and flows.	0	0	+++	--/?	<p>Construction Effects All of the supply, transfer and demand options within the best value, plan were assessed as having a neutral effect on water quantity (SEA Objective 5) during construction, with the exception of STW Option 29, which was assessed as having a minor negative uncertain effect due to uncertainty regarding the construction that would be required to implement the option.</p> <p>As such an overall neutral effect has been assessed for the draft best value plan during construction against SEA Objective 5.</p> <p>Operational Effects During operation, the demand management options within the best value plan would cumulatively result in a reduction in demand of 636MI/d (by 2050), whilst the benefit arising from the Government’s introduction of water labelling across each of the water company areas within the draft best value plan would total 278MI/d (by 2050). This is considered to be a cumulatively significant positive effect.</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					<p>The best value plan also includes a number of environmental destination options. These are designed to provide environmental enhancement (including WFD) by reducing unsustainable abstraction and building resilience through more sustainable water resources options. The environmental destination options perform a range of functions including, and not limited to, flood alleviation, habitat improvement, flow enhancement and water quality improvement which also contributes to the significant positive effect.</p> <p>During operation, the majority of the supply side options would result in either minor or moderate negative effects as abstraction has the potential to affect either (i) deterioration of WFD status and/or (ii) the ability of a waterbody to attain its target status. For two supply options, potentially significant negative effects were identified:</p> <ul style="list-style-type: none"> • UU option WR149 would increase abstraction from the Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers and the WFD assessment of the WRMP option concluded that increased groundwater abstraction could cause long term moderate decreases in groundwater levels, river flows and water quality, which could result in a potential deterioration of WFD classification. • STW option 420 would abstract additional water from a surface water body where there is no additional water available for abstraction (based on the CAMS assessment) and as such WFD assessment of the WRMP option concluded that the operation of the option could result in the potential deterioration in WFD status due to potential impacts in the fish, invertebrates and macrophytes elements <p>These assessments are on a precautionary basis linked to the availability of Abstraction Licensing Strategy (ALS) and CAMS information at this stage. WRW will continue to explore these potential impacts and whether additional mitigation measures may need to be built into option design.</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
6. To protect and enhance the quality of surface and groundwater resources.	0	-	0	---	<p>Considering the effects of all options, a moderate negative uncertain effect was identified during operation, leading to a mixed significant positive and moderate negative uncertain effect on water quantity (SEA Objective 5).</p> <p>Construction Effects A number of supply options were assessed as having a minor negative effect on water quality during construction, as the WFD assessment found that construction near watercourses may lead to disturbance and increased risk of pollution events and sedimentation. However, in all cases, effects are anticipated to be short term or intermittent and would not lead to a change in WFD classification, provided best practices are adhered to and mitigation implemented (such as dust suppression, soil containment and emergency response procedures). As such a minor negative effect during construction has been identified for the draft best value plan.</p> <p>Operational Effects The WFD assessment of the component WRMPs found that the operation of a number of the supply options included within the best value plan could reduce river flows or groundwater levels which could have an impact on water quality potentially causing a deterioration in WFD status. The findings of the WFD assessment have highlighted risks taking into account cumulative effects for five STW supply option and seven UU supply options. These assessments are on a precautionary basis linked to the availability of Abstraction Licensing Strategy (ALS) and CAMS information at this stage. WRW will continue to explore these potential impacts and whether additional mitigation measures may need to be built into option design. It should also be noted that the current WFD assessment is without consideration of additional mitigation not currently in the scheme design that could make the scheme WFD compliant. As such, risks and effects are provisional.</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
7. To reduce or manage flood risk.	0				<p>Overall, a significant negative uncertain effect is identified.</p> <p>Construction Effects A number of the options within the draft best value plan will be located fully or partially within Flood Zone 3 and/or 2 and therefore construction works would be at risk of flooding during construction, and, where there is new above ground infrastructure, during operation. However, the risk would be localised, and the options are not expected to exacerbate flood risk issues elsewhere.</p> <p>Two of the STW options in the draft best value plan (Option 6 (Upper Derwent Valley reservoir expansion (UDVRE)) and Option 29 (Homesford water treatment works capacity increase)) were identified as having significant negative effects during construction as they would both involve new above ground water supply infrastructure which would be largely located in Flood Zone areas.</p> <p>Owing to the distance between the options that comprise the draft best value plan, their collective implementation is not expected to increase the level of flood risk over and above that associated with the construction and operation of each option.</p> <p>Overall a moderate negative effect is identified.</p> <p>Operational Effects During operation, eleven options within the draft best value plan were assessed as having a moderate positive effect on flood risk, as these options may involve measures which alleviate or mitigate flooding in the catchment, for example, new reservoir storage or environmental destination options.</p>
			--	++	
8. To minimise emissions of	0		0		<p>Construction Effects</p>
		--/?	0	--	

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
<p>pollutant gases and particulates and enhance air quality.</p>					<p>Construction of the options within the draft best value plan will generate emissions to air which could affect local air quality. The principal source of emissions would be pollutants associated with vehicle movements. Vehicle emissions could affect sensitive receptors along transport corridors and effects are likely to be more pronounced where development is located within/in close proximity to AQMAs. For example:</p> <ul style="list-style-type: none"> • UU option WR015 (New surface water (River Irwell)), which would include construction within the Greater Manchester Combined Authority AQMA (WR015) • STW option 79A (Wolverhampton-Birmingham strategic link main (large)), which would involve works within the Wolverhampton and Birmingham AQMA • STW option 128 (Carsington to Tittesworth main (large)), which would involve works within the Stoke on Trent AQMA • UU options, WR049d (New surface water (River Ribble)), WR111 (Groundwater enhancement (Woodford)) and WR076 (New surface water (River Bollin)) which would likely generate construction traffic on roads situated within or partially within AQMAs • Certain demand management options, which may involve works within AQMAs, however, there is some uncertainty due to the uncertainty of the exact location of meter installations. <p><u>Operational Effects</u> The operation of some supply side options within the draft best value plan will require vehicle movements of scale for the maintenance and operation of water resources infrastructure such as water treatment works which is expected to lead to a moderate negative effect on local air quality.</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
9. To reduce greenhouse gas emissions.	0	---/?	+++/?	---/?	<p>Construction Effects The options contained within the draft best value plan (in particular the supply side options) would cumulatively require significant quantities of materials for construction, which would contain significant embodied carbon. Additionally, construction of the options in the draft best value plan would generate a large number of vehicle movements to transport materials and equipment to site, alongside the operation of plant and machinery, which would also result in carbon emissions. Whilst in some cases, embodied carbon has been quantified (for example, the overall embodied carbon of the UUs supply and transfer options has been calculated at 181,649 tCO₂e, whilst the embodied carbon associated with the two DCWW options within the SEWCUS zone has been calculated at 1,453tCO₂e), this has not been completed for all options in the component WRMPs and hence there remains some uncertainty as to the overall cumulative effect of the draft best value plan.</p> <p>Operational Effects The operation of a number of options would require energy for the pumping and treatment of water and vehicle movements (for example related to the operation of water treatment facilities), which cumulatively would generate significant operational carbon emissions. For example, the UU supply and transfer options within the draft best value plan would incur a combined total of 31,051tCO₂e per annum. As highlighted above, operational carbon values have not been calculated for all options and hence there remains some uncertainty.</p> <p>Demand management/water efficiency/leakage options included in the draft best value plan are anticipated to lead to a cumulative significant reduction in carbon emissions linked to a reduction in water consumption (with associated reductions in the requirement for pumping and treatment of raw water and treatment of waste water). For example, UU options will result in a combined reduction of 5,962tCO₂e per annum. However, as noted above, there remains</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
10. To adapt and improve resilience to the threats of climate change.	0	--	+++	-	<p>some uncertainty with regard to the reductions achieved by some other options included within the draft best value plan.</p> <p>Construction and Operational Effects Cumulatively the options included in the draft best value plan would increase the capacity by supply of 892MI/d (569MI/d by 2050) and would support water trading, in addition to a demand management reduction of 636MI/d (by 2050), whilst the benefit arising from the Government's introduction of water labelling across each of the water company areas within the draft best value plan would total 278MI/d (by 2050). Overall, this would make a significant contribution towards securing a continual supply of clean drinking water and increase resilience of this supply, thereby increasing resilience and adaptability to the effects of climate change.</p> <p>However, as noted for SEA Objective 7 several options in the draft best value plan are located within Flood Zone 3 which may reduce resilience to climate change, as the construction, and in some cases operation, of new infrastructure would be at risk to flooding.</p>
11. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.	+++	--	+++	0	<p>Construction Effects The construction of the supply side options within the draft best value plan will cumulatively involve significant capital expenditure during the construction phase, whilst the demand management options included in the draft best value plan would also cumulatively involve considerable capital expenditure during the construction/implementation phase. This is considered to have a significant positive effect on the regional economy through job creation and use of local supply chains which could provide the potential for a number of local businesses and SMEs to have sustained involvement and opportunities in construction.</p> <p>However, the construction of the options included within the draft best value plan would also require considerable vehicle movements and in some cases works within or crossing the existing road</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					<p>network, with the potential for delay and disruption and as such there are likely to be some negative effects.</p> <p>Operational Effects In the operational phase the supply side options included within the draft best value plan would cumulatively support the delivery of 892MI/d (569MI/d by 2050) of clean drinking water and would support water trading. Additionally, the demand management options included in the draft best value plan would reduce the amount of water used, with a cumulative saving of 636MI/d (by 2050), whilst the benefit arising from the Government's introduction of water labelling across each of the water company areas within the draft best value plan would total 278MI/d (by 2050). This will, in-turn, support population and economic growth which would also support achievement of a cumulative significant positive effect during operation.</p>
12. To maintain and enhance tourism and recreation.	0	--	0	0	<p>Construction Effects Tourism and recreation can be affected in the construction phase through, for example, temporary closures or diversions to footpaths, public rights of way or by affecting enjoyment of recreation spaces or routes such as cycle paths (from noise or visual intrusion) where these are close to works are taking place. Cumulatively, given the distance between options in the draft best value plan, the plan has been assessed as having moderate negative effects due to the likely impacts of construction. However, these effects are temporary.</p> <p>Operational Effects No cumulative effects were identified from the operational phase of the best value plan.</p>
13. To protect and enhance human health and well-being.	0	-	+++	0	<p>Construction Effects The construction of water resources infrastructure can adversely affect traffic, noise, vibration, air quality and emission. These effects are temporary but can be of scale that is intrusive to specific</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
14. To promote and enhance the sustainable and efficient use of resilient water resources.	0	0	+++	0	<p>locational receptors. However, overall, the impact is not considered to be significant given the distance between options within the draft best value plan.</p> <p>Operational Effects In the operational phase the effects on health primarily relate to the provision of 892MI/d (569MI/d by 2050) of clean drinking water across the region associated with the supply side options included in the draft best value plan and the enabling of the movement of water to the South East, in addition to the cumulative saving of 636MI/d (by 2050) associated with the demand management options contained within the draft best value plan, alongside the 278MI/d (by 2050) benefit arising from the Government's introduction of water labelling.</p> <p>Construction Effects It is not anticipated that there would be any construction effects associated with the options within the draft best value plan on the sustainable and efficient use of resilient water resources and hence the construction effects on this SEA Objective are considered to be neutral.</p> <p>Operational Effects During operation, the options included within the draft best value plan will help to support the resilience of water resources in the region and in the South East.</p> <p>The demand management options included in the draft best value plan will cumulatively support a reduction of 636MI/d (by 2050) in the demand for water across the region, whilst the supply options included in the draft best value plan would support the provision of 892MI/d of deployable output (569MI/d by 2050). Additionally, there would be a 278MI/d (by 2050) benefit arising from the Government's introduction of water labelling across the region. This is considered to have a significant positive effect against this objective.</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					The best value plan also includes a number of environmental destination options. These are designed to provide environmental enhancement by reducing unsustainable abstraction and building resilience through more sustainable water resources options which also contributes to the significant positive effect.
15. To minimise waste, promote resource efficiency and move towards a circular economy.	+/?	---	0	--	<p>Construction Effects The options contained within the draft best value plan (in particular the supply side options) would cumulatively require significant quantities of materials such as concrete, steel and plastic, for construction. Reflecting the requirement for significant construction materials, there is likely to be a significant amount of waste generated (although there is some potential for re-use of materials the presence and extent is uncertain).</p> <p>Operational Effects During operation, some of the options included in the draft best value plan would require materials/resources and would generate wastes; for example related to chemical use, vehicle movements and energy use.</p>
16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	0	---	0	--	<p>Construction Effects The development of water resources infrastructure may result in both direct and indirect (e.g. impacts on setting) adverse effects on the significance of heritage assets including scheduled monuments, listed buildings and registered parks and gardens where they are in close proximity to works. However, on most occasions, for the options included in the draft best value plan, any effects would be temporary (i.e. for the duration of construction) and taking into account the scale of construction activity at each site, effects in most cases are not predicted to be significant.</p> <p>However, three of the STW options (option 6 (Upper Derwent Valley reservoir expansion (UDVRE)), option 95B (Ogston water treatment</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
17. To conserve, protect and enhance landscape and townscape character and visual amenity.	0	---	0	--	<p>works expansion) and 304 (Ambergate to Mid Notts transfer) were assessed as having significant negative effects on SEA Objective 16, as works would directly intersect with heritage assets:</p> <ul style="list-style-type: none"> • Both option 95B and 304 would involve works within Derwent Valley Mills World Heritage Site and additionally, option 304 would involve pipeline works intersecting a scheduled monument (Butterley Gangroad and Fritchley Tunnel). • Option 6 would involve works to Howden Reservoir dam, which is a listed building (and therefore works may diminish the setting of the asset and impede public access) and additionally there is a scheduled monument to the north of the reservoir, which, subject to final water levels may become submerged. It is noted that this monument has been relocated once from Derwent Reservoir, therefore may require relocation again. <p>The draft best value plan is therefore considered to cumulatively have significant negative effects.</p> <p>Operational Effects As these effects are most likely to be experienced in the construction phase, they are considered to be temporary. However, some residual effects may be experienced where above ground infrastructure would be situated in the setting of assets and hence a moderate negative effect has been identified during the operational phase.</p> <p>Construction Effects The construction and operation of a number of options within the draft best value plan would likely have negative effects on landscape/townscape.</p> <p>Some of the preferred programmed of options are within designated landscapes, for example:</p>

SEA Objective	Construction Effects		Operation Effects		Commentary
	Positive	Negative	Positive	Negative	
					<ul style="list-style-type: none"> - Severn Trent Water options 6 (Upper Derwent Valley Reservoir Expansion (UDVRE)) and 305 (Heathy Lea to North Notts transfer), which both require significant construction within the Peak District National Park: Option 6 would involve works to a reservoir dam within the National Park, whilst option 305 would include over 3km of pipeline works within the National Park; both of which are anticipated to be significantly visually intrusive. - Severn Trent Water option 44 (New river Sow abstraction and water treatment works near Stafford), which would be situated within the Cannock Chase Area of Outstanding Natural Beauty (AONB) - Welsh Water option SEW168 (Llwynon gravity) would be situated in the Brecon Beacons National Park, however, would require only relatively small scale construction. <p>However, given the distance between options, no additional cumulative effects are anticipated.</p> <p>Many options are within rural or semi-rural landscapes and will likely have negative effects during construction phase. Where works are in close proximity to residential and recreational receptors, construction activity associated with the options within the draft best value plan may have short term effects on visual amenity.</p> <p>Operational Effects Where above ground infrastructure forms part of the operational phase there are also likely to be negative effects sustained and hence a moderate negative effect has been identified during operation.</p>

5.4 Reasonable Alternatives Including Adaptive Plan Pathways

- 5.4.1 The reasonable alternative for WRW draft Regional Plan reflects the reasonable alternative identified at the plan level for the U UW draft WRMP24.
- 5.4.2 To provide additional resilience, and ensure alignment with the NWT SRO Full Solution, U UW has developed a reasonable alternative, which includes the seven preferred options plus an additional two (WR102b - GWE_WIDNES and WR107b -GWE_RANGLES BRIDGE), to make the nine selected. This is detailed in the U UW draft WRMP24 SEA Environmental Report (section 6.4).
- 5.4.3 The two additional alternative options have been assessed as part of reasonable alternative to the WRW draft best value plan. A summary of the assessment of these options is provided in **Table 5.2** below, followed by commentary on the likely significant effects.

Table 5.2 Summary of Reasonable Alternative Option Assessments

Option	Stage	1. Biodiversity	2. Sustainable Natural Resources	3. INNS	4. Soils, Geodiversity and Land Use	5. Water Quantity	6. Water Quality	7. Flood Risk	8. Air Quality	9. Greenhouse Gas Emissions	10. Climate Resilience	11. Economy	12. Tourism and Recreation	13. Human Health and Well-being	14. Water Resource Use	15. Waste and Resource Use	16. Cultural Heritage	17. Landscape
WR102b	Construction (negative)	-	--	0	-	0	0	--	---	---	-	-	-	--	0	---	0	-
	Construction (positive)	0	0	0	+	0	0	0	0	0	0	+++	0	0	0	+/?	0	0
	Operation (negative)	-/?	0	0	0	--	--	-	0	---	0	0	0	0	0	--	0	-
	Operation (positive)	0	++	0	0	0	0	0	0	0	++	++	0	++	++	0	0	0
WR107b	Construction (negative)	-	-	0	-	0	0	--	--	---	-	--	-	-	0	---	0	-
	Construction (positive)	0	0	0	0	0	0	0	0	0	0	+++	0	0	0	+/?	0	0
	Operation (negative)	-/?	0	0	0	--/?	--/?	-	--	--	0	0	0	-	0	--	0	0
	Operation (positive)	0	+	0	0	0	0	0	0	0	++	++	0	++	++	0	0	0

Overview of Reasonable Alternative Plan Effects

5.4.4 The addition of two further supply options to the preferred supply portfolio by U UW, would increase the yield from the supply options by a total of 29MI/d from 892MI/d (569MI/d by 2050) from the draft best value plan. When considering the range and significance of cumulative effects identified against the 17 SEA objectives, the inclusion of the aforementioned supply options does not materially affect the range of likely significant effects identified, although it is noted that in terms of the quantum of positive and negative effects, the quantified effects will increase, as follows:

- **SEA Objective 9.** In total, the construction of the reasonable alternative plan supply side options would require materials with a significant quantity of embodied carbon. Construction would also generate a substantial volume of vehicle movements which, together with the operation of plant and machinery, will additionally contribute to carbon emissions. In the operational phase, the plan would generate significant quantities of carbon (for example an estimated increase of 5,746 tCO₂e per annum from the two additional U UW options).
- **SEA Objectives 10, 11, 13 and 14.** In the operational phase, the reasonable alternative plan would support the delivery of an additional 29MI/d (in addition to 892MI/d (569MI/d by 2050)) of clean drinking water which would improve resilience and adaptability to the effects of climate change, support population and economic growth, contribute towards maintaining health and aid sustainable water resource provision.
- **SEA Objective 15.** In total, the reasonable alternative plan supply side options would have cumulative material resource requirements for construction estimated. The two additional U UW alternative plan options were estimated to require an additional 143,423 tonnes of concrete, 2,355 tonnes of steel and 34 tonnes of plastic when compared to the preferred plan. Such quantities would be likely to be associated with a significant amount of waste generated.

5.5 Secondary, Cumulative and Synergistic Effects Assessment

5.5.1 The cumulative effects of the WRW draft Regional Plan with other regional plans has been considered, notably Water Resources South East (WRSE), Water Resources East (WRE) and Water Resources North (WReN).

5.5.2 The cumulative effects related to these plans (and the associated component preferred options) are less likely to be of an immediate proximity nature, but instead relate to potential inter-relationships along a river, within a groundwater body, in an estuarine / marine environment. The effects are more likely to emerge from the combined operation of options, as abstractions and discharges from proposed new supply options between one, or more, plans. The most prominent risks link to cumulative compliance with the requirements of the HRA and WFD assessment processes – the risk of in-combination likely significant effects to European sites (HRA) of in-combination deterioration of water body status. Beyond this, potential cumulative environmental risks relate to other designated and protected habitats – including rivers, estuaries, wetlands and or water dependent protected sites.

5.5.3 WRSE has included in their reconciliation baseline scenario, the STT to access water at high flows in the lower Severn, although it is uncertain whether the SEA of the WRSE draft Regional Plan includes the assessment of effects associated with the transfer.

- Within the WRW draft Regional Plan area, additional water sources will supplement flows in the River Severn for use in the South East. These include: releases from Vyrnwy Reservoir into the River Severn via the River Vyrnwy and a pipeline; diversion of treated water from Oswestry WTW (allowing a reduction in current abstractions on the River Severn); a reduction in licensed abstraction at Mythe; and the transfer of treated wastewater from Minworth and Netheridge WWTWs (the Mythe, Minworth and Netheridge components are separate but related SROs). Should releases coincide with other regulation releases from Vyrnwy Reservoir (e.g. Severn Regulation), the HRA notes that there could be flow effects in the 24km reach of the River Vyrnwy to the River Banwy confluence and further downstream in the River Vyrnwy which could have effects on Severn Estuary SAC and Ramsar. Given the complexity of the flow regime, use of the hydrological model developed for the STT SRO has been identified as beneficial to understand the potential for adverse effects. In this context, further assessment will be completed between the draft and final Regional Plan.
- 5.5.4 There is the potential for cumulative effects on the Humber Estuary suite of European sites as a result of the operation of options contained in the WRW, WRE and WReN draft Regional Plans which may affect pass-forward flows into the Estuary. A reduction in freshwater flows could potentially affect qualifying interest features for which the Humber Estuary is designated.
- 5.5.5 It is understood that the HRA of the WRE draft Regional Plan cannot rule out the risk of likely significant effects of individual supply options on the Humber Estuary sites alone and in combination with one another. The options with the potential to result in effects on the Humber Estuary include South Lincolnshire Reservoir (which is also a SRO) and New Hall Reservoir.
- 5.5.6 The River Trent is hydrologically connected to the Humber Estuary. Several options included in WRW's draft best value plan would reduce flows in the River Trent and hence the Humber Estuary. These include STW options: Homesford water treatment works capacity increase (Option 29); Little Eaton WTW deployable output recovery (Option 426) and New river Sow abstraction and WTW near Stafford (Option 44). Reductions in flows associated with these options are not considered likely to adversely affect the interest features of Humber Estuary SAC.
- 5.5.7 The WReN draft Regional Plan, meanwhile, includes a licence transfer on the River Ouse that would result in a flow reduction. It is understood that this flow reduction would be negligible; however, pass-forward flows into the Humber Estuary may be affected and hence could give rise to effects in combination with the WRW and WRE draft Regional Plans. It is also understood that a tidal abstraction reservoir option may be included in the WReN Regional Plan (as part of an enhanced environmental destination pathway) as well as an alternative desalination scheme which may require further consideration.
- 5.5.8 Further assessment of in combination effects on the Humber Estuary suite of sites will therefore be required between draft and final Regional Plan submission and, reflected in the final WRW Regional Plan assessments.

Strategic Resource Options

- 5.5.9 There are six SROs being taken forward by the water companies in the WRW region (STT, GUC transfer, Minworth Effluent Reuse, STS, Derwent Valley and NWT). These SROs are included in the Draft Regional Plan and, in consequence, cumulative effects with the Regional Plan have already been taken into account, although further assessment of the SROs is required.
- 5.5.10 There is the potential for the Draft Regional Plan options and the South Lincolnshire Reservoir SRO to result in combination effects on the Humber Estuary suite of European

sites. Similarly, there is also the potential for in combination effects on the Humber associated with the operation of the Anglian to Affinity Transfer SRO, and specifically the 'River Trent Option'; the River Trent Option will require a new abstraction of 100MI/d of raw water from the River Trent that will reduce flows entering the Humber Estuary.

- 5.5.11 The SROs are subject to ongoing development and environmental assessment including informal HRA, WFD assessment, INNS risk assessment and Initial Environmental Assessment prior to RAPID Gate 2 submission in October 2022. In consequence, there is not sufficient information available at this stage to assess fully the potential in combination effects with the Draft Regional Plan. However, it is anticipated that this information will be available post-Gate 2 submission for inclusion in any refinement to this assessment.

Other Water Company Plans - Drought Plans

- 5.5.12 The requirements of current member water company drought plans are accounted for within each component draft WRMP24 (and hence the WRW draft Regional Plan) calculations and so no additional cumulative effects have been identified between the Regional Plan and drought plans.

Other Water Company Plans - Drainage and Wastewater Management Plans

- 5.5.13 Drainage and wastewater management plan (DWMP) set out how water companies intend to extend, improve and maintain a robust and resilient drainage and wastewater system. It will take a long-term view, setting out a planning period that is appropriate to the risks, covering a period of at least 2025 to 2050. It includes options to address risks associated with:
- Combined and Foul Sewer Systems;
 - Customer Side Management;
 - Indirect Measures;
 - Sludge Management;
 - Surface Water Management; and
 - Wastewater Treatment.
- 5.5.14 For the first cycle of DWMPs, work on options is likely to involve minor and/or unexceptional construction works, and construction effects can clearly be avoided with normal best-practice measures. Implementation of the WRW draft Regional Plan options must be consistent with DWMP objectives and these include meeting all permitting requirements (now, or in the future) and protecting, restoring or improving the environment by reducing spills from storm overflows and delivering WINEP-driven schemes. Operational effects on water quality would therefore be neutral or positive both collectively and for individual schemes. Other operational effects are conceivable (for example, new pumping stations may introduce noise and vibration effects), but these will be scheme-specific, not systematically driven by the options in the DWMP, and avoidable with best-practice design measures.

Other Water Company Project - Haweswater Aqueduct Resilience Programme

- 5.5.15 The Haweswater Aqueduct Resilience Programme (HARP), promoted by UUW, involves major upgrade and replacement works across six sections of the 110km Haweswater Aqueduct through Cumbria, Lancashire and Greater Manchester in order to maintain water supply and quality. The draft Regional Plan options are not in the general geographic area of the HARP; the exception is Option WR015 (New surface water (River Irwell)) which is circa six miles to the south of the Woodgate Hill development site. Woodgate Hill is part of the Haslingden and Walmersley section of the HARP and stretches from Bolton Avenue in Hyndburn, through Rossendale and ends at Woodgate Hill, Bury. It is the subject of a planning application submitted by UUW to Hyndburn Borough Council in April 2021⁵⁶.
- 5.5.16 It is currently anticipated that the HARP will be completed by 2029, prior to construction of Option WR015. In consequence, no cumulative effects are predicted.

Local Plans and Strategies

- 5.5.17 Population change in the WRW region has already been considered in preparation of the WRW draft Regional Plan, along with the potential for further changes in demographics throughout the plan period. These forecasts have been based upon population projections published by the Office for National Statistics (ONS) and engagement with local and unitary authorities regarding their local plans to determine how many household properties are likely to be built in the region over the planning horizon. The forecasts have also taken into account potential economic growth.
- 5.5.18 The draft Regional Plan component water company WRMPs explicitly account for growth forecasts when calculating future water demand (and hence areas with potential deficits). This means that in combination water-resource effects with growth promoted by other plans or projects have been considered and accounted for during the plan development process and its deficit calculations.
- 5.5.19 Potential cumulative effects in respect of water-resource demands due to other plans or projects are therefore unlikely since these demands are explicitly modelled when determining deficit zones and hence developing options to address forecast deficits. As a result (in respect of water resources), the draft Regional Plan is not likely to make non-significant effects in other plans significant (indeed, other plans are arguably the 'source' of any potential effects in respect of water demand, with the Regional Plan and component WRMPs having to manage potential effects that are not generated by the plans themselves).
- 5.5.20 It is therefore considered that the draft Regional Plan will not have significant in combination effects with local plans in respect of water resources.
- 5.5.21 Regional and local land use plans have also been reviewed at a high level to determine whether there are any likely significant cumulative effects, with allocation sites identified where possible. This review has not indicated any potential or likely effects that could occur as a result of cumulative development pressure, and in reality the timescales involved in the implementation of the draft Regional Plan and the absence of detail on allocation proposals makes any assessment difficult, potentially incomplete and premature. Notwithstanding this, the construction works required for the options are temporary and not of a scale or type that would make in combination effects likely.

⁵⁶ Planning application reference 11/21/0237.

National Policy Statements

5.5.22 The Planning Act 2008 introduced a procedure to streamline the decision-making process for NSIPs. Under the Act, a developer wishing to construct a NSIP must first apply to the Secretary of State for development consent. NPSs establish the need for specific types of infrastructure and provide planning guidance for promoters of NSIPs, and the basis for the examination by the Examining Authority and decisions by the Secretary of State on development consent order (DCO) applications. A number of NPSs have been published which set out the definition, and in some cases the location, of NSIPs. The current status of NPSs is summarised in **Table 5.3**.

Table 5.3 Current Status of National Policy Statements

National Policy Statement (NPS)	Status	Are Potential Locations of NSIPs included in the NPS?
Overarching Energy EN-1 ⁵⁷	Designated July 2011	No
Fossil Fuel Electricity Generating Infrastructure EN-2	Designated July 2011	No
Renewable Energy Infrastructure EN-3	Designated July 2011	No
Gas Supply Infrastructure and Oil and Gas Pipelines EN-4	Designated July 2011	No
Electricity Networks Infrastructure EN-5	Designated July 2011	No
Nuclear Power Generation EN-6	Designated July 2011	Yes
Ports	Designated January 2012	No
Waste Water Infrastructure	Designated March 2012	Yes
Hazardous Waste Infrastructure	Designated June 2013	No
National Networks	Designated January 2015	No
Airports NPS: new runway capacity and infrastructure at airports in the South East of England	Designated June 2018	Yes
Water Resources Infrastructure	Draft published November 2018	No
Geological Disposal Infrastructure	Designated July 2019	No

5.5.23 The Regional Plan is not expected to have any adverse cumulative effects in combination with the NPSs listed above. This is because the NPSs are either not site specific or because specific NSIP proposals are unlikely to affect, or be affected by, the draft Regional Plan options as they are not located within the same geographic area.

Nationally Significant Infrastructure Projects

5.5.24 There are a number of NSIPs within the WRW region that are not detailed in NPSs but are listed on the Planning Inspectorate website⁵⁸. At the time of writing, seventeen additional projects in the WRW region were at various stages of the DCO process.

⁵⁷ A revised draft National Policy Statement for Energy (and for EN2 to EN5) was published by the Government for consultation in September 2021.

⁵⁸ See <https://infrastructure.planninginspectorate.gov.uk/> [Accessed October 2022].

- 5.5.25 The potential for these projects to interact with specific draft Regional Plan options to has been assessed in the component draft WRMP24 SEAs.
- 5.5.26 Most of the proposed NSIP schemes would not be in close proximity to any of the preferred options such that no significant cumulative effects are anticipated at this stage. Exceptions have been identified for the U UW draft WRMP24 and STW draft WRMP24:
- The Whitemoss Landfill Western Extension would sit within approximately 4.75km to the east of U UW options WR107a2 and WR107b; however, impacts on water resources will have been considered during the examination into the project and no additional cumulative effects are considered likely. Nevertheless, the water demands of all of these projects should be considered in their applications for development consent and if significant demand is forecast, this should be considered by U UW during monitoring of the WRMP and in the five-year review.
 - The Oaklands Farm Solar Project is within a similar area to STW Option 6 (UDVRE). The solar farm would be directly east of the proposed storage reservoirs. As such, there may be elements of the construction programme which could overlap. However, given the solar farm's greater distance from the River Trent, it is considered that standard Construction Environmental Management Plans (CEMP) measures will adequately mitigate adverse effects.
- 5.5.27 It is also noted that the HRA of the U UW draft WRMP24 has identified a potential operational interaction with the Keuper Gas Storage Project, as this will discharge brine to the Manchester Ship Canal and hence the Mersey Estuary at Runcorn. In theory, the options that comprise the Regional Plan may marginally reduce flows in the Ship Canal which may affect brine dilution; however, the HRA concludes that reduction (and the corresponding effects on salinity) will be negligible such that adverse in combination effects will not therefore occur with this project.

High Speed 2

- 5.5.28 High Speed 2 (HS2) is a planned high-speed railway line between London and the major cities in the north of England. The Western Leg route is in the broad geographic area of the preferred programme of U UW's draft WRMP24 options with several being within/in proximity to the route corridor including Option A, WR076, WR111 and WR149. In particular, a section of the proposed pipeline, new abstraction and WTW associated with Option WR076 is within the corridor of the proposed Phase 2b route.
- 5.5.29 Phase 2b construction is expected to commence in 2025 with operation starting in 2038. In consequence, there is the potential for cumulative environmental effects in-combination with the construction of the U UW preferred options. Construction traffic associated with both the U UW draft WRMP24 preferred programme of options and Phase 2b may additionally result in cumulative effects on the strategic and local road network (depending on the routing of traffic). However, in-combination effects are considered unlikely to be of a magnitude that is substantially greater than the effects associated with each preferred option/HS2 Phase 2b alone.
- 5.5.30 Given the nature of the U UW draft WRMP24 preferred programme of options and HS2, it is considered unlikely that there would be significant cumulative operational effects, particularly as the operation of Phase 2b will not involve the abstraction of water. This is a preliminary conclusion based on current, publicly available information and will require further assessment at the project stage.
- 5.5.31 The U UW draft WRMP24 HRA highlights that HS2 involves construction close to the western boundary of Holcroft Moss Sites of Special Scientific Interest (SSSI) and has been subject to an appropriate assessment, which concluded that construction and

operation of the railway would not adversely affect this SSSI, hence the Manchester Mosses SAC (with the addition of mitigation measures to safeguard water levels in the superficial underlying strata); the scheme would not affect levels in the sandstone aquifer. In combination effects are therefore unlikely (particularly as Holcroft Moss SSSI is ~4km from the Croft boreholes), although this would be addressed with data from the regional model.

5.5.32 No other potential cumulative effects have been identified.

5.6 Contribution of the Draft Regional Plan to Wales' Well-being Goals and the Objective for SMNR

5.6.1 As set out in **Section 1.10**, the *Well-being of Future Generations (Wales) Act 2015* places a duty on public bodies including Welsh Water to carry out sustainable development, aimed at achieving the seven well-being goals for Wales. The well-being goals established by the Act are as follows:

- A prosperous Wales;
- A resilient Wales;
- A healthier Wales;
- A more equal Wales;
- A Wales of cohesive communities;
- A Wales of vibrant culture and thriving Welsh language; and
- A globally responsible Wales.

5.6.2 The Environment (Wales) Act 2016, meanwhile, has established an objective for the sustainable management of natural resources (SMNR) “to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing—

(a) meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and

(b) contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015”.

5.6.3 The Water Resources Planning Guideline (WRPG)⁵⁹ sets out that water companies “*should consider how your plan could contribute to the Well-being of Future Generations (Wales) Act 2015, if you supply customers in Wales or your plan affects sites in Wales*”. Whilst the preferred options in the draft best value plan do not affect Wales, they could enable water from the Vyrnwy Reservoir to be transferred to other regions where demand has been identified, and so taking a strategic perspective do contain proposals that could affect Wales, and in consequence, on a precautionary basis, the effects of the draft best value plan have been considered for their contribution to the well-being goals, although the caveats with this, should be noted.

5.6.4 The well-being goals goal (and by extension, the SMNR objective) have been mapped to the SEA objectives that comprise the SEA assessment framework (see **Table 5.4**). Through the assessment of the draft best value plan measures against the SEA objectives, it is therefore possible to assess the contribution that the implementation of the Plan would make to the achievement of the goals and the SMNR objective.

⁵⁹ EA, OfWAT and NRW (2022) *Water Resources Planning Guideline*, 5th bullet point after heading ‘Wales’ in paragraph 4.1.1.

5.6.5 A matrix has been used to record this assessment and is presented in **Table 5.4** below. Informed by the assessment of the measures against the SEA objectives, as well as the cumulative effects of the draft best value plan (as summarised in the preceding section), a judgement has been made regarding whether, and the extent to which, the draft best value plan would support or detract from the achievement of each well-being goal in-turn with commentary provided to justify the conclusions reached.

Table 5.4 Assessment of the Contribution of the draft Regional Plan to the Well-being Goals for Wales

Well-being Goals	Related SEA Objective	Contribution to the Well-being Goal	Commentary
<p>A prosperous Wales: An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.</p>	SEA Objectives 9, 10, 11, 14, 15	↕	<p>The assessment of the draft best value plan has identified that, where options involve the construction of new infrastructure, the associated capital expenditure may generate benefits in respect of the supply chain and local employment creation. At the individual scheme level such benefits are likely to vary, depending on the size, scale and duration of the proposed intervention, and have collectively been assessed as supporting the achievement of the well-being goal. The operation of the options in the draft best value plan will increase the sustainability and resilience of the supply network will in-turn will support economic and population growth and improve resilience to the effects of climate change.</p> <p>The assessment of the options within the draft best value plan against the SEA objectives has also, however, highlighted the potential for direct and indirect adverse environmental effects which has been assessed as not supporting the achievement of this well-being goal. These effects would be most significant during the construction of the schemes involving significant infrastructure and the extensive metering which would include resource use and embodied carbon. A number of the supply side options within the draft best value plan would also require operational energy and generate carbon emissions, which collectively is expected to be significant, however, demand management options within the draft best value plan would result in a reduction in operational carbon associated with reduction of energy used.</p>
<p>A resilient Wales: A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social,</p>	SEA Objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	↕	<p>Overall, the draft best value plan will contribute to increasing resilience and adaptability to the effects of climate change by increasing the capacity of sustainable supply of 892MI/d (569MI/d by 2050) and providing demand management reduction of approximately 636MI/d across the region (by 2050), whilst there would also be a 278MI/d benefit arising from the Government’s implementation of water labelling across the region (by 2050). The BNG assessment of the component WRMPs identifies that</p>

Well-being Goals	Related SEA Objective	Contribution to the Well-being Goal	Commentary
<p>economic and ecological resilience and the capacity to adapt to change (for example climate change).</p>			<p>there would be a loss of habitat during the construction of the preferred programme of supply side options. However, as a result of the net gain commitment, there would be an overall net gain in biodiversity for the preferred programme.</p> <p>The assessment of the draft best value plan against the SEA objectives has identified the potential for direct and indirect adverse environmental effects which has been assessed as not supporting the achievement of this well-being goal. These effects would be particularly felt during construction, where there could be effects on (inter alia) biodiversity, soils, water and landscape which contribute to the resilience ecosystems. However, these effects would be largely temporary, and it is likely that adverse impacts would be mitigated where possible at the project level.</p>
<p>A healthier Wales: A society in which people’s physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.</p>	SEA Objectives 11 and 13		<p>The operational phase of the draft best value plan will contribute positively to the effects on health from the provision of 892MI/d (569MI/d by 2050) of clean drinking water across the region. This is considered to support the achievement of the well-being goal.</p> <p>Emissions to air, alongside noise and vibration disturbance, during construction of the hard engineering elements of proposed options (where applicable) may have minor or moderate adverse effects on human health which has been assessed as not supporting the achievement of this well-being goal. However, any adverse impacts in this regard would be temporary and localised and, further, are likely to be managed through the implementation of best practice construction methods.</p>
<p>A more equal Wales: A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic background and circumstances).</p>	SEA Objectives 11 and 13		<p>As noted above, the draft best value plan will contribute towards increasing the sustainability and resilience of the water supply network across the region. This has been assessed as supporting the achievement of the well-being goal.</p> <p>The assessment of the draft best value plan has identified that, where measures involve the construction of new infrastructure, the associated capital expenditure may generate benefits in respect of the supply chain and local employment creation. At the individual option level such benefits are likely to vary, depending on the size, scale and duration of the proposed intervention; however, cumulatively they have been assessed as supporting the achievement of this well-being goal.</p>

Well-being Goals	Related SEA Objective	Contribution to the Well-being Goal	Commentary
<p>A Wales of cohesive communities: Attractive, viable, safe and well-connected communities.</p>	<p>SEA Objectives 11 and 13</p>		<p>The draft best value plan will contribute towards increasing the sustainability and resilience of the water supply network across the region. This has been assessed as supporting the achievement of the well-being goal.</p> <p>Emissions to air, alongside noise and vibration disturbance, during construction of the supply-side measures (where applicable) and during the roll out of demand side measures may have minor or moderate adverse effects on host communities, which has been assessed as not supporting the achievement of this well-being goal. However, any adverse impacts in this regard would be temporary and localised. For the supply side measures the effects are also likely to be managed through the implementation of best practice construction methods.</p> <p>The assessment of the draft best value plan measures against the SEA objectives has also highlighted the potential for direct and indirect adverse environmental effects including in respect of cultural heritage and landscape which could affect the attractiveness of communities. However, any effects in this regard would be temporary and localised.</p>
<p>A Wales of vibrant culture and thriving Welsh language: A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.</p>	<p>SEA Objective 11 and 13</p>		<p>The draft best value plan will contribute towards increasing the sustainability and resilience of the water supply network across the region. This has been assessed as supporting economic and social well-being will provide foundations for the protection and enhancement of this well-being goal.</p> <p>The SEA of the draft best value plan reflects guidance that includes Planning Policy Wales and the Technical Advice Note 24: the historic environment. Scheme development and assessment has taken into account new infrastructure locations, and the proximity and effects on World Heritage Sites, Scheduled Monuments and Listed Buildings.</p> <p>Significant effects are anticipated for a small number of options across the region and more generally, the development of water resources infrastructure may result in indirect (e.g. impacts on setting) adverse effects where they are in close proximity to works. However, any effects would be temporary (i.e. for the duration of construction). Where appropriate, mitigation of any likely effects on the significance of a historic asset and its setting, consistent with the guidance has been considered.</p>

Well-being Goals	Related SEA Objective	Contribution to the Well-being Goal	Commentary
<p>A globally responsible Wales: A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.</p>	SEA Objectives 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16 and 17	↔	<p>Taking into account the nature and scale of the draft best value plan, and that effects associated with its construction and operation would be predominantly felt at a local/sub-regional/regional level, it is not expected that the draft best value plan would make a contribution to this well-being goal.</p> <p>It is recognised that the construction and operation of the measures would result in resource use and greenhouse gas emissions; however, in the context of national and global emissions, any impact in this regard would be negligible.</p>

Key

Symbol	Effect
↑	The Draft Regional Plan supports the achievement of the well-being goal.
↔	The Draft Regional Plan will not make a contribution to the achievement of the well-being goal.
↓	The Draft Regional Plan does not support the achievement of the well-being goal.
↕	The Draft Regional Plan has a mixed contribution to the achievement of the well-being goal.

5.6.6 **Table 5.4** demonstrates that the WRW draft Regional Plan is likely to support the achievement of the majority of the well-being goals for Wales, although it is noted that in regional terms much of the activities and effects occur outside Wales. However, the implementation of the WRW draft Regional Plan will seek to ensure sustainable and resilient water resource supplies can be provided to support economic and population growth, reduce adverse environmental effects, and improve resilience to the effects of climate change, making a long-term contribution to the well-being goals for Wales and the objective for SMNR.

5.7 Mitigation and Enhancement

5.7.1 The potential effects of the WRW draft Regional Plan are described in the sections above. In some cases, there is an opportunity to reduce some of the potential negative effects identified, subject to further investigation. The detail of this mitigation needs to be considered during the planning phases of each of the component draft WRMP24s and reflected in the development of the preferred options if and when they are taken forward for implementation. This is detailed in the component draft WRMP24 SEA Environmental Reports and is not duplicated here. Further work, also linked to the progress of SROs is identified, including for example:

- the development of groundwater models for the Lower Mersey and North Merseyside and Manchester and East Cheshire;
- hydrological modelling to fully assess the impacts on the Peak District SAC, whereby refinement of the operating pattern may be required;
- further investigation in respect of the effects of draft Regional Plan 'in combination' with the WRE and WReN Regional Plans and South Lincolnshire Reservoir and Anglian to Affinity Transfer SROs on the Humber Estuary suite of European sites;
- hydrological modelling to assess the effects on the Severn SAC and Ramsar.

6. Next Steps

6.1 Consultation on this Environmental Report

- 6.1.1 This Environmental Report is being issued for consultation. We would welcome views on any aspect of this report.
- 6.1.2 Please provide your comments by the 22nd February 2023.
- 6.1.3 Please e-mail your responses to waterresourceswest@outlook.com.

6.2 Next Steps

- 6.2.1 WRW's draft Regional Plan and accompanying documents including this Environmental Report have been published for consultation. Following consultation, any feedback received on the regional plan consultation will be shared with water companies so they can take it into account in revising their WRMPs following the WRMP consultation. Similarly, WRW will take into account views shared with water companies through their draft WRMP consultation and any subsequent changes to public water supply needs or options. The revised draft Regional Plan will be sent to the Government, and if changes are likely to be significant, is likely to be subject to further assessment and consultation. Following direction from the Government, the final WRW Regional Plan will be published and implemented accordingly (anticipated Autumn 2023). In conjunction with publishing the final plan, a Post Adoption Statement will also be issued (to meet the requirements of SEA regulation 16 (4)). This will set out the results of the consultation and SEA processes and the extent to which the findings of the SEA have been accommodated in the final plan.

6.3 How Environmental Effects will be Considered During Plan Implementation

- 6.3.1 Once the final Regional Plan has been published, the selected schemes for water resource management will need to be implemented through specific projects. As part of this process, each project may be subject to further assessment to understand and manage its potential environmental and social impacts. These assessments, which may include HRA and EIA, will take account of the issues discussed in this report but will also be informed by the greater detail available as the work progresses about construction techniques, building materials, and agreed locations and routes.

6.4 Monitoring the Effects of the Regional Plan

- 6.4.1 If the WRW draft Regional Plan is implemented and specific options deployed, its effects on the environment and people will need to be taken into account. In this regard, it is a requirement of the SEA Regulations to establish how the significant effects of the WRW Regional Plan will be monitored. Monitoring can help to answer questions such as:
 - Were the SEA predictions of effects accurate?
 - Are mitigation measures performing as well as expected?

- Are there any adverse effects? Are these within acceptable limits, or is remedial action desirable?
- 6.4.2 It is not necessary to monitor everything or monitor an effect indefinitely. Instead monitoring should be focussed on:
- significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused; and
 - significant effects where there was uncertainty in the SEA and where monitoring would enable preventative or mitigation measures to be undertaken.
- 6.4.3 The WRW core member companies will monitor the effects of the component WRMP24s that make up the WRW Regional Plan (alongside the other impacts of their operations). As such, they are likely to rely on existing sources of information that they already collect or information that is already collected by other relevant organisations such as Natural Resources Wales, the Environment Agency or Natural England. For example, each water company already collects certain data for an annual review process (the Annual Performance Report) that is submitted to the Office of Water Services (Ofwat) and their own environmental reporting.
- 6.4.4 **Table 6.1** indicates some of the issues currently monitored or which could be monitored in future, and how they relate to the SEA objectives used in this SEA of the draft Regional Plan. This list is provisional and indicative only; monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Regulation will be presented in the Post Adoption Statement.

Table 6.1 Potential Indicators for Monitoring Effects

SEA Objective	Indicator	Source of Information	Commentary
1. To protect and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	Condition of specific protected sites (e.g. SACs, SPAs, SSSIs)	United Utilities (UU), Dwr Cymru Welsh Water (DCWW), South Staffs Water (SSW), Severn Trent Water (STW), Environment Agency, Natural England (NE), Natural Resources Wales (NRW)	Additionally, open communication between NRW/EA and water companies results in up-to-date information and identification of any potential issues.

SEA Objective	Indicator	Source of Information	Commentary
2. To protect and enhance sustainable natural resources and the ecosystem services they provide.	Biological monitoring (macroinvertebrates, macrophytes, fisheries, bird surveys)	UU, DCWW, SSW, STW, EA, NRW, Angling clubs, British Trust for Ornithology (BTO)	Using data sets and comparing them against other monitored information such as levels and flows will assist in identifying whether there are any adverse effects and if mitigation measures are performing as well as expected.
	Number and area of new or restored habitats	UU, DCWW, SSW and STW	Water companies could consider recording the number of locations and area of habitats created or restored.
3. To avoid and, where required, manage invasive and non-native species (INNS).	INNS presence	UU, DCWW, SSW, STW, NBN Atlas and the EA's Ecology & Fish Data Explorer website	
4. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.	Area of previously undeveloped land used during construction	UU, DCWW, SSW and STW	Water companies could record the area of previously undeveloped land that is built on as a result of the WRMP24 scheme, linked to biodiversity net gain/resilience assessment completed.
	Condition of sites designated for geological interest (e.g. geological SSSIs) on water industry land holdings	UU, DCWW, SSW, STW, NE, NRW	Previous studies may also be used to inform monitoring and assessment.
5. To protect and enhance surface and ground water levels and flows.	River flows, river levels, lake and reservoir levels. Groundwater levels, recharge characteristics and abstracted groundwater quality	UU, DCWW, SSW, STW, EA, NRW	Previous studies may also be used to inform monitoring and assessment.
6. To protect and enhance the quality of surface and groundwater resources.	Water quality of surface and ground water.	UU, DCWW, SSW, STW, EA, NRW	Previous studies may also be used to inform monitoring and assessment.

SEA Objective	Indicator	Source of Information	Commentary
7. To reduce or manage flood risk.	Number of properties that experience internal flooding from public sewers	UU, DCWW, SSW, STW, EA, NRW	Water companies report these data to Ofwat as part of the statutory returns process.
8. To minimise emissions of pollutant gases and particulates and enhance air quality.	Number of vehicle movements/distance travelled	UU, DCWW, SSW, STW	Water companies could consider recording the number of vehicle movements and distance travelled as an indicator of air quality impacts during implementation.
9. To reduce greenhouse gas emissions.	Quantity of greenhouse gas emissions per megalitre of water supplied.	UU, DCWW, SSW, STW	Water company energy managers can use company data, and guidance from the UKWIR greenhouse gas workbook and BEIS (Department for Business, Energy & Industrial Strategy) conversion factors to derive this information. Potential to supplement with any monitoring information gathered in support of water companies' individual net zero commitments.
	Energy use used in the operation of options.	UU, DCWW, SSW, STW	Water companies should hold and record energy consumption data e.g. via accounts / invoices.
	Renewable energy generated or purchased.	UU, DCWW, SSW, STW	Water companies should record renewable energy generation data, in addition to data on renewable energy purchased e.g. via accounts / invoices.
10. To adapt and improve resilience to the threats of climate change.	Number of properties that experience internal flooding from public sewers	UU, DCWW, SSW, STW, EA, NRW	Water companies report these data to Ofwat as part of the statutory returns process. Potential to supplement with any monitoring information gathered in support of water companies' individual net zero commitments.
11. To promote a sustainable economy and maintain and enhance the economic and social	Number of DCWW sites with public access which provide sporting, recreational and leisure resources	UU, DCWW, SSW, STW	Water companies hold information on the number of annual visitors to sites where specific visitor facilities are provided. These could be

SEA Objective	Indicator	Source of Information	Commentary
well-being of local communities.	and number of visits per year.		analysed to determine effects of operation on visitor use.
	Planned residential new development (informing predicted growth forecast to target catchments requiring investigations for potential future capacity constraints).	UU, DCWW, SSW, STW	Water companies examine information on planned growth and forecasts across LPA within the area.
12. To maintain and enhance tourism and recreation.	Number of DCWW sites with public access which provide sporting, recreational and leisure resources and number of visits per year.	UU, DCWW, SSW, STW	Water companies hold information on the number of annual visitors to sites where specific visitor facilities are provided. These could be analysed to determine effects of operation on visitor use.
13. To protect and enhance human health and well-being.	Compliance with drinking water standards at customers' taps (%).	UU, DCWW, SSW, STW	Water companies reports these data as part of the statutory returns process (Annual Performance Report).
	Compliance with water quality standards under the EC Bathing Waters Directive.	NRW, EA	NRW and the EA monitor the compliance of bathing waters and report this annually.
	Number of nuisance-related complaints e.g. noise, dust.	UU, DCWW, SSW, STW	Water companies could record the number of nuisance-related complaints made in relation to implementation of the WRMPs.
	Pollution and flooding Incidents	UU, DCWW, SSW, STW, NRW, EA	Water companies measure the number of pollution incidents per year and keep a record of all flooding incidents per year and maintain a list of intermittent discharges.

SEA Objective	Indicator	Source of Information	Commentary
14. To promote and enhance the sustainable and efficient use of resilient water resources.	Leakage Water saved through demand management/ water efficiency measures	UU, DCWW, SSW, STW	Water companies report these data to Ofwat as part of the annual returns process.
15. To minimise waste, promote resource efficiency and move towards a circular economy.	Amount of recycled / reused materials used	UU, DCWW, SSW, STW (contractors/consultants)	Information on the use of recycled / reused materials should be held by construction managers and accounts (contractors / consultants accounts, waste or procurement records).
	Proportion of waste sent to landfill	UU, DCWW, SSW, STW (services data)	Information on waste disposal to landfill should be held by water companies.
	Chemical use in water treatment	UU, DCWW, SSW, STW (services data)	Information (quantities, composition) on chemical use should be held in accounts.
16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	Loss / damage or discovery / protection of cultural, historic and industrial heritage features.	UU, DCWW, SSW, STW, Historic England, Cadw	Cadw and Historic England monitor the condition of all statutorily protected monuments.
17. To conserve, protect and enhance landscape and townscape character and visual amenity.	Loss or damage to landscape character and features of designated sites.	UU, DCWW, SSW, STW	Water companies could record the number and size of infrastructure built within designated landscape sites.

Appendix A

Quality Assurance Checklist

The Government’s Guidance on SEA⁶⁰ contains a quality assurance checklist to help ensure that the requirements of the SEA Regulations are met. Those requirements relevant to the scoping stage of the SEA of WRW draft Regional Plan have been set out below.

Quality Assurance Checklist	
Objectives and Context	
The plan’s or programme’s purpose and objectives are made clear.	The purpose and objectives of the WRW draft Regional Plan are set out in Section 1.4 and 1.5 .
Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets.	Key environmental issues identified through a review of relevant plans and programmes (see Section 2 and Appendix C of this report) and analysis of baseline conditions (see Section 3 and Appendix D of the component water companies’ draft WRMP24 SEA Environmental Reports) have informed the development of the assessment framework presented in Section 4.3 .
SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate.	SEA objectives and guide questions are set out in Section 4.3 of this report. Quantitative and qualitative thresholds of effects provide values for neutral, minor, moderate and significant effects (Appendix D).
Links with other related plans, programmes and policies are identified and explained.	Links are identified in Section 2 and Appendix C .
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	The relationships between the SEA, WRMP24 and other plan objectives have been identified in the review of plans and programmes included in Appendix C .
Scoping	
Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report.	The SEA Scoping Report was consulted upon and responses to this are included in this Environmental Report (see Appendix B).
The assessment focuses on significant issues.	The scope of the assessment reflects the geographic extent of the Regional Plan area and provides a comprehensive approach to assessment (reflecting the large number of interactions dependent on the continued supply of water). This enables the assessment to determine which impacts will be considered significant.
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	General difficulties, limitations and assumptions are set out in Section 4.6 of this report. Baseline data limitations are discussed in Section 3.3 .
Reasons are given for eliminating issues from further consideration.	The proposed scope of the assessment is set out in Section 4.2 . All SEA topics have been scoped in to the assessment.

⁶⁰ Office of the Deputy Prime Minister (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

Quality Assurance Checklist	
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	All reasonable alternatives were assessed as set out in Section 5 . See also the component water companies' draft WRMP24 SEA Environmental Reports (Appendix F).
Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	A 'do minimum' and/or 'business as usual' scenario is not appropriate for the draft Regional Plan due to the need to provide sufficient water to customers in the form of a best value plan.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	All reasonable alternatives were assessed as set out in Section 5 . See also the component water companies' draft WRMP24 SEA Environmental Reports (Appendix F).
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	No inconsistencies were identified.
Reasons are given for selection or elimination of alternatives.	This is set out in Section 1.3 of the component water companies' draft WRMP24 SEA Environmental Reports, and as relevant of this report.
Baseline Information	
Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described.	Section 3 of this report and Appendix D of the component water companies' draft WRMP24 SEA Environmental Reports characterise the current environmental baseline conditions, along with how these are likely to change in the future.
Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.	The environmental characteristics of the Regional Plan area are described in Section 3 and Appendix D of the component water companies' draft WRMP24 SEA Environmental Reports.
Difficulties such as deficiencies in information or methods are explained.	Baseline data limitations are discussed in Section 3.3 . Further difficulties and limitations are set out in Section 4.6 .
Prediction and Evaluation of Likely Significant Environmental Effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate.	The potential effects of the options are identified in Section 5 . See also Sections 5 and 6 and Appendix F and G of the component water companies' draft WRMP24 SEA Environmental Reports.
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	Positive and negative effects of the options, including timing are identified in Section 5 . See also Sections 5 and 6 and Appendix F and G of the component water companies' draft WRMP24 SEA Environmental Reports.
Likely secondary, cumulative and synergistic effects are identified where practicable.	Information on secondary, cumulative and synergistic effects is set out in Section 5.5 .
Inter-relationships between effects are considered where practicable.	These relationships are identified where appropriate in this report.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.	Relevant standards have been used where appropriate in undertaking the assessment.
Methods used to evaluate the effects are described.	Information on the methods used for evaluation of potential effects is included in Section 4 . The definitions of significance used in the assessment are set out in Appendix D . See also Sections 5 and 6 and Appendix F and G of the component water companies' draft WRMP24 SEA Environmental Reports.
Mitigation Measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	Mitigation measures for potential negative effects are set out in Section 5.7 . See also Sections 5 and 6 and Appendix F and G

Quality Assurance Checklist	
	of the component water companies' draft WRMP24 SEA Environmental Reports.
Issues to be taken into account in project consents are identified.	Issues to be taken into account in project consents, where relevant are included. See also Sections 5 and 6 and Appendix F and G of the component water companies' draft WRMP24 SEA Environmental Reports.
The Environmental Report	
Is clear and concise in its layout and presentation.	We believe the report is clear and concise, reflective of the information in the draft Regional Plan.
Uses simple, clear language and avoids or explains technical terms.	The report uses accessible language wherever possible.
Uses maps and other illustrations where appropriate.	Maps and illustrations have been utilised in the component water companies' draft WRMP24 SEA Environmental Reports.
Explains the methodology used.	The method used is set out in the report in Section 4 .
Explains who was consulted and what methods of consultation were used.	Appendix B of this report outlines the consultation that has been carried out to-date.
Identifies sources of information, including expert judgement and matters of opinion.	Sources of information are included throughout the report and the component water companies' draft WRMP24 SEA Environmental Reports.
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	A Non-Technical Summary has been included as part of the report.
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	The previously issued SEA Scoping Report was consulted upon and responses are included in this Environmental Report (see Appendix B).
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.	Consultation on the draft Regional Plan and this Environmental Report will be undertaken by the relevant component water companies.
Decision-making and Information on the Decision	
The Environmental Report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	This will be incorporated following consultation on draft Regional Plan and Environmental Report.
An explanation is given of how they have been taken into account.	This will be provided following consultation on the draft Regional Plan and Environmental Report.
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	This will be set out following consultation on the draft Regional Plan and Environmental Report.
Monitoring Measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	The report sets out potential monitoring measures that could be used in Section 6.4 .
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	The suggestions for monitoring are included in Section 6.4 of the report.
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)	The suggestions for monitoring made in Section 6.4 are for the relevant component water companies to act on, with monitoring taking place following implementation of the Regional Plan.

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<p>Proposals are made for action in response to significant adverse effects.</p>	<p>Mitigation methods are outlined for the preferred options in Section 5.7 of this report. See also Section 6.6 of the DCWW WRMP24 SEA Environmental Report, Section 6.7 of the UU, ST and SSW WRMP24 SEA Environmental Reports and Appendix G of the component water companies' draft WRMP24 SEA Environmental Reports.</p>
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Appendix B

Schedule of Consultation Responses

Consultation on the WRW Regional Plan and WRMP24s environmental assessment methodologies took place between the 8th April and the 13th May 2021.

To support the consultation, a series of method statements for the proposed approaches to undertaking the environmental assessments of the respective plans were issued and comments invited. These were for:

- Strategic Environmental Assessment (SEA) – SEA Scoping Report and four separate appendices presenting contextual information for DCWW, STW, SSW and UUW
- Habitats Regulations Assessment (HRA) – HRA Method Statement
- Water Framework Directive (WFD) Assessment – WFD Assessment Methodology Statement
- Natural Capital/Environmental Resilience – Assessment Methodology.

The method statements were issued to Cadw, the Environment Agency, Historic England, Natural England, Natural Resources Wales and Welsh Government.

A workshop was held on the 28th April 2021 to discuss the approaches to which all consultees were invited.

Responses were received to all Method Statements. The comments on the WFD Assessment Methodology Statement were material to the proposed approach, and in consequence, a revised Methodology was issued (for information) to the regulators on the 21st July 2021. Comments on the remaining three method statements did not require substantive revision. Each has then been summarised in a separate note. This note presents the responses to the SEA Scoping Report.

Responses to the SEA Scoping Report were received from Cadw, the Environment Agency, Natural England and Natural Resources Wales.

Table B.1 – B.4 presents a summary of these responses.

Table B.2 Responses to Cadw comments on the SEA Scoping Report

Consultation Question	Section	Consultee Response	Response/Action
Q1. Do you think that the Scoping Report sets out sufficient information to provide the context for the SEAs of the draft WRW Regional Plan and WRMP24s in terms of an overview of each plan, the review of relevant plans and programmes and baseline evidence and analysis? If not, what additional information should be included?	Section 2.2/Table 2.1/Section 2.3/Table 2.2/Appendix E	No	Comments noted.
		<p>Cadw is of the opinion that the following documents should be amended or added as stated.</p> <p><u>Table 2.1 National Programmes</u></p> <p>Change:</p> <ul style="list-style-type: none"> Welsh Government (2018) Planning Policy Wales (Edition 10) has been replaced by Welsh Government (2021) Planning Policy Wales (Edition 11). <p>Add:</p> <ul style="list-style-type: none"> Welsh Government (2017) Technical Advice Note 24 The Historic Environment Welsh Government (2018) Priorities for the Historic Environment of Wales Welsh Government (2020) Historic Environment and Climate Change in Wales <p><u>Table 2.2 Cultural Heritage</u></p> <p>Change:</p> <ul style="list-style-type: none"> Welsh Government (2018) Planning Policy Wales (Edition 10) has been replaced by Welsh Government (2021) Planning Policy Wales (Edition 11). <p>Add:</p> <ul style="list-style-type: none"> Historic Environment (Wales) Act Welsh Government (2017) Technical Advice Note 24 The historic Environment Welsh Government (2018) Priorities for the Historic Environment of Wales Welsh Government (2020) Historic Environment and Climate Change in Wales <p>The above documents should also be included and reviewed in Appendix E along with the documents below:</p> <p><u>Regional Plans and Programmes</u></p> <ul style="list-style-type: none"> Welsh Government (2018) Castles and Town Walls of King Edward in Gwynedd World Heritage Site: World Heritage Site Management Plan 2018 -28 Wrexham County Borough Council British Waterways and the Royal Commission on the Ancient and Historical Monuments of Wales (2012) Pontcysyllte Aqueduct and Canal World Heritage Site – Management Plan Torfaen County Borough Council (2011) Blaenavon Industrial Landscape World Heritage Site Management Plan 	<p>Welsh Government (2018) Planning Policy Wales (Edition 10) will be replaced by Welsh Government (2021) Planning Policy Wales (Edition 11) in the review of plans and programmes in the Environmental Report.</p> <p>The following additional national-level plans and programmes will be included in the relevant tables and appendix of the relevant Environmental Report issued to accompany the WRW Regional Plan and draft WRMP24s:</p> <ul style="list-style-type: none"> Welsh Government (2017) Technical Advice Note 24 The Historic Environment Welsh Government (2018) Priorities for the Historic Environment of Wales Welsh Government (2020) Historic Environment and Climate Change in Wales <p>The following additional regional-level plans and programmes will be included in the relevant Environmental Report issued to accompany the WRW Regional Plan and draft WRMP24s:</p> <ul style="list-style-type: none"> Welsh Government (2018) Castles and Town Walls of King Edward in Gwynedd World Heritage Site: World Heritage Site Management Plan 2018 -28 Wrexham County Borough Council British Waterways and the Royal Commission on the Ancient and Historical Monuments of Wales (2012) Pontcysyllte Aqueduct and Canal World Heritage Site – Management Plan Torfaen County Borough Council (2011) Blaenavon Industrial Landscape World Heritage Site Management Plan
Q2. Do you agree that the main	N/A	Yes	Comment noted.

Consultation Question	Section	Consultee Response	Response/Action
<p>environmental issues identified are relevant to the SEAs of the draft of the draft WRW Regional Plan and WRMP24s? If not, which issues do you think need to be included or excluded?</p> <p>Q3. Do you agree with the proposed approach to the SEAs of the draft WRW Regional Plan and WRMP24s? Are the proposed SEA objectives, guide questions and significance thresholds appropriate for the scope of each plan assessment? If not, which objectives/guide questions should be amended and which other objectives/guide questions do you believe should be included?</p>	N/A	Yes	Comment noted.

Table B.3 Responses to Environment Agency's comments on the SEA Scoping Report

Consultation Question	Section	Consultee Response	Response/Action
Q1. Do you think that the Scoping Report sets out sufficient information to provide the context for the SEAs of the draft WRW Regional Plan and WRMP24s in terms of an overview of each plan, the review of relevant plans and programmes and baseline evidence and analysis? If not, what additional information should be included?	Section 1.4	S 1.4.12 (p20) – good to see specific reference to RAPID SRO's, please replicate across all the environmental assessments	Comment noted.
	Section 3.2/Table 3.1	Table 3.1 (p37) – needs to recognise the pressures on Public Water Supply in WR West patch as well as in WR East / WR South East. For example, our National Framework shows pressure equivalent to around 640 MI/d in WR West and 570 MI/d in WR East at 2050.	Comment noted. Reference to increased pressure on Public Water Supply in the WRW area will be included in the 'Summary of Key Issues' table in the Environmental Reports issued to accompany the WRW Regional Plan and draft WRMP24s.
	Section 4.4	S 4.4 (p47) – please add information to explain how interactions with environmental assessment work in neighbouring companies / regional groups will work.	Comment noted. Information explaining how interactions with environmental assessment work in neighbouring companies and regional groups will be included in the Environmental Reports issued to accompany the WRW Regional Plan and draft WRMP24s, as relevant and appropriate.
Q2. Do you agree that the main environmental issues identified are relevant to the SEAs of the draft WRW Regional Plan and WRMP24s? If not, which issues do you think need to be included or excluded?	N/A	The SEA needs to recognise that we are in the midst of a climate emergency – every option and the overall plan(s) needs to be viewed through this lens. We need to consider the 2019 amends to the 2008 Climate Change Act and recent Government announcements to cut carbon emissions further and faster i.e. 78% by 2035. WR West plan and the core company WRMP's will need to demonstrate how their actions are helping us achieve this.	Comment noted.
			<p>Climatic factors are scoped into the SEA, with international, national and regional plans and programmes reviewed, with the resultant issues identified relevant to the assessment of the WRW Regional Plan and the WRMPs. SEA objectives concerning the reduction in greenhouse gas emissions along with the improvement of climate resilience are included in the Assessment Framework, along with associated guide question and thresholds.</p> <p>The review of plans and programmes will be updated in the Environmental Report to reflect the 2019 updates to the Climate Change Act 2008.</p> <p>The comment relating to the need for the WRW Regional Plan and the WRMPs to demonstrate how their actions will contribute to the achievement of carbon emissions reduction targets set by the government, relates to the WRW Regional Plan and WRMPs themselves, rather than the SEA of the plans, although where such</p>

Consultation Question	Section	Consultee Response	Response/Action
			effects occur, these may also be set out in the appropriate Environmental Report.
	Appendix B Section 3. p34	It is stated on p34 that one of the key issues relevant to the WRMP is, 'The need to maintain and improve the quantity and quality of GW resources taking into account WFD status targets'. I have added the words and improve to the sentence as I believe this should also be the aspiration.	Agreed and will be updated in the relevant Environmental Report.
Q3. Do you agree with the proposed approach to the SEAs of the draft WRW Regional Plan and WRMP24s? Are the proposed SEA objectives, guide questions and significance thresholds appropriate for the scope of each plan assessment? If not, which objectives/guide questions should be amended and which other objectives/guide questions do you believe should be included?	Appendix F	most of the thresholds are not quantified and this means the outcomes will for the most part be subjective / qualitative. We'd expect demand for water to be quantifiable e.g. in MI/d and/or % Distribution Input. We quantify flood risk in terms of properties protected and environmental enhancement by (say) km of river improved and/or improvements to Waterbody status (or improvements to elements within waterbody status). WR West should consider if more quantified thresholds can be used.	<p>Comment noted.</p> <p>The 'Definitions and Thresholds of Significance' set out in Appendix F of the Scoping Report, are considered to provide a balance of both quantitative and qualitative measures (as per UKWIR Guidance) which help to ensure a consistent approach to interpreting the significance of effects and helps the reader understand the decisions made by the assessor.</p> <p>In developing the definitions and thresholds of significant effects, information has been drawn from:</p> <ul style="list-style-type: none"> the previous definitions and thresholds used in the SEAs of DCWW, SSW, STW and UUW's WRMP19s; suggested definitions and thresholds for assessment scoring from the All Company Working Group (ACWG) for application to the SROs; suggested definitions and thresholds detailed in the WRSE Scoping Report, for application to the SEA of the WRSE Regional Plan; and, an evaluation of the range of quantitative values (such as yield, capex, embodied carbon, operational carbon and material quantities) available for a selection of the DCWW, STW, SSW and UUW WRMP19 options for different option types (e.g., supply-side options such as reservoirs, transfers, boreholes, enhanced treatment). <p>The proposed thresholds include reference to yield (MI/d), design capacity (MI/d), capex (£m), embodied and operational carbon (tCO₂e), flood risk (% site in FZ3), air quality (AQMAS) and water quality (WFD status). These quantified measures address and go beyond the examples cited in the consultee response.</p> <p>However, in order to ensure, no opportunity is lost to take into account the point made, consideration will be given to whether any additional quantifiable measures can be utilised in the assessment and any additional measures that are identified will be highlighted in the Environmental Reports to accompany the WRW Regional Plan and draft WRMP24s, as relevant and appropriate.</p>

Consultation Question	Section	Consultee Response	Response/Action
	Table 4.2/Appendix F	<p>Under SEA Table 4.2 & Appendix F there is no mention specifically of geomorphology.</p> <p>Flow abstraction and associated infrastructure is likely to affect fluvial sediment transport regime (transport, erosion, deposition), channel character (morphology) and river behaviour (morpho-dynamics).</p> <p>Objective 5 - Request that the following question be included in relation to water resource pressures on geomorphic/sediment systems:</p> <ul style="list-style-type: none"> Will it alter the sediment transport regime of the surface waters? <p>(i.e. Will it result in a change in fine sediment deposition? Will it result in a change in sediment flux?)</p>	<p>Comment noted.</p> <p>Whilst absent from Table 4.2 of the Scoping Report, geomorphology is highlighted as a key issue in WRMP specific baselines e.g., Appendix A, where the “<i>the need to protect, maintain and enhance geomorphological functions and services</i>” is identified.</p> <p>To ensure it is appropriately reflected in the SEA, and to minimise any unintended duplication, the following guide question will be added to the Assessment Framework under Objective 1 (Biodiversity):</p> <p><i>Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems?</i></p> <p>The WFD Assessment (Stage 3 Impact Assessment) also includes consideration of geomorphology through the source-pathway-receptor approach to identifying effects. The source of change would be the construction or operational activity. The pathway would include physical environment changes such as water level change, flow velocity change, morphological change. The receptor would be the WFD status element or the WFD protected area. Where relevant, such information will be used to inform the assessment of any options against the above guide question.</p>
	Table 4.2/Appendix F/ Section 3.1 (Appendix D)	<p>Appendix F, Objective 3 talks about preventing the spread/introduction of INNS. Would it also be possible to include a guide question around eradication of INNS where they are already present and to do so is technically and economically feasible?</p> <p>Same applies to the key issues listed on page 19 of Appendix D.</p>	<p>Comment noted.</p> <p>The following guide question will be added to the assessment framework under Objective 3:</p> <p><i>Will it contribute to the eradication of invasive and non-native species, where they are already present and it is technically and economically feasible to do so?</i></p> <p>However, it may only be applicable in highly specific circumstances.</p> <p>The key issues relating to Biodiversity (set out in section 3.1 of Appendix D) will also be amended to highlight the need to eradicate INNS where already present.</p>
	Table 4.2/Appendix F	<p>Table 4.2 – there is no reference to impact on geomorphology. A question on this should be included to reflect potential changes in flow regimes.</p>	<p>Comment noted.</p> <p>Table 4.2 includes two guide questions under SEA Objective 5, that reference flow:</p> <ul style="list-style-type: none"> <i>Will it result in changes to river flows, wetted width or river levels?</i> <i>Will it alter the flow regime of surface waters?</i> <p>In response to a separate comment, the first guide question will be amended to the following ‘<i>Will it result in changes to river flows, channel morphologies, wetted width or river levels?</i>’</p> <p>Whilst absent from Table 4.2 of the Scoping Report, geomorphology is highlighted as a key issue in WRMP specific baselines e.g.,</p>

Consultation Question	Section	Consultee Response	Response/Action
			<p>Appendix A, where the “<i>the need to protect, maintain and enhance geomorphological functions and services</i>” is identified.</p> <p>The WFD Assessment (Stage 3 Impact Assessment) also includes consideration of geomorphology through the source-pathway-receptor approach to identifying effects. Where relevant, such information will be used to inform the assessment of any options against the above guide questions.</p>
	Table 4.2/Appendix F	<p>Appendix F, Objective 1. Request that the following question be included: Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems?</p>	<p>Comment noted.</p> <p>To ensure it is appropriately reflected in the SEA, the following guide question will be added to the Assessment Framework under Objective 1 (Biodiversity):</p> <p><i>Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems?</i></p> <p>The WFD Assessment (Stage 3 Impact Assessment) also includes consideration of geomorphology through the source-pathway-receptor approach to identifying effects. Where relevant, such information will be used to inform the assessment of any options against the above guide question.</p>
	Table 4.4	<p>Table 4.4 – we note that an option cannot be scored as “moderate impact” within the UU Sources SRO SEA work but this scoring (moderate) can be applied to the same option in WRW SEA. What is the reason for this difference, especially given WRW will be scoring some of the same options included in UU Sources SRO?</p>	<p>Comment noted.</p> <p>The UU Sources SRO Gate 1 SEA was undertaken in advance of the publication of the All Company Working Group (ACWG) guidance on SEA (2020) and the UKWIR Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (2021).</p> <p>The approach to assessing the likely significant effects of the WRP24s and WRW Regional Plan includes the identification of minor, moderate and major/significant positive and negative effects, reflecting the guidance, not previously available to the UU Sources SRO. Definitions and thresholds for minor, moderate and major/significant effects, are included, which have used information drawn from:</p> <ul style="list-style-type: none"> • the previous definitions and thresholds used in the SEAs of DCWW, SSW, STW and UUW’s WRMP19s; • suggested definitions and thresholds for assessment scoring from the ACWG for application to the SROs; • suggested definitions and thresholds detailed in the WRSE Scoping Report, for application to the SEA of the WRSE Regional Plan; • an evaluation of the range of quantitative values (such as yield, capex, embodied carbon, operational carbon and material quantities) available for a selection of the DCWW, STW, SSW and UUW WRMP19 options

Consultation Question	Section	Consultee Response	Response/Action
			<p>for different option types (e.g., supply-side options such as reservoirs, transfers, boreholes, enhanced treatment).</p> <p>Where the WRMP24 assessment is of a SRO option or a revised WRMP19 option, the assessment will take into account, where appropriate, the previous assessment findings and any regulators and stakeholder feedback already received.</p>
	Table 4.2/Appendix F	<p>Appendix F, Objective 5. Suggest amendment to question 2:</p> <ul style="list-style-type: none"> Will it result in changes to river flows, <u>channel morphologies</u>, wetted width or river levels? 	<p>Agreed.</p> <p>The second guide question under SEA Objective 5 of the assessment framework will be changed to:</p> <p><i>Will it result in changes to river flows, <u>channel morphologies</u>, wetted width or river levels?</i></p>
	N/A	<p>WR West should explain the scale being used to decide significance. For example, a 1 Ml/d demand saving option may be significant within a small water resource zone but relatively insignificant when viewed across WR West patch as a whole. A better explanation of this would be appreciated.</p>	<p>Comment noted.</p> <p>WRW is taking an integrated approach to preparing the Regional Plan and the WRMP24s. WRW member water companies are using a regionally consistent set of methodologies to reflect local, regional and national needs in the development of the plans. The definitions of significance have been developed so that they can apply to the SEA of each of the plans, whether the WRW Regional Plan or the individual WRMPs to ensure a consistent approach to interpreting the significance of effects. In developing the approach to thresholds, cognisance was taken of:</p> <ul style="list-style-type: none"> the previous definitions and thresholds used in the SEAs of DCWW, SSW, STW and UUW's WRMP19s; suggested definitions and thresholds for assessment scoring from the ACWG for application to the SROs; suggested definitions and thresholds detailed in the WRSE Scoping Report, for application to the SEA of the WRSE Regional Plan; an evaluation of the range of quantitative values (such as yield, capex, embodied carbon, operational carbon and material quantities) available for a selection of the DCWW, STW, SSW and UUW WRMP19 options for different option types (e.g., supply-side options such as reservoirs, transfers, boreholes, enhanced treatment).
	Table NTS.2/Table 4.2/Appendix F	<p>Table 2 NTS – Proposed objectives – why only where required for INNS?</p>	<p>Comment noted.</p> <p>The use of the wording 'where required' is intended to reflect source options where INNS may be present, or where transfer methods, such as unenclosed water bodies could lead to INNS being introduced, and so requiring management and mitigation measures prior to the introduction into a new catchment.</p>

Consultation Question	Section	Consultee Response	Response/Action
	Table 2.2/Table 4.2/Appendix F	No specific measurable objective to reduce operational or embodied carbon. This appears to be a reoccurring theme with water company plans. Table 2.2 highlights the relevance of carbon reduction targets to the Plan(s), however although the assessment questions in Table 4.2 reflect the need it would be good to see this reflected more specifically in the objectives.	No change. Comment noted. Whilst there is no objective relating to the reduction of operational and embodied carbon specifically, it is considered that this is already covered by Objective 9: <i>To reduce greenhouse gas emissions</i> . Furthermore, as noted in the comment, the need to reduce operational and embodied carbon emissions is reflected within the guide questions for Objective 9 and specific values/thresholds for assessing plan options/measures against this Objective, in terms of their embodied and operational carbon emissions (tCO ₂ e and tCO ₂ e/year respectively) are provided in Appendix F.
	Table 4.2/Appendix F	WFD – although implied in the objectives, it would be good to see “contributing to WFD objectives” reflected more specifically. Consider modifying the assessment questions in Table 4.2 to address this point.	No change. Comment noted. Contribution to the achievement of WFD objectives is already specifically reflected in the guide questions for Objective 6 (Water Quality).
4. Have the consultants missed any key plans/programmes (our own or 3rd party ones like Rivers Trusts maybe?) from your local perspective?		Should options being proposed by WRW core companies for Ofwat “Green Recovery funding” be considered within the assessment?	Comment noted. WRW aims to provide a Regional Plan that is multi-sector and takes account of the water supply needs of non-public water supply (non-PWS) abstractors as well as public water supplies. All options being considered by the core member water companies for inclusion in the WRMP24s and Regional Plan will be assessed.
	Section 2 (Appendices A, B, C and D)	There is a lack of consistency between the core company lists of relevant plans/programmes that needs to be addressed. Focussing on the companies wholly/mainly in England, UU’s list of relevant plans and programmes appears to be the most comprehensive and should be used as a guide for SvT and SSW too. As a minimum, reference needs to be made to a company’s own WRMP and Drought Plan plus the WRMPs and Drought Plans of neighbouring companies. Natural England’s Site Improvement Plans for Natura 2000 sites are also key documents to consider across the board.	Comment noted. The lists of relevant plans and programmes within each of the core company appendices will be checked/cross referenced to ensure consistency in the Environmental Reports to accompany the WRW Regional Plan and draft WRMP24s.
		Need to ensure consistency with SRO SEAs and other initial assessments. Gate 1 reports will help with this.	Comment noted. Where the WRMP24 assessment is of a SRO option or a revised WRMP19 option, the assessment will take into account, where appropriate, the previous assessment findings and any regulators and stakeholder feedback already received.
	Section 2/Table 2.1/Appendix E	Refers to some plans/strategies from early 2000’s (e.g. BEIS, Defra) – are these still the best available on those topics?	Over 200 international/European, national, regional/sub-regional and local level plans were reviewed during the preparation of the Scoping Report. Whilst the review of plans and programmes contains some older plans and programmes, these have been included as they are still valid and are relevant to the SEA of the WRW Regional Plan and WRMPs.

Consultation Question	Section	Consultee Response	Response/Action
			Should revised or updated plans/programmes become available during the preparation of the Environmental Report, they will be included.
	Section 2/Table 2.1/Appendix E	Some thoughts on important national plans/programmes/legislation that seemed to be missing...2020 Defra Drought Plan Direction; 2nd UK Climate Change Risk Assessment (CCRA2) 2017 (HM Gov); EA 2020 consultation on update to areas of water stress; EA/Ofwat/NRW WR Planning Guideline 2021; HM Gov 2020 National Infrastructure Strategy; CEFAS/EA/NRW assessment of salmon stocks and fisheries in Eng&Wales (2019). Not a comprehensive list but some key ones that sprung to mind that I couldn't see in the SEA Scoping Report.	<p>Comment noted.</p> <p>The following additional plans and programmes will be included in the review of plans and programmes contained within the Environmental Report:</p> <ul style="list-style-type: none"> • Defra (2020) Drought Plan Direction 2020 • HM Government (2017) 2nd UK Climate Change Risk Assessment (CCRA2) • Centre for Environment Fisheries and Aquaculture Science, Environment Agency and Natural Resources Wales (2019) Assessment of Salmon Stocks and Fisheries in England and Wales 2019 <p>To avoid undue reliance on draft versions of plans and programmes that could be subject to change, consultation documents and draft legislation are not included in the plans and programmes reviewed, unless highly relevant e.g., the Water Resources Planning Guidelines.</p>
	Appendix E	See comments about plans/programmes under water company headings. We expect to see a greater degree of consistency in the plans / programmes being considered across the core water companies in WR West and the regional plan as a whole.	<p>Comment noted.</p> <p>Plans and programmes will be reviewed to ensure consistency between the categories of plans considered, noting regional/sub-regional differences.</p>
	N/A	<p>A few further general points cutting across environmental assessments:-</p> <ul style="list-style-type: none"> • Important to seek joint Flood and Coastal Risk Management and Water Resources options to improve cost benefit and collaboration. • WRW should actively work with non PWS stakeholders such as agriculture sector to promote storage techniques and improve overall resilience / adaptation to prolonged dry weather. • Objectives should include delivering more efficient and targeted use of available water banks, whether for purpose of regulation / abstraction, through improved modelling, monitoring, and control. This includes consideration of the use of new 5g technology. • Assessment methodology should include climatic risks to critical infrastructure. For example, greater stress pressures from cyclic loading (fill / refill) of assets, including reservoirs, as well as direct impact of storm events and extreme temperatures. Severn Regulation reduces the risk of 	<p>Comments noted.</p> <p>Where relevant, WRW and individual core member water companies will take such additional issues into account when developing their plans.</p>

Consultation Question	Section	Consultee Response	Response/Action
		<p>flow deficits to the Estuary and Bristol Water abstraction.</p> <ul style="list-style-type: none"> • Would like to see more open inclusion of RSA/ AMP/ WINEP under the umbrella of WRW. Should waste water plans not be included at some point too? Feels a bit disconnected from the dirty water side. 	

3. Historic England

No response was received from Historic England.

Table B.4 Responses to Natural Resources Wales comments on the SEA Scoping Report

Consultation Question	Section	Consultee Response	Response/Action
N/A	N/A	<p>We welcome and support the development of your regional water resources plan and the individual Water Resource Management Plans, together with your commitment to SEA.</p> <p>We welcome the inclusion of the considerations and products of the Environment (Wales) Act 2016 and the Wellbeing of Future Generations (Wales) Act 2015 within your reports.</p>	Comment noted.
	N/A	<p>Whilst these considerations and the Welsh aspects of baseline assessment are more comprehensively included within Appendix A (Dŵr Cymru Welsh Water DCWW scoping), we feel that there are elements relating to Welsh data and legislation that should be strengthened within the other documents. A consistent baseline of evidence for Wales should be used across all plans considering these areas. As it stands the information presented in Appendix B and D does not provide meaningful context for strategic decision-making in Wales.</p>	<p>Comment noted.</p> <p>This will be considered at the Environmental Report stage to ensure a consistent baseline across these water companies.</p>
Q1. Do you think that the Scoping Report sets out sufficient information to provide the context for the SEAs of the draft WRW Regional Plan and WRMP24s in terms of an overview of each plan, the review of relevant plans and programmes and baseline evidence and analysis? If not, what additional information should be included?		<p>We welcome the comprehensive review of plans and programmes. We note some missing items and amendments below for further consideration. We recognise that the scope of this document lists the preferred water resource options and Strategic Resource Options (SRO) as separate items. We believe clarification is required as to where the SEA of the SROs will sit if not within the WRMP of the individual water companies.</p>	<p>Comment noted.</p> <p>The SRO options are being considered and assessed through the integrated options development programme and will be included in the will be included in the relevant WRMP and in the WRW Regional Plan.</p> <p>The SROs were identified as separate items covered by the scope of the assessment in S1.4 of the Scoping Report as we are aware that regulators have a substantial interest in these options, which are also being considered through the gated stages required by RAPID.</p>
		<p><u>Biodiversity, flora and fauna</u> When assessing the baseline evidence you should consider all of the elements of ecosystem resilience as set out in the Environment (Wales) Act 2016, taking account of the diversity between and within ecosystems, the connections between and within ecosystems, the scale of ecosystems, the condition of ecosystems (including their structure and functioning) and the</p>	<p>Comment noted</p> <p>Ecosystem resilience will be considered where relevant to the WRW&WRMP24 and in line with the developed SEA</p>

Consultation Question	Section	Consultee Response	Response/Action
		<p>adaptability of ecosystems. This should be included across all of the reports for areas within or affecting Wales.</p>	<p>assessment methodology; particularly the SEA objectives under the Biodiversity, Flora and Fauna Topic: SEA Objective 1. To protect and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain; and SEA Objective 2. To protect and enhance sustainable natural resources and the ecosystem services they provide.</p> <p>The Environment (Wales) Act 2016 requirements of Sustainable Management of Natural Resources are reflected in the WRW detailed screening criteria, applied to WRMP revised feasible options. They will also be addressed through the non-monetised elements of ecosystem resilience and enhancement opportunities evaluated as part of the Natural Capital Assessment (NCA) undertaken of the revised feasible options within each WRMP.</p>
		<p><u>Biodiversity, flora and fauna</u> It is also worth including non-statutory designations or information relating to biodiversity beyond Local Nature Reserves, such as Sites of Importance for Nature Conservation or other local information from Wildlife Trusts, Local Authorities or other conservation charities to help make an assessment of the ecological networks.</p>	<p>Comment noted.</p> <p>Regard will be given to non-statutory designations as per the objectives and guide questions of the SEA assessment methodology.</p>
		<p><u>Biodiversity, flora and fauna</u> We welcome the inclusion of Section 7 species and Invasive and Non-Native Species (INNS). There is however no indication of their baseline or trends and as such it is then difficult to make an assessment of change in the future.</p>	<p>Comment noted.</p> <p>The baseline data for these species are not readily included in reports at a strategic level.</p>
		<p><u>Biodiversity, flora and fauna</u> The Biodiversity and Water sections would be greatly improved with more information included to on freshwater habitats and species as these are those which are likely to be impacted, and the issues facing them such as water quality, flow and physical modifications. This would include reference to areas which are already impacted by water resource activities.</p>	<p>Comment noted.</p> <p>These issues will be considered in the HRA where European sites are designated for migratory species and to a certain extent in the WFD report. Where relevant it may also be included in the appropriate Environmental Report (to accompany either the WRW Regional Plan or WRMP24).</p>
		<p><u>Geology, land use and soils</u> The reference given for the Agricultural Land Use data is for England only. Please include a reference for the Welsh data used, the most up-to-date being Predictive Agricultural Land Classification (ALC) Map 2.</p>	<p>Comment noted.</p> <p>Appendix A: Dŵr Cymru Welsh Water presents in Table A3.2 Agricultural</p>

Consultation Question	Section	Consultee Response	Response/Action
			Land Quality (as a percentage of land area) for each ALC category for Wales and England. Figure A3.11 Agricultural Land Classification presents ALC information for Wales. This will be updated with information from the Predictive Agricultural Land Classification (ALC) Map 2 (DataMapWales (2019)).
		<p><u>Water</u> The reference given for the water availability mapping refers to an Environment Agency dataset. Refer to the NRW Abstraction Licensing Strategies published at Natural Resources Wales / Water available in our catchments. For updated national-scale water resource mapping please refer to: Lle - Water Resource Reliability Data (gov.wales) (http://lle.gov.wales/catalogue/item/WaterResourceReliabilityData) Lle - Water Resource Availability Data (gov.wales) (http://lle.gov.wales/catalogue/item/WaterResourceAvailabilityData)</p>	<p>Comment noted.</p> <p>This data appears to be publicly available via the Welsh data portal and will be used where applicable, included in updated baselines contained in relevant Environmental Reports.</p>
		<p><u>Water</u> UK CCRA2 is referenced in terms of projected water availability. Whilst UKCCRA3 is not yet publicly available the updated water availability research supporting this is https://www.ukclimaterisk.org/ccra-research/ . We recommend you use the most up-to-date information.</p>	<p>Comment noted.</p> <p>This will be updated as appropriate in the relevant Environmental Reports.</p>
		<p><u>Water</u> Given the context of the plan(s) being assessed this section in all of the reports would benefit from further integrated with the biodiversity section, considering the full range of freshwater biodiversity and protected sites, including lakes and wetlands.</p>	<p>Comment noted.</p> <p>In undertaking the SEA assessments, regard is given to interrelationships across topics.</p>
		<p><u>Water</u> We note in Section 1.7.3 and 1.7.4 pg. 23 the water companies' commitments to considering the requirements of the Water Framework Directive Regulations 2017 in the SEA is welcomed. It should be noted that this will be relevant to not just the water quality topic but to other topics as well, particularly in terms of water dependant protected areas.</p>	<p>Comment noted.</p> <p>The following stages of the SEA will continue to consider the inter-relationships across topics.</p> <p>The WFD Regulations 2017 mitigation measures will be considered during the Environmental Reporting stage.</p>
		<p><u>Water</u> No information is presented on fluvial geomorphology or river dynamics. We recommend that you consider this within your SEA.</p>	<p>Comment noted.</p> <p>Geomorphology is highlighted as a key issue in WRMP specific baselines e.g., Appendix A, where the "the need to protect, maintain and enhance geomorphological functions and services" is identified. Given its strategic nature and the geographic extent covered, further additional information on fluvial geomorphology will not be provided in the baseline.</p> <p>The following supplementary or amended guide questions will be included to permit</p>

Consultation Question	Section	Consultee Response	Response/Action
			<p>consideration of geomorphology effects:</p> <ul style="list-style-type: none"> <i>Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems? Objective 1.</i> <i>'Will it result in changes to river flows, <u>channel morphologies</u>, <u>wetted width</u> or <u>river levels</u>?' Objective 5.</i> <p>The WFD Assessment (Stage 3 Impact Assessment) also includes consideration of geomorphology through the source-pathway-receptor approach to identifying effects. Where relevant, such information will be used to inform the assessment of any options against the above guide questions.</p>
		<p><u>Air quality</u> We welcome the inclusion of data linking air quality to public health. However, a lack of information presented linking air pollution to the impacts on ecosystems.</p>	<p>Comment noted.</p> <p>Table 3.1 of the Scoping Report identifies key pressures and risks in respect of biodiversity and nature conservation that are relevant as including atmospheric pollution (acid precipitation, nitrogen deposition). This also includes reference to increases in transport movements and works associated with the construction and operation of nationally significant water resources infrastructure could affect air quality and lead to increased nitrogen deposition in sensitive habitats.</p>
		<p><u>Population and human health</u> Whilst the DCWW report does use the 2019 Welsh Index of Multiple Deprivation (WIMD), the SVT report uses the 2015 version and the text of the UU report under deprivation makes no mention of Wales (nor are the Welsh areas under consideration mentioned within the rest of this section). Both SVT and UU should include Welsh data where relevant.</p>	<p>Comment noted.</p> <p>Data from the 2019 Welsh Index of Multiple Deprivation (WIMD) will be used, where relevant, within the Environmental Report. Comments noted.</p>
	<p>Table 2.1/Appendix E</p>	<p><u>Material assets and resource use</u></p> <ul style="list-style-type: none"> The review of National Plans & Programmes (Appendix E) should refer to UK Governments 2020 Energy white paper: Powering our net zero future as the latest expression of UK energy policy. There should be reference to UK Govts Offshore Energy Plan and Welsh Government's Marine Energy Programme (although worth checking with WG its exact 	<p>The following plans/programme will be added to the review of plans and programmes in the Environmental Report:</p>

Consultation Question	Section	Consultee Response	Response/Action
		<p>status and timetable and intended outputs). Both include consideration of tidal range technologies</p> <ul style="list-style-type: none"> The National transport plan has been included however regional transport plans should also be included under local / regional plans. 	<ul style="list-style-type: none"> HM Government (2020) Energy White Paper: Powering our net zero future <p>The UK government issued a call for evidence on the scope for marine energy technologies, including floating offshore wind and wave and tidal energy. This fed into the energy white paper. The WG Marine Energy Programme for Wales is included in the review of plans and programmes and provides planning policy for offshore and tidal energy.</p> <p>Regional transport plans will also be included in the review of plans and programmes included within the Environmental Report accompany the relevant plan. Information will be provided proportionate to that provided for other generic plan types such as Local Planning Authority Land Use Plans.</p>
	<p>Table 2.1/Appendix E</p>	<p><u>Cultural heritage and landscape</u></p> <p>Only Appendix A (DCWW) contains the Welsh landscape and cultural baseline evidence and analysis we would expect. LANDMAP, Designated Landscapes, Tranquillity, Historic Landscape, Heritage Coast and Landscape Character Areas are missing from UUW and Severn Trent reports. Analysis of the issues is therefore weak for Wales in these two reports and should be reviewed.</p> <p>The review of plans and programmes is comprehensive for landscape.</p>	<p>Comment noted.</p> <p>These issues will be included in the relevant Environmental Report.</p>
<p>Q2. Do you agree that the main environmental issues identified are relevant to the SEAs of the draft of the draft WRW Regional Plan and WRMP24s? If not, which issues do you think need to be included or excluded?</p>		<p><u>Biodiversity, flora and fauna</u></p> <p>When looking at the key issues you should consider all of the elements of ecosystem resilience as set out in the Environment (Wales) Act 2016, we welcome the inclusion of some of the elements here and the explicit references to ecosystem resilience with DCWW's report. However, this is an element which requires strengthening within the other water company reports (Appendix B And D).</p>	<p>Comment noted.</p> <p>The elements of ecosystem resilience as set out in the Environment (Wales) Act 2016, will be considered in the baseline/key issues section for biodiversity within the relevant Environmental Report (to accompany the WRMP24s).</p>
		<p><u>Biodiversity, flora and fauna</u></p> <p>Key issues for biodiversity should explicitly reference issues faced by freshwater habitats including flow regime and physical modifications. The effects on migratory species, including effects on migratory fish from barriers to migration, changes in flow and gravel movement should be considered as these are currently missing.</p>	<p>These issues will be considered in the HRA where European sites are designated for migratory species and to a certain extent in the WFD report. Where relevant it may also be included in the appropriate Environmental</p>

Consultation Question	Section	Consultee Response	Response/Action
	Section 3.2/Table 3.1	<p><u>Geology, land use and soils</u> Minimising loss of best and most versatile agricultural land has been included. We believe that you also need to consider the wider impacts on other land-uses (such as forestry operations).</p>	<p>Report (to accompany either the WRW Regional Plan or WRMP24). Comment noted.</p> <p>An additional guide question will be added against the SEA Objective 4 for the 'Soils, Land Use and Geology' topic:</p> <p><i>Will it avoid adverse effects on other land uses (such as forestry)?</i></p> <p>In this way, where appropriate, wider impacts on other land-uses will be considered in the relevant Environmental Report.</p>
	Section 3.2/Table 3.1	<p><u>Water</u> Requires strengthened links to freshwater habitats – as per previous comments.</p>	<p>Comments noted.</p> <p>Where relevant, revised information may be included in the appropriate Environmental Report. These issues will be considered in the HRA where European sites are designated for migratory species and to a certain extent in the WFD report.</p>
		<p><u>Water</u> We would recommend that you consider any potential changes to 'fluvial geomorphology' (for example sediment loading) from your WRMP options and therefore any potential impacts to WFD status or impacts to freshwater ecology.</p>	<p>Comments noted.</p> <p>Geomorphology is highlighted as a key issue in WRMP specific baselines e.g., Appendix A, where the "the need to protect, maintain and enhance geomorphological functions and services" is identified. Given its strategic nature and the geographic extent covered, further additional information on fluvial geomorphology will not be provided in the baseline.</p> <p>The following supplementary or amended guide questions will be included to permit consideration of geomorphology effects:</p> <ul style="list-style-type: none"> • <i>Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems? Objective 1.</i> • <i>'Will it result in changes to river flows, <u>channel morphologies</u>, wetted width or</i>

Consultation Question	Section	Consultee Response	Response/Action
			<p><i>river levels?</i> Objective 5.</p> <p>The WFD Assessment (Stage 3 Impact Assessment) also includes consideration of geomorphology through the source-pathway-receptor approach to identifying effects. Where relevant, such information will be used to inform the assessment of any options against the above guide questions.</p>
		<p><u>Water</u> We would recommend that you also refer to consideration of the implementation of WFD Regulations 2017 mitigation measures as many of the existing reservoirs and abstractions still have mitigation measures that need to be put in place.</p>	<p>Comments noted.</p> <p>These issues will be considered in the WFD report. Where relevant it may also be included in the appropriate Environmental Report (to accompany either the WRW Regional Plan or WRMP24).</p>
	Table 3.1	<p><u>Air quality</u> Recommend a wording change from 'minimise emissions' to 'ensure that people and sensitive habitats are protected from emissions by enhancing air quality'.</p>	<p>Comment noted.</p> <p>It is considered that the existing wording (<i>The need to minimise emissions of pollutant gases and particulates and enhance air quality arising from the implementation of the WRMPs and WRW Regional Plan.</i>) is sufficiently broad, such that it already captures the need to enhance air quality to protect people and sensitive habitats and goes further by saying that emissions should be also be minimised.</p>
	Table 3.1	<p><u>Climatic factors</u> The climate change section of Table 3.1 refers to coastal change and cross references to the water -flood risk section. Whilst vulnerability to flooding and coastal change is recognised, the relevant key issue highlighted relates to resilience only. It is recommended that adaptation is also considered for coastal assets which are at flooding or erosion risk.</p>	<p>No change. Comment noted.</p> <p>Table 3.1 includes the need to take into account, and where possible adapt to, the potential effects of climate change. Flood risk is also identified as a separate issue. Taking into account the nature and scope of the plans being assessed and the information already provided, the additional information suggested regarding coastal assets and erosion are considered to be appropriately covered within the assessment.</p>
	Table 3.1	<p><u>Landscape</u> Suggest adding Protect against wildfires (due to extreme weather events linked to climate change) as key issues throughout the reports.</p>	<p>Comment noted. ' </p> <p>Taking into account the nature and scope of the</p>

Consultation Question	Section	Consultee Response	Response/Action
			plans being assessed and the information already provided, the additional information suggested is considered outside of scope for the assessment.
<p>Q3. Do you agree with the proposed approach to the SEAs of the draft WRW Regional Plan and WRMP24s? Are the proposed SEA objectives, guide questions and significance thresholds appropriate for the scope of each plan assessment? If not, which objectives/guide questions should be amended and which other objectives/guide questions do you believe should be included?</p>		<p>We welcome that a 'high-level' analysis of the impact that the draft WRW Regional Plan and WRMPs will have on the achievement of the seven well-being goals for Wales and that the objective for the 'Sustainable Management of Natural Resources' will be undertaken. The Sustainable Development principle and the SMNR principles should be built into your SEA process (in addition to the WRMP process) to ensure that these are fully embedded, and you are maximising your contributions to the well-being of Wales, as per the WRMP guidance. Please see our comments on HRA process with regards to boundaries for assessing impacts. Where specific quantified thresholds are given to determine impact, these should be considered in relation to the local context.</p>	<p>Comment noted.</p> <p>The high-level analysis of the impact that the draft WRW Regional Plan and WRMPs on the seven well-being goals for Wales and the objective for the SMNR will build on that completed for the relevant WRMP19s (informed by any available guidance from Welsh Government or the Future Generations Commissioner for Wales. It will be undertaken following mapping of the 17 SEA objectives against the seven well-being goals.</p> <p>WRW is taking an integrated approach to preparing the Regional Plan and the WRMP24s. WRW member water companies are using a regionally consistent set of methodologies to reflect local, regional and national needs into the development of the plans. The definitions of significance have been developed so that they can apply to the SEA of each of the plans, whether that be the WRW Regional Plan or the individual WRMPs to ensure a consistent approach to interpreting the significance of effects.</p>
	Table 4.2/Appendix F	<p><u>Biodiversity, flora and fauna</u></p> <ul style="list-style-type: none"> We believe that objective 1 and guide question should be amended to "Protect, restore and enhance". This would reflect the current need to work towards restoring many of our protected sites to favourable condition. There is a long legacy of damage to our protected sites and it takes time and considerable resources to tackle many of the complex issues. Include minimise the "risk" of spread of Invasive and Non-Native Species. 	<p>Agreed.</p> <p>The wording of Objective 1 (Biodiversity) and Objective 3 (INNS) and corresponding guide questions will be revised to reflect these comments.</p>
		<p><u>Geology, land use and soils</u></p> <ul style="list-style-type: none"> You will need to consider all types of relevant land use (such as different types of agriculture, horticulture, forestry) within the local area and will need to consider what is important in the context. Currently these considerations are missing from SEA scoping document. 	<p>Comment noted.</p> <p>An additional guide question will be added against the SEA Objective 4 for the 'Soils, Land Use and Geology' topic:</p> <p><i>Will it avoid adverse effects on other land uses (such as forestry)?</i></p>

Consultation Question	Section	Consultee Response	Response/Action
			In this way, where appropriate, wider impacts on other land-uses will be considered in the relevant Environmental Report.
	Table 4.2/Appendix F	<p><u>Water</u></p> <ul style="list-style-type: none"> There needs to be greater integration and consideration of how the guide questions and objectives work together for example in the Water topic, when referring to sustainable use of water. The use of water is not just for people as its vital to sustain biodiversity in the face of climate change. The Water quantity and quality topics should link the other topic objectives, such as Biodiversity and Climatic factors topics. These topics would benefit from having guide questions that relate to the sustainable use of water and SMNR principles. Linked to comment on objective 1 above – you should consider whether the Regional Plans/WRMP options will contribute to restoration of species that are currently not achieving management objectives, including due to flow regime or physical modifications. Water quantity should also include the guide questions “Will it support the achievement of WFD protected area objectives?” and “Will it prevent the deterioration of Water Framework Directive (WFD) waterbody status (or potential)?” as listed in the Water quality topic, can these be added as guide questions? These questions would benefit from the inclusion of lakes and wetlands. Flooding should also be considered as a key ecosystem function of rivers. 	<p>Comments noted.</p> <p>Schedule 2 (6) of the SEA Regulations requires the assessment and reporting of the likely significant effects on the following topics: “biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; <u>and the inter-relationship between the issues.</u>” This will be undertaken through the assessment of cumulative effects of individual options which will also be informed by the findings of the HRA, WFD assessment and NCA.</p> <p>The wording of Objective 1 (Biodiversity) and Objective 3 (INNS) and corresponding guide questions will be revised to include ‘restoration’, to ensure, where relevant effects are identified, described and assessed. These issues will be considered in the HRA and the WFD report.</p> <p>Contribution to the achievement of WFD objectives is already specifically reflected in the guide questions for Objective 6 (Water Quality).</p> <p>The guide questions for Objectives 5 (Water Quantity) and 6 (Water Quality) include reference to surface waters and water bodies, and to avoid unintended duplication, reference to ‘lakes and wetlands’ will not be included.</p> <p>Comment noted.</p>
	Table 4.2/Appendix F	<p><u>Air quality</u></p> <ul style="list-style-type: none"> Please see comments from question 2 on air quality for suggested amendment. 	Comment noted.

Consultation Question	Section	Consultee Response	Response/Action
	Table 4.2/Appendix F	<p><u>Climatic factors</u></p> <ul style="list-style-type: none"> The guide question “Will the option increase environmental resilience to the effects of climate change?” could be expanded to identify impacts on flood risk/water quality. 	<p>Comment noted.</p> <p>This guide question already includes reference to impacts on flood risk and water quality.</p>
	Table 4.2/Appendix F	<p><u>Population and human health</u></p> <ul style="list-style-type: none"> Within the guide questions and thresholds further integration of the wellbeing goals should be considered to maximise the wellbeing benefits provided of any option, including enjoyment of green and blue space providing both mental and physical wellbeing benefits, social wellbeing factors and economic wellbeing. 	<p>No change.</p> <p>Comment noted.</p> <p>SEA Objective 12 includes the following guide question “<i>Will it protect and enhance public access to, and enjoyment of, green and blue infrastructure, open space/recreational facilities and the natural and historic environment, and in doing so help promote healthy lifestyles including mental well-being?</i>” which along with SEA Objectives 1 (Biodiversity), 2 (Sustainable Natural Resources), 10 (Resilience), 11 (Economic and social well-being), 13 (Human health) and 16 (Cultural heritage) provide a broad framework to consider the effects on the well-being goals. Further review of the updated SEA framework following scoping consultation will be undertaken to ensure any opportunities to strengthen the assessment are identified and incorporated.</p>
	Table 4.2/Appendix F	<p><u>Landscape</u></p> <ul style="list-style-type: none"> We would recommend an addition to one of the proposed guide questions on landscapes (which includes Designated Landscapes). Therefore, we suggest the addition of ‘and the settings of Designated Landscapes’. 	<p>Agreed. The wording of the first guide question under Objective 17 (Landscape) has been amended to read:</p> <p><i>Will it avoid adverse effects to, and enhance where possible, protected/designated landscapes and the settings of designated landscapes (including woodlands) such as National Parks or AONBs?</i></p>

Table B.5 Responses to Natural England comments on the SEA Scoping Report

Consultation Question	Section	Consultee Response	Response/Action
N/A	N/A	There is much in the Strategic Environmental Assessment (SEA) scoping report that is good and Natural England welcomes WRW's commitment to environmental assessment.	Comment noted.
Q1. Do you think that the Scoping Report sets out sufficient information to provide the context for the SEAs of the draft WRW Regional Plan and WRMP24s in terms of an overview of each plan, the review of relevant plans and programmes and baseline evidence and analysis? If not, what additional information should be included?	Section 2, Table 2.1, Appendix E	<p>Natural England applauds the very thorough consideration of plans and programmes that underpin it's plan. Some additional plans that may be relevant:</p> <p>The Environment Bill 2020, although not yet finally published, should be as this includes long term targets set by the government relating the natural environment – and may be especially relevant to the environmental destination.</p> <p>The Land Drainage Act 1991 – ground water levels.</p> <p>The Conservation of Habitats and Species Regulations 2017 – current transposed directive in the UK of The Habitats Directive 1992.</p> <p>The Conservation (Natural Habitats, &c.) Regulations 1994 – imposed a duty on the IDB to develop WLMP for SSSI sites.</p> <p>The Nitrate Pollution Prevention Regulations 2015</p> <p>Agriculture Act 2020 – changes to farm subsidies could have a significant impact on the farming industry & thus water usage.</p> <p>We would like to see the key objectives for the Governments 25Year Plan to Improve the Environment highlighted more prominently, including the objectives for protected sites and the governments commitment to protect 30% of land by 2030.</p>	<p>Comment noted.</p> <p>The following additional plans and programmes will be included in the Environmental Report:</p> <ul style="list-style-type: none"> • The Land Drainage Act 1991 • The Conservation (Natural Habitats, &c.) Regulations 1994 • The Nitrate Pollution Prevention Regulations 2015 • The Agriculture Act 2020 <p>The Conservation of Habitats and Species Regulations 2017 is already included in the review of plans and programmes and also considered within section 1.6 of the Scoping Report. These 2017 regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 and in consequence, it is not proposed to include reference to the 1994 regulations. It is noted that changes to the 2017 Regulations came into force in January 2021, as a result of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, reflecting the UK's exit from the EU. These changes will be reflected within the review of plans and programmes in the Environmental Report.</p> <p>To avoid undue reliance on draft versions of plans and programmes that could be subject to change, consultation documents and draft legislation are not included in the plans and programmes reviewed, unless highly relevant e.g., the Water Resources Planning Guidelines.</p> <p>Comment noted.</p> <p>The Government's 25 Year Environment Plan: 'A Green Future: Our 25 Year Plan to Improve the Environment', is one of over 200 international/European, national, regional/sub-regional and local level plans were reviewed during the preparation of the Scoping Report. It has been reviewed and summarised (in Appendix E). Each has a claim of importance and relevance. Key policy objectives have been summarised in Table 2.2 with the 25 Year Plan identified.</p>
Q2. Do you agree that the main environmental issues identified are relevant to the SEAs of the draft WRW Regional Plan and WRMP24s? If not,	Table 3.1	Table 3.1 sets out the key issues relating to Biodiversity Flora and Fauna. Natural England would like to see added to the list depletion and pollution of groundwater as we feel this has significantly impacted a large number of protected sites.	<p>Comment noted.</p> <p>'Depletion and pollution of groundwater' is considered to be addressed in the revised key issues included under the water quality topic 'The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives' which</p>

Consultation Question	Section	Consultee Response	Response/Action
which issues do you think need to be included or excluded?			in summary contains aspects of both groundwater quantity and quality.
	Table 3.1	Table 3.1 – section 5. Flood Risk – natural flood management (NFM) tools area key tool for improving the water resource infrastructure.	Comment noted.
	Table 3.1	Table 3.1 – section 5. Flood Risk – key issues include the lack of connectivity of our rivers to their floodplains, the channelisation and dredging of rivers, the historic conversion of rivers into drains, and historic land drainage acts.	Comment noted. The key issues summarised in Table 3.1 relate to the scope of the WRMPs and the assessment. The issues highlighted in the response will where appropriate be added to those taken forward for consideration within the SEA and subsequently presented in the relevant Environmental Report, accompany each plan.
	N/A	We would also like to see specifically referenced the requirement to increase landscape resilience and ensure that our future dependence on the natural environment relies on us using it more sustainably. We would also highlight that many of the solutions that are required to reverse biodiversity loss and restore protected sites and meet other objectives are entirely compatible with other key strategies that could be seen as competing, such as the need to protect drinking supplies and prevent flooding. Nature Based Solutions work synergistically and can offer significant cost-benefit compared to more traditional approaches.	Comments noted. SEA Objective 1 'To protect and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain' and SEA Objective 2 'To protect and enhance sustainable natural resources and the ecosystem services they provide' explicitly seeks to address many of the wide-ranging issues highlighted. WRW and its core members are seeking to develop an ambitious long-term, multi-sector adaptive water resources plan. This includes taking into account wider societal needs including flood risk considerations, environmental improvement and cross-sector working, where innovative approaches such as NBS could afford benefits.
	N/A	Reference should be made to opportunities to use nature based solution to deliver multiple benefits such as carbon sequestration, biodiversity, nutrient capture, urban cooling, flood risk mitigation in addition to improved infiltration and storage of water for resources.	Comment noted.
	N/A	One issue common to all SEAs is that separating the impacts into separate topics makes it more difficult to identify the synergistic impacts of schemes but also the multiple benefits from nature-based solutions.	Comment noted. Schedule 2 (6) of the SEA Regulations requires the assessment and reporting of the likely significant effects on the following topics: "biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; <u>and the inter-relationship between the issues.</u> " This will be undertaken through the assessment of cumulative effects of individual options which will also be informed by the findings of the HRA, WFD assessment and NCA. Secondary, cumulative and synergistic effects of individual options, programmes of options within each of the WRZs in deficit, the WRW Regional Plan and WRMPs as a whole and the WRW

Consultation Question	Section	Consultee Response	Response/Action
			Regional Plan and WRMPs in combination with other plans and programmes will be assessed as part of the SEA.
Q3. Do you agree with the proposed approach to the SEAs of the draft WRW Regional Plan and WRMP24s? Are the proposed SEA objectives, guide questions and significance thresholds appropriate for the scope of each plan assessment? If not, which objectives/guide questions should be amended and which other objectives/guide questions do you believe should be included?	Table 4.2/Appendix F	Table 4.2 – Topic. Biodiversity, Flora and Fauna – bullet point 10 references as an example climate change adaptability. Suggest having a specific question referring to the impacts of climate change on protected / non protected sites / species e.g. – Will it provide opportunities for climate adaptation and protect the climate resilience of vulnerable and priority sites?	<p>Comment noted.</p> <p>The following guide question will be added under Objective 2 of the assessment framework:</p> <p><i>Will it provide opportunities for climate adaptation and protect the climate resilience of vulnerable and priority sites?</i></p>
	?	Table 4.1 – Topic. Water Quality - Highlight the issues of emerging substances (PCPs) & plastic pollution & knowledge gaps within this area.	<p>Comment noted.</p> <p>Issues relating to water quality, in terms of emerging substances (PCPs) and plastic pollution, and knowledge gaps within this area will be highlighted within the Environmental Report.</p>
	Appendix F	Few semi-quantitative or quantitative metrics within the assessment to support guide questions. Do we think going forward that some less subjective 'measures' need to be included? How are we going to balance things against environmental impacts without quantifiable measures? UKWIR 2020 guidance suggests a mix of qualitative, semi-qualitative and quantitative measure might be used.	<p>Comment noted.</p> <p>The 'Definitions and Thresholds of Significance' set out in Appendix F of the scoping report, are considered to provide a balance of both quantitative and qualitative measures (as per UKWIR Guidance) which help to ensure a consistent approach to interpreting the significance of effects and helps the reader understand the decisions made by the assessor.</p> <p>The proposed thresholds include reference to yield (Ml/d), design capacity (Ml/d), capex (£m), embodied and operational carbon (tCO2e), flood risk (% site in FZ3), air quality (AQMAs) and water quality (WFD status). Additional quantitative measures for air quality and Material Assets – Waste and Resource Use have also now been added to ensure consistency between assessments.</p> <p>These will be set out in the relevant Environmental Reports.</p>

Appendix C

Review of Plans and Programmes

International / European Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
Conservation of Migratory Species (CMS) (1979) <i>The Bonn Convention on the Conservation of Migratory Species of Wild Animals</i>	
<p>The Convention on the Conservation of Migratory Species of Wild Animals (also known as the Bonn Convention or CMS) is an intergovernmental treaty under the United Nations Environment Programme. The convention was signed in 1979 ratified in the UK in 1985.</p> <p>The convention aims to ensure contracting parties work together to conserve terrestrial, marine and avian migratory species and their habitats (on a global scale) by providing strict protection for endangered migratory species.</p> <p>Overarching objectives set for the Parties are:</p> <ul style="list-style-type: none"> • Should promote, co-operate in and support research relating to migratory species; • Shall endeavour to provide immediate protection for migratory species; • Shall endeavour to conclude Agreements covering the conservation and management of migratory species included in Appendix II. <p>Setting targets is the responsibility of member states.</p>	<p>The Regional Plan should take into account the habitats and species that have been identified under this directive, and should include provision for their protection, preservation and improvement.</p> <p>The SEA assessment framework should include biodiversity, incorporating the importance of conserving migratory species.</p>
Council of Europe (1979) <i>The Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention)</i>	
<p>The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) was adopted in Bern, Switzerland in 1979, and came into force in 1982.</p> <p>The principal objectives are:</p> <ul style="list-style-type: none"> • To conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several States; • To promote such co-operation. Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species; • In order to achieve this the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species. <p>Targets for Contracting Parties are:</p> <ul style="list-style-type: none"> • Promoting national policies for the conservation of wild flora, wild fauna and natural habitats, with particular attention to endangered and vulnerable species, especially endemic ones, and endangered habitats, in accordance with the provisions of this Convention; • Undertaking in its planning and development policies, and in its measures against pollution, to have regard to the conservation of wild flora and fauna; <p>Promoting education and disseminating general information on the need to conserve species of wild flora and fauna and their habitats.</p>	<p>The Regional Plan should take into account the habitats and species that have been identified under the Convention, and should include provision for the preservation, protection and improvement of the quality of the environment as appropriate.</p> <p>The SEA assessment framework should incorporate the conservation provisions of the Convention particularly the protection of wild flora, fauna and natural habitats.</p>
Council of Europe (1985) <i>The Granada Convention for the Protection of the Architectural Heritage of Europe</i>	
<p>The main purpose of the convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage and to foster closer European co-operation in defence of</p>	<p>The SEA assessment framework should include an objective on</p>

International / European Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
heritage. Recognition that conservation of heritage is a cultural purpose and integrated conservation of heritage is an important factor in the improvement of quality of life.	the conservation and enhancement of heritage and decision making criteria on architectural heritage.
Council of Europe (1992) <i>Convention on the Protection of Archaeological Heritage (The Valetta Convention)</i>	
Agreement that the conservation and enhancement of an archaeological heritage is one of the goals of urban and regional planning policy. It is concerned in particular with the need for co-operation between archaeologists and planners to ensure optimum conservation of archaeological heritage.	The SEA assessment framework should include an objective on the conservation and enhancement of heritage and decision making criteria on archaeological heritage.
Council of Europe (2000), <i>The European Landscape Convention (The Florence Convention)</i> (became binding March 2007)	
<p>The European Landscape Convention was adopted on 20 October 2000 in Florence and came into force on 1 March 2004 (Council of Europe Treaty Series no. 176). It is open for signature by member states of the Council of Europe and for accession by the European Community and European non-member states. The UK Government signed the European Landscape Convention in 2006 and it became binding from March 2007.</p> <p>The aims of the Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues.</p> <p>Responsibility for implementation has been deferred to the signatories. Articles 5 (general measures) and 6 (specific measures) set out measures that the signatories will undertake, e.g. integrating landscape into policies with possible direct or indirect impact on landscape and to introduce instruments aimed at protecting, managing and/or planning the landscape.</p>	<p>The Regional Plan should take landscape into account.</p> <p>The SEA assessment framework should include an objective on landscape.</p>
Council of Europe (2003) <i>European Soils Charter</i>	
Sets out common principles for protecting soils across the European Union area.	<p>The Regional Plan should take soils into account.</p> <p>The SEA assessment framework should include an objective on soils.</p>
European Commission (1991) <i>The Nitrates Directive 91/676/EEC</i>	
<p>The Nitrates Directive is designed to reduce water pollution caused by nitrate from agriculture. The directive requires Defra and the Welsh Government to identify surface or ground waters that are, or could be high in nitrate from agricultural sources.</p> <p>Once a water body is identified as being high in nitrate all land draining to that water is designated a Nitrate Vulnerable Zone. Within these zones, farmers must observe an action programme of measures which include restricting the timing and application of fertilisers and manure and keeping accurate records.</p>	<p>The Regional Plan should be consistent with the aim to reduce water pollution caused by nitrates from agriculture.</p> <p>The SEA assessment framework should include water quality.</p>
European Commission (1991) <i>Urban Waste Water Treatment Directive 1991/271/EEC</i>	
The aim of the Urban Waste Water Directive is to protect the environment from the adverse effects of waste water discharges. It sets out guidelines and legislation for the collection, treatment and discharge of urban waste water. The Directive was adopted by member states in May 1991 and is transposed into law in England and Wales by The Urban Waste Water Treatment (England & Wales) Regulations 1994 (as amended*). The Regulations require that all significant discharges are treated to at least secondary treatment. They also set standards and deadlines for the provision of sewage systems, the treatment of sewage according to the size of the community served by the sewage treatment works and the sensitivity of receiving waters to their discharges.	<p>The Regional Plan will need to reflect the guidelines and legislation set out in the directive.</p> <p>The SEA assessment framework should include water quality.</p>
European Commission (1992) <i>The Habitats Directive 1992/43/EEC</i>	

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Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
<p>The Habitats Directive seeks to conserve natural habitats. Conservation of natural habitats requires member states to identify special areas of conservation and to maintain where necessary landscape features of importance to wildlife and flora.</p> <p>It is required that each Member State propose a list of sites indicating which natural habitat types and which species the sites host. The information would include a map of the site, its name, location and its extent. The Commission will then establish, in agreement with each Member State, a draft list of sites of Community importance drawn from the Member States' lists identifying those which host one or more priority natural habitat types or priority species.</p>	<p>The Regional Plan should take into account the habitats and species that have been identified under this Directive, and include provision for the preservation, protection and improvement of the quality of the environment as appropriate.</p> <p>The SEA assessment framework should incorporate sites protected for their nature conservation importance.</p>
European Commission (1998) <i>Drinking Water Directive 1998/83/EC</i>	
<p>The Drinking Water Directive (DWD) concerns the quality of water intended for human consumption. The objective of the DWD is to protect the health of the consumers in the EU and to make sure the water is wholesome and clean. To do this, the DWD sets standards for 48 (microbiological and chemical) parameters that can be found in drinking water. The parameters must be monitored and tested regularly. In principle WHO guidelines for drinking water are used as a basis for the standards in the DWD. While translating the DWD into their own national legislation (transposition of the DWD), the Member States of the European Union can include additional requirements e.g. regulate additional substances that are relevant within their territory or set higher standards. However, Member States are not allowed to set lower standards as the level of protection of human health should be the same within the whole EU. Member States have to monitor the quality of the drinking water supplied to their citizens and of the water used in the food production industry. Member States report at three yearly intervals the monitoring results to the European Commission.</p> <p>Standards constitute legal limits. Sets limits for microbiological and chemical parameters in drinking water. Also gives indicator parameters.</p>	<p>The Regional Plan should seek to ensure the continuity of a safe and secure drinking water supply and protect or improve drinking water quality where possible.</p> <p>The SEA assessment should consider the effects on water and human health.</p>
European Commission (2000) <i>The Water Framework Directive 2000/60/EC</i>	
<p>The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater and to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore). The framework aims to:</p> <ul style="list-style-type: none"> • Protect any further deterioration and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; • Promote sustainable water use based on a long-term protection of available water resources; • Enhance protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; • Ensure the progressive reduction of pollution of groundwater and prevent its further pollution; • Contribute to mitigating the effects of floods and droughts. <p>Key targets and indicators relevant to the Regional Plan and SEA are:</p> <ul style="list-style-type: none"> • Achievement of good ecological status and good surface water chemical status by 2015 unless alternative objectives have been identified; • Achievement of good ecological potential and good surface water chemical status for heavily modified water bodies and artificial water bodies; 	<p>The Regional Plan needs to consider the implication of the Directive in terms of sustainable water use, protection and improvement of the aquatic environment, reducing and preventing pollution and mitigating the effects of flood and droughts.</p> <p>The SEA assessment framework should include water quality, water resources, sustainable water use, and biodiversity.</p>

International / European Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
<ul style="list-style-type: none"> Prevention of deterioration, including of each element, from one status class to another; Achievement of water-related objectives and standards for protected areas; Achievement of good groundwater quantitative and chemical status by 2015; Reversal of any significant and sustained upward trends in pollutant concentrations and prevent or limit input of pollutants to groundwater; Achievement of water related objectives and standards for protected areas and contributes to mitigating the effects of flood and droughts. 	
European Commission (1999) Directive on the Landfill of Waste 99/31/EC	
<p>The Directive aims at reducing the amount of waste landfilled; promoting recycling and recovery; establishing high standards of landfill practice across the EU, and preventing the shipping of waste from one Country to another.</p> <p>The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment (in particular on surface water, groundwater, soil, air and human health) from the land-filling of waste, by introducing stringent technical requirements for waste and landfills. The Directive requires the reduction of the amount of biodegradable municipal waste sent to landfill to 75% of the total generated in 1995 by 2006, 50% by 2009 and 35% by 2016.</p>	<p>The Regional Plan should take the effects on waste to landfill into account.</p> <p>The SEA assessment should consider the effects on water, soil, air, human health and waste</p>
European Commission (2001) Directive on the Assessment of the Effects of Certain Plans and Programmes on the Environment (The SEA Directive) 2001/42/EC	
<p>The objective of the SEA Directive is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view of contributing towards sustainable development".</p> <p>Throughout the course of the development of the plan, policy or programme, the aim of SEA is to identify the potential impact of options proposed in the plan in terms of their environmental, economic and social effects. If any adverse effects are identified, these options can then be avoided or proposals modified to manage or mitigate adverse effects.</p>	<p>This directive is the driver for SEA. All topics identified in the SEA Directive should be considered within the scope of the assessment. Need to ensure that the subsequent Environmental Report meets the requirements of Annex I of the SEA Directive.</p>
European Commission (2002) Directive on the Energy Performance of Buildings 2002/91/EC	
<p>The European Union Energy Performance of Buildings Directive was published in the Official Journal on the 4th January 2003. The overall objective of the Directive is to <i>promote the improvement of energy performance of buildings within the Community taking into account outdoor climate and local conditions as well as indoor climate requirements and cost effectiveness.</i></p> <p>The Directive highlights how the residential and tertiary sectors, the majority of which are based in buildings, accounts for 40% of EU energy consumption.</p>	<p>The SEA should highlight any opportunities for new buildings associated with the Regional Plan to contribute to improved energy performance.</p>
European Commission (2002) The Environment Noise Directive (END) 2002/49/EC	
<p>The END aims to "define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise". For that purpose several actions are to be progressively implemented. It furthermore aims at providing a basis the harmful effects, including annoyance, due to the exposure to environmental noise". For that purpose several actions are to be progressively implemented. It furthermore aims at providing a basis for developing EU measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery.</p> <p>The underlying principles of the Directive are similar to those underpinning other overarching environment policies (such as air or waste), i.e.:</p> <ul style="list-style-type: none"> Monitoring the environmental problem; by requiring competent authorities in Member States to draw up "strategic noise maps" for major roads, railways, airports and agglomerations, using harmonised noise indicators Lden (day-evening-night 	<p>The Regional Plan will need to have regard to the requirements of the END.</p> <p>The SEA assessment framework should include for the protection against excessive noise.</p>

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Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
<p>equivalent level) and Night (night equivalent level). These maps will be used to assess the number of people annoyed and sleep-disturbed respectively throughout Europe.</p> <ul style="list-style-type: none"> • Informing and consulting the public about noise exposure, its effects, and the measures considered to address noise, in line with the principles of the Aarhus Convention. • Addressing local noise issues by requiring competent authorities to draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good. The directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities. • Developing a long-term EU strategy, which includes objectives to reduce the number of people affected by noise in the longer term, and provides a framework for developing existing Community policy on noise reduction from source. With this respect, the Commission has made a declaration concerning the provisions laid down in article 1.2 with regard to the preparation of legislation relating to sources of noise. 	
European Commission (2004) <i>Environmental Liability Directive 2004/35/EC</i>	
The Directive establishes a framework for environmental liability based on the "polluter pays" principle, with a view to preventing and remedying environmental damage.	The SEA should take account of the need to ensure that proposals in the Regional Plan avoid causing direct or indirect damage to the aquatic environment or contamination of land that creates a significant risk to human health.
European Commission (2005) <i>Thematic Strategy on Air Pollution</i>	
This strategy supplements legislation. It sets out objectives for air pollution and proposes measures for achieving them by 2020.	<p>The Regional Plan should be in accordance with the requirements of the strategy.</p> <p>The SEA should take into account the need to improve air quality.</p>
European Commission (2006) <i>The Bathing Waters Directive 2006/7/EC</i>	
<p>The Bathing Waters Directive applies to surface waters that can be used for bathing except for swimming pools and spa pools, confined waters subject to treatment or used for therapeutic purposes and confined waters artificially separated from surface water and groundwater.</p> <p>The Directive is intended to:</p> <ul style="list-style-type: none"> • Be based on scientific knowledge on protecting health and the environment, as well as environmental management experience, • Provide better and earlier information of citizens about quality of their bathing waters, including logos, • Move from simple sampling and monitoring of bathing waters to bathing quality management, and • Be integrated into all other EU measures protecting the quality of all our waters (rivers, lakes, ground waters and coastal waters) through the Water Framework Directive. <p>Two main parameters for analysis (intestinal enterococci and escherichia coli) are defined, instead of nineteen in the previous Directive. These parameters will be used to monitor and</p>	<p>The Regional Plan will need to comply with set limits.</p> <p>The SEA assessment should include a guide question relating to the effects of options on the water quality at designated bathing waters.</p>

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<p>assess the quality of bathing waters and to classify them. Other parameters could be taken into account, such as the presence of cyanobacteria or microalgae.</p> <p>Member States must monitor the bathing waters every year. The monitoring calendar should provide for at least four samples to be taken per season (except where the season is very short or where there are special geographic constraints). The sampling interval should not be longer than one month. Upon the monitoring results gathered in four years, Member States should assess the bathing waters at the end of every season. A shorter period may be acceptable in some cases.</p> <p>The waters are classified according to their level of quality: poor, sufficient, good or excellent, linked to clear numerical quality standards for bacteriological quality. The category "sufficient" is the minimum quality threshold that all Member States should attain by the end of the 2015 season at the latest. Where water is classified as "poor", Member States should take certain management measures, e.g. banning bathing or posting a notice advising against it, providing information to the public, and suitable corrective measures.</p>	
European Commission (2006) Directive on animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals 2006/88/EC	
<p>The Directive establishes:</p> <ul style="list-style-type: none"> • Animal health requirements for the placing on the market, importation and transit of aquaculture animals and their products; • Minimum measures to prevent diseases in aquaculture animals; • Minimum measures to be taken in response to suspected or established cases of certain diseases in aquatic animals. 	<p>The SEA should take account of the need to maintain or enhance the quality of habitats and biodiversity.</p>
European Commission (2006) Directive on the protection of groundwater against pollution and deterioration 2006/118EC	
<p>This Directive establishes specific measures as provided for in Article 17(1) and (2) of Directive 2000/60/EC (Water Framework Directive) in order to prevent and control groundwater pollution. This Directive is designed to prevent and combat groundwater pollution.</p>	<p>The SEA should take account of the need to maintain, protect and improve water quality across the Regional Plan area.</p>
European Commission (2006) Fresh Water Fish Directive 2006/44/EC	
<p>The Directive seeks to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters, it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters. The Directive is designed to protect and improve the quality of rivers and lakes to encourage healthy fish populations.</p>	<p>The SEA should take account of the need to promote the protection of river and lake water quality in order to maintain and develop suitable environments that will sustain freshwater fish populations.</p>
European Commission (2006) Mining Waste Directive 2006/21/EC	
<p>The Directive aims to prevent or reduce as far as possible any adverse effects on the environment, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries. The Directive covers the management of waste resulting directly from prospecting, extraction, treatment and storage of mineral resources and from quarrying. Operators are required to use Best Available Techniques in the management of waste facilities and the prevention of major accidents.</p>	<p>The Regional Plan should have regard to the aim to avoid adverse effects from extractive waste.</p> <p>The SEA assessment framework should include consideration of waste.</p>
European Commission (2006) Thematic Strategy for Soil Protection	

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<p>The <i>Thematic Strategy for Soil Protection</i> consists of a Communication from the Commission to the other European Institutions, a proposal for a framework Directive (a European law), and an Impact Assessment.</p> <p>It sets out an EU strategy for soil protection with an overall objective of the protection and sustainable use of soil, based on the following guiding principles:</p> <p>(1) Preventing further soil degradation and preserving its functions:</p> <ul style="list-style-type: none"> • when soil is used and its functions are exploited, action has to be taken on soil use and management patterns; and • when soil acts as a sink/receptor of the effects of human activities or environmental phenomena, action has to be taken at source. <p>(2) Restoring degraded soils to a level of functionality consistent at least with current and intended use, thus also considering the cost implications of the restoration of soil.</p> <p>The strategy proposes introducing a framework Directive setting out common principles for protecting soils across the EU, with Member States deciding how best to protect soil and how use it in a sustainable way on their own territory.</p>	<p>The Regional Plan should take potential effects on soil into account.</p> <p>The SEA assessment framework should include soils.</p>
European Commission (2007) <i>The Eel Directive 2007/1100/EC</i>	
<p>The Eel Directive establishes measures for the recovery of the stock of European eel and requires member states to produce Eel management plans for each catchment.</p>	<p>The Regional Plan should ensure that there are no adverse impacts on eel as a result of water resource measures taken.</p>
European Commission (2007) <i>Floods Directive 2007/60/EC</i>	
<p>The Directive's aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive shall be carried out in coordination with the Water Framework Directive, notably by flood risk management plans and river basin management plans being coordinated, and through coordination of the public participation procedures in the preparation of these plans.</p>	<p>The Regional Plan should take account of the flood risk management plans.</p> <p>The SEA assessment framework should include flood risk.</p>
European Commission (2008) <i>Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC Air Quality Framework Fourth Daughter Directive 2004/107/EC and previous directives (96/62/EC; 99/30/EC; 2000/69/EC & 2002/3/EC)</i>	
<p>The Directive:</p> <ul style="list-style-type: none"> • defines and establishes objectives for ambient air quality to avoid, prevent or reduce harmful effects on human health and the environment as a whole; • assesses the ambient air quality in Member States using common methods and criteria; • obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and Community measures; • ensures that such information on ambient air quality is made available to the public; • seeks to maintain air quality where it is good and improving it in other cases; and • promotes increased cooperation between the Member States in reducing air pollution. 	<p>The Regional Plan should contribute towards achieving air quality standards set out in the Directive.</p> <p>The SEA assessment framework should include air quality.</p>
European commission (2008) <i>Directive on Waste (Directive 75/442/EEC, 2006/12/EC 2008/98/EC as amended)</i>	

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<p>The essential objective of all provisions relating to waste management should be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste. Some key objectives include:</p> <ul style="list-style-type: none"> • The recovery of waste and the use of recovered materials as raw materials should be encouraged; • Member States should, in addition to taking responsible action to ensure the disposal and recovery of waste, take measures to restrict the production of waste; • It is important for the Community as a whole to become self-sufficient in waste disposal and desirable for Member States individually to aim at such self-sufficiency; • Waste management plans should be drawn up in the Member States; • Movements of waste should be reduced; • Ensure a high level of protection and effective control; • Subject to certain conditions, and provided that they comply with environmental protection requirements, some establishments which process their waste themselves or carry out waste recovery may be exempted from permit requirements; • That proportion of the costs not covered by the proceeds of treating the waste must be defrayed in accordance with the 'polluter pays' principle. 	<p>The Regional Plan should seek to ensure the protection of human health and the environment in relation to waste management.</p> <p>The SEA assessment should include objectives on the protection of human health and the environment.</p>
European Commission (2008) Environmental Quality Standards Directive 2008/105/EC	
<p>The Directive aims to control the concentration of certain substances which pose a risk to the aquatic environment. The 33 'priority substances' addressed by the Directive are defined by the Water Framework Directive (2000/60/EC), including cadmium, lead, mercury, nickel, benzene and polyaromatic hydrocarbons.</p> <p>The Directive sets thresholds of concentration that must not be exceeded, with limits to average values over a year to ensure long-term water quality and maximum allowable concentrations to limit short term pollution peaks. Member States must comply with the water quality standards and record an inventory of emissions and discharges of all substances in the Directive.</p>	<p>The assessment framework should include assessment criteria relating to water quality.</p>
European Commission (2008) Marine Strategy Framework Directive 2008/56/EC	
<p>The Directive sets out a framework for an ecosystem-based approach to the management of human activities which supports the sustainable use of marine goods and services. The overarching goal of the Directive is to achieve 'Good Environmental Status' (GES) by 2020 across Europe's marine environment. The Directive establishes four European Marine Regions, based on geographical and environmental criteria. The North East Atlantic Marine Region is divided into four subregions, with UK waters lying in two of these (the Greater North Sea and the Celtic Seas).</p> <p>Each Member State is required to develop a marine strategy for their waters, in coordination with other countries within the same marine region or subregion. Marine strategies must be implemented to protect and conserve the marine environment, prevent its deterioration, and, where practicable, restore marine ecosystems in areas where they have been adversely affected. The marine strategies must contain:</p> <ul style="list-style-type: none"> • An initial assessment of the current environmental status of that Member State's marine waters; • A determination of what Good Environmental Status means for those waters; • Targets and indicators designed to show whether a Member State is achieving GES; • A monitoring programme to measure progress towards GES; • A programme of measures designed to achieve or maintain GES. 	<p>The SEA assessment framework should incorporate assessment criteria relating to the quality of the marine environment.</p>

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<p>The Directive also requires Marine Protected Areas (MPAs) to be established to support the achievement of GES.</p>	
<p>European Commission (2009) <i>Directive on the Conservation of Wild Birds 2009/147/EC</i> (codified version of Council Directive 79/409/EEC as amended)</p>	
<p>The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. The main provisions of the Directive include:</p> <ul style="list-style-type: none"> • The maintenance of the populations of all wild bird species across their natural range (Article 2) with the encouragement of various activities to that end (Article 3). • The identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance (Article 4). (Together with Special Areas of Conservation designated under the Habitats Directive, SPAs form a network of European protected areas known as Natura 2000). • The establishment of a general scheme of protection for all wild birds (Article 5). • Restrictions on the sale and keeping of wild birds (Article 6). • Specification of the conditions under which hunting and falconry can be undertaken (Article 7). (Huntable species are listed on Annex II of the Directive). • Prohibition of large-scale non-selective means of bird killing (Article 8). • Procedures under which Member States may derogate from the provisions of Articles 5-8 (Article 9) — that is, the conditions under which permission may be given for otherwise prohibited activities. • Encouragement of certain forms of relevant research (Article 10 and Annex V). <p>Requirements to ensure that introduction of non-native birds do not threatened other biodiversity (Article 11).</p>	<p>The Regional Plan should seek to protect and enhance biodiversity, particularly designated sites.</p> <p>The SEA assessment framework should include objectives, indicators and targets that cover biodiversity.</p>
<p>European Commission (2009) <i>Promotion of the use of energy from renewable sources Directive 2009/28/EC</i></p>	
<p>This Directive establishes a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport. It encourages energy efficiency, energy consumption from renewable sources and the improvement of energy supply.</p> <p>The Member States are to establish national action plans which set the share of energy from renewable sources consumed in transport, as well as in the production of electricity and heating, for 2020. These action plans must take into account the effects of other energy efficiency measures on final energy consumption (the higher the reduction in energy consumption, the less energy from renewable sources will be required to meet the target). These plans will also establish procedures for the reform of planning and pricing schemes and access to electricity networks, promoting energy from renewable sources.</p> <p>Each Member State has a target calculated according to the share of energy from renewable sources in its gross final consumption for 2020. The UK is required to source 15 per cent of energy needs from renewable sources, including biomass, hydro, wind and solar power by 2020. From 1 January 2017, biofuels and bioliquids share in emissions savings should be increased to 50%.</p>	<p>The Regional Plan should seek to contribute towards increasing the proportion of energy from renewable energy sources.</p> <p>The SEA assessment framework should include consideration of use of energy from renewable energy sources.</p>
<p>European Commission (2010) <i>Energy 2020 - A Strategy for Competitive, Sustainable and Secure Energy</i></p>	

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<p>EU energy and climate goals have been incorporated into the Europe 2020 Strategy for smart, sustainable and inclusive growth. The energy strategy includes five priorities for Europe:</p> <ol style="list-style-type: none"> 1. Achieving an energy-efficient Europe; 2. Building a truly pan-European integrated energy market; 3. Empowering consumers and achieving the highest level of safety and security; 4. Extending Europe's leadership in energy technology and innovation; 5. Strengthening the external dimension of the EU energy market. <p>Energy 2020 is part of Resource-Efficient Europe, one of the seven key initiatives of Europe 2020.</p>	<p>The SEA assessment framework should include criteria relating to energy where appropriate</p>
<p>European Commission (2010) <i>Europe 2020 - A Strategy for Smart, Sustainable and Inclusive Growth</i></p>	
<p>Europe 2020 is the EU's ten-year growth strategy. It aims to change the EU's growth model and create the conditions for growth that is smarter, more sustainable and more inclusive. It contains seven 'flagship initiatives' to provide a framework for innovation, the digital economy, employment, youth, industrial policy, poverty, and resource efficiency.</p> <p>There are also five key target areas for the EU to achieve by 2020:</p> <ol style="list-style-type: none"> 1. Employment: 75% of the 20-64-year-olds to be employed. 2. R&D: 3% of the EU's GDP to be invested in R&D. 3. Climate change and energy sustainability: greenhouse gas emissions 20% (or even 30%, if the conditions are right) lower than 1990; 20% of energy from renewable; 20% increase in energy efficiency. 4. Education: reducing the rates of early school leaving below 10%; at least 40% of 30-34-year-olds completing third level education. <p>Fighting poverty and social exclusion: at least 20 million fewer people in or at risk of poverty and social exclusion.</p>	<p>The SEA assessment framework should include criteria relating to employment, R&D, climate change and poverty where relevant.</p>
<p>European Commission (2010) <i>Industrial Emissions Directive (integrated pollution prevention and control) 2010/75/EU</i></p>	
<p>This Directive brings together the IPPC Directive (2008/1/EC) and six other Directives on titanium dioxide, VOCs and waste incineration, with the aim of reducing pollutant emissions. It covers industries with high polluting potential such as energy, production and processing of metals, minerals, chemicals, waste management and rearing of animals. It defines the obligations to be met by industrial activities with a major pollution potential. This includes establishing a permit procedure, requirements for Best Available Techniques (BAT) and setting out requirements for discharges.</p>	<p>The SEA assessment framework should include criteria that ensure the protection of the environment through the prevention of pollution.</p>
<p>European Commission (2011) <i>Directives on Environmental Impact Assessment (Codified Directive 2011/92/EU and Revised Directive 2014/52/EU)</i></p>	
<p>The Directive, as enacted in 1985, amended, codified in 2011 and revised in 2014, sets out procedural requirements for certain development proposals to undergo an Environmental Impact Assessment (EIA) before being granted consent through the town and country planning or other consenting regimes. The UK Government is obliged to transpose the Revised EIA Directive by May 2017.</p>	<p>The SEA should recognise that certain development proposals require an EIA to be undertaken, resulting in the identification of any likely significant environmental effects and associated mitigation measures.</p>
<p>European Commission (2011) <i>A Resource- Efficient Europe- Flagship Initiative Under the Europe 2020 Strategy, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (COM 2011/21)</i></p>	

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<p>This flagship initiative aims to create a framework for policies to support the shift towards a resource-efficient and low-carbon economy which will help to:</p> <ul style="list-style-type: none"> • Boost economic performance while reducing resource use; • Identify and create new opportunities for economic growth and greater innovation and boost the EU's competitiveness; • Ensure security of supply of essential resources; and • Fight against climate change and limit the environmental impacts of resource use. 	<p>The Regional Plan should seek opportunities to ensure reductions in resource use. The SEA framework should include objectives relating to resource use.</p>
European Commission (2011) A Roadmap for Moving to a Competitive Low Carbon Economy in 2050	
<p>The EU already has short term targets in place to reduce its emissions to 20% below 1990 levels by 2020; to increase the share of renewable energy to 20%; and to make a 20% improvement in energy efficiency. The 2050 roadmap looks beyond 2020 at longer term objectives.</p> <p>The roadmap suggests that by 2050, the EU should cut its emissions to 80% below 1990 levels through domestic reductions alone. It sets out milestones which form a cost-effective pathway to this goal - reductions of 40% by 2030 and 60% by 2040. It also shows how the main sectors responsible for Europe's emissions - power generation, industry, transport, buildings and construction, as well as agriculture - can make the transition to a low-carbon economy most cost-effectively.</p>	<p>The Regional Plan should seek to contribute to the reduction of the amount of carbon produced as much as possible and help towards achievement of the carbon reduction objectives.</p> <p>The SEA should have an objective relating to the need to reduce greenhouse gas emissions.</p>
European Commission (2012) A Blueprint to Safeguard Europe's Water Resources	
<p>This strategy aims to ensure that enough good quality water is available to meet the needs of people, the economy and the environment. The strategy includes: Improving implementation of current EU water policy; Increasing the integration of water policy objectives into other relevant policy areas such as agriculture, fisheries, renewable energy, transport and the Cohesion and Structural Funds; and Filling the gaps of the current framework, particularly in relation to the tools needed to increase water efficiency.</p>	<p>The commitment to conserving biological diversity must be considered in any options and the SEA should seek to promote the protection and enhancement of biodiversity</p>
European Commission (2012) Energy Efficiency Directive 2012/27/EU as amended by Directive (EU) 2018/2002	
<p>The 2012 Directive establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain from its production to final consumption.</p> <p>Specific measures relate to:</p> <ul style="list-style-type: none"> • energy distributors achieving 1.5% energy savings per year through energy efficiency measures; • improving the efficiency of heating systems, installing double glazed windows or insulating roofs; • purchasing energy efficient buildings, products and services, and performing energy efficient renovations; • access to data on consumption; • large companies to audit energy consumption (implemented in the UK through the Energy Savings Opportunity Scheme Regulations 2014); • national incentives for SMEs to undergo energy audits; and • monitoring efficiency levels in new energy generation capacities. <p>The new amending Directive on Energy Efficiency (2018/2002) was agreed to update the policy framework to 2030 and beyond.</p>	<p>The Regional Plan should seek to contribute towards targets for energy efficiency.</p> <p>The SEA assessment framework should include consideration of energy consumption and efficiency.</p>

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<p>The key element of the amended directive is a headline energy efficiency target for 2030 of at least 32.5%. The target, to be achieved collectively across the EU, is set relative to the 2007 modelling projections for 2030.</p> <p>In absolute terms, this means that EU energy consumption should be no more than 1273 Mtoe (million tonnes of equivalent) of primary energy and/or no more than 956 Mtoe of final energy. After the UK no longer applies EU law (following its withdrawal from the EU), the equivalent target should be no more than 1128 Mtoe of primary energy and no more than 846 Mtoe of final energy.</p> <p>The directive allows for a possible upward revision in the target in 2023, in case of substantial cost reductions due to economic or technological developments. It also includes an extension to the energy savings obligation in end use, introduced in the 2012 directive. Under the amending directive, EU countries will have to achieve new energy savings of 0.8% each year of final energy consumption for the 2021-2030 period</p> <p>Other elements in the amended directive include:</p> <ul style="list-style-type: none"> stronger rules on metering and billing of thermal energy by giving consumers - especially those in multi-apartment building with collective heating systems – clearer rights to receive more frequent and more useful information on their energy consumption, also enabling them to better understand and control their heating bills requiring Member States to have in place transparent, publicly available national rules on the allocation of the cost of heating, cooling and hot water consumption in multi-apartment and multi-purpose buildings with collective systems for such services monitoring efficiency levels in new energy generation capacities updated primary energy factor (PEF) for electricity generation of 2.1 (down from the current 2.5) a general review of the Energy Efficiency Directive (required by 2024). 	
European Commission (2013) <i>Towards Social Investment for Growth and Cohesion 2014-2020</i>	
The Communication aims to directing Member States' policies towards social investment throughout life, with a view to ensuring the adequacy and sustainability of budgets for social policies. It also provides guidance to help reach the Europe 2020 targets by establishing a link between social policies, the reforms to reach the Europe 2020 targets and the relevant EU funds.	The Regional Plan should have regard of the Europe 2020 targets.
European Commission (2014) <i>The EU Regulation on invasive alien (non-native) species 1143/2014/EU</i>	
This Regulation seeks to address the problem of invasive alien species in a comprehensive manner so as to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human health or economic impacts that these species can have.	The SEA assessment framework should include guide questions relating to invasive species
European Commission (2014) <i>A Policy Framework for Climate and Energy in the Period from 2020 to 2030</i>	
<p>The 2030 climate and energy framework was adopted in 2014 and builds on the 2020 targets. It sets three key targets for 2030:</p> <ul style="list-style-type: none"> at least 40% cuts in greenhouse gas emissions (from 1990 levels); at least 27% share for renewable energy; and at least 27% improvement in energy efficiency. <p>The greenhouse gas emissions and renewable energy targets are binding, while the energy efficiency target will be reviewed in 2020.</p>	<p>The Regional Plan should support longer term targets for reducing greenhouse gas emissions, increasing renewable energy and energy efficiency.</p> <p>The SEA assessment framework should include the consideration of energy and greenhouse gas emissions.</p>
European Commission (2015) <i>'Closing the loop - An EU Action Plan for the Circular Economy' policy package</i>	

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<p>This document sets out actions to implement the European Commission's long-term vision of significantly reducing waste landfilling and increasing recycling.</p>	<p>The SEA should consider opportunities for the Regional Plan to contribute/enable the circular economy.</p> <p>The SEA assessment framework should contain an objective/guide question relating to material/resource use and waste.</p>
European Commission (2016) National Emissions reduction Commitments (NEC) Directive 2016/2284/EU	
<p>The National Emission reduction Commitments Directive sets national emission reduction commitments for Member States and the EU for five important air pollutants: nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs), sulphur dioxide (SO₂), ammonia (NH₃) and fine particulate matter (PM_{2.5}).</p> <p>The NEC Directive highlights the importance of Member States regularly reporting air pollutant emission inventories for assessing progress in reducing air pollution in the EU and for ascertaining whether Member States are in compliance with their commitments.</p> <p>The directive introduces a number of new reporting requirements for Member States. These include annual information on emissions of a number of pollutants:</p> <ul style="list-style-type: none"> the five main air pollutants NO_x, NMVOCs, SO₂, NH₃ and PM_{2.5} as well as carbon monoxide (CO); in addition to PM_{2.5}, also PM₁₀ particulate matter and, if available, black carbon (BC) and total suspended particulate matter (TSP); heavy metals cadmium (Cd), lead (Pb) and mercury (Hg) and, if available, the additional heavy metals arsenic, chromium, copper, nickel, selenium and zinc; <p>persistent organic pollutants (POPs) including selected polycyclic aromatic hydrocarbons (PAHs), dioxins and furans, polychlorinated biphenyls (PCBs) and hexachlorobenzene (HCB).</p>	<p>The Regional Plan should seek to reduce the emissions of the pollutants listed under the directive, where possible.</p> <p>The SEA assessment framework should include an objective and guide questions relating to air pollution/pollutant emissions.</p>
European Commission (2020) Biodiversity strategy for 2030	
<p>The EU's biodiversity strategy for 2030 is a comprehensive, ambitious and long-term plan to protect nature and reverse the degradation of ecosystems. The strategy aims to put Europe's biodiversity on a path to recovery by 2030, and contains specific actions and commitments.</p> <p>The strategy contains specific commitments and actions to be delivered by 2030.</p> <ul style="list-style-type: none"> Establishing a larger EU-wide network of protected areas on land and at sea Launching an EU nature restoration plan Introducing measures to enable the necessary transformative change Introducing measures to tackle the global biodiversity challenge. 	<p>The Regional Plan should seek to protect and enhance biodiversity, particularly designated sites.</p> <p>The SEA assessment framework should include objectives, indicators and targets that cover biodiversity.</p>
European Commission (2022) Eighth Environmental Action Programme	
<p>The 8th EAP anchors the Member States' and Parliament's commitment to environmental and climate action until 2030, guided by a long-term vision to 2050 of wellbeing for all, while staying within the planetary boundaries.</p> <p>The agreed 8th EAP has six priority objectives related to climate neutrality, climate adaptation, circular economy, zero pollution, protecting and restoring biodiversity, and reducing environmental and climate pressures related to production and consumption. In addition, the programme sets out an enabling framework and a monitoring framework to measure progress towards the required systemic change.</p>	<p>The SEA assessment framework should, where relevant, reflect the objectives of the proposal for the programme.</p>
European Commission (2021) EU strategy on adaptation to climate change	

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<p>The strategy sets out how the European Union can adapt to the unavoidable impacts of climate change and become climate resilient by 2050.</p> <p>The Strategy has four principle objectives:</p> <ul style="list-style-type: none"> • to make adaptation smarter; • to make adaption swifter; • to make adaption more systemic, and; • to step up international action on adaptation to climate change. 	<p>The Regional Plan should seek to contribute towards climate change adaption.</p> <p>The SEA assessment framework should include an objective relating to climate change and consideration of climate change adaption.</p>
ICOMOS (2011) Guidance on Heritage Impact Assessments for Cultural World Heritage Properties	
<p>This document provides guidance on the process of Commissioning Heritage Impact Assessments (HIAs) for World Heritage properties in order to evaluate effectively the impact of potential development on the Outstanding Universal Value (OUV) of properties. The guidance is addressed at managers, developers, consultants and decision-makers and is also intended to be relevant to the World Heritage Committee and States Parties. The concept of OUV underpins the whole World Heritage Convention and all activities associated with properties inscribed on the List.</p>	<p>The SEA Framework should include an objective on the conservation and enhancement of heritage.</p>
IUCN (2013) World Heritage Advice Note: Environmental Assessment	
<p>This Advice Note provides States Parties and other stakeholders with guidance on how to identify, evaluate, avoid and mitigate potential impacts of development proposals on World Heritage values, before decisions are taken. It provides guidance on integrating natural World Heritage Sites within Environmental Assessments. It includes a set of World Heritage Impact Assessment Principles that can be applied to all types of environmental Assessments, a list of key questions to ask concerning World Heritage during the assessment as well as step-by-step guidance.</p>	<p>The Regional Plan should seek to contribute towards the protection of World Heritage Sites.</p> <p>The SEA assessment framework should include objectives and guide questions relating to the conservation of World Heritage Sites. The SEA assessment should also reflect/incorporate the principles of the guidance, where relevant.</p>
UNEP (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora	
<p>CITES is an international agreement between governments which aims to ensure that international trade in wild animals and plants does not threaten their survival. It subjects international trade to certain controls, and all import, export, re-export and introduction (by sea) of species covered by the Convention has to be authorized through a licensing system. Species are listed in three Appendices according to the degree of protection needed, with differing controls for each.</p>	<p>The Regional Plan should seek to ensure the protection of vulnerable species.</p> <p>The SEA assessment framework should incorporate the protection of animal and plant species.</p>
UNESCO (1971) Ramsar Convention on Wetlands of International Importance	
<p>The Convention on Wetlands of International Importance was signed in Ramsar, Iran in 1971. It is an intergovernmental treaty which provides the framework for national action and international co-operation for the conservation and wise use of wetlands and their resources, as a means to achieving sustainable development throughout the world.</p> <p>The original emphasis was on the conservation and wise use of wetlands primarily to provide habitat for water birds, however over the years the Convention has broadened its scope to incorporate all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation and for the well-being of human communities.</p>	<p>The Regional Plan should ensure the protection and wise use of wetlands.</p> <p>The SEA assessment framework should incorporate the protection of wetland sites listed under the Ramsar convention.</p>

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Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
<p>'The Convention's mission is the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world' (Ramsar COP8, 2002).</p> <p>The Fourth Ramsar Strategic Plan 2016-2024 has been adopted to provide guidance on how efforts for implementing the Convention on Wetlands should be focussed. The strategy has three strategic goals and one operational goal:</p> <ul style="list-style-type: none"> • Strategic Goal 1: Addressing the Drivers of Wetland Loss and Degradation • Strategic Goal 2: Effectively Conserving and Managing the Ramsar Site Network • Strategic Goal 3: Wisely Using All Wetlands • Operational Goal 1: Enhancing Implementation <p>The plan also contains 19 targets which fall under each of the goals. Implementing each of these will also contribute to the achievement of the Sustainable Development Goals (SDGs) and targets.</p>	
UNESCO (1972) Convention Concerning the Protection of the World Cultural and Natural Heritage	
<p>The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. In addition to this, countries are required to:</p> <ul style="list-style-type: none"> • Ensure that measures are taken for the protection, conservation and presentation of cultural and natural heritage • Adopt a general policy that gives cultural and natural heritage a function in the life of the community • Integrate the protection of heritage into comprehensive planning programmes 	<p>The Regional Plan should seek to protect cultural heritage sites.</p> <p>The SEA assessment framework should include an objective on heritage and archaeological issues.</p>
UNESCO (2001) Convention on the Protection of Underwater Cultural Heritage	
<p>The Convention sets a common standard for the protection of submerged cultural heritage, with a view to preventing its being looted or destroyed. The Convention sets out basic principles for the protection of underwater cultural heritage; provides a detailed State cooperation system; and provides widely recognised practical rules for the treatment and research of underwater cultural heritage. This includes obligations to preserve such heritage, a preference for in situ preservation, and no commercial exploitation.</p>	<p>The Regional Plan should seek to protect cultural heritage sites.</p> <p>The SEA assessment framework should include an objective relating to cultural heritage.</p>
United Nations (1992) Convention on Biological Diversity (The Rio Convention)	
<p>The Convention on Biodiversity called for the development and enforcement of national strategies and associated action plans to identify, conserve and protect existing biological diversity, and to enhance it wherever possible. In the UK, the UK Biodiversity Action Plan was then established to conserve and enhance biodiversity in the UK through the use of Habitats and Species Action Plans to help the most threatened species and habitats to recover and to contribute to the conservation of global biodiversity.</p>	<p>The Regional Plan should seek to protect and enhance biodiversity.</p> <p>The SEA assessment framework should include protection and enhancement of biodiversity</p>
United Nations (1997) The Kyoto Protocol to the UN Framework Convention on Climate Change	
<p>The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. It is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for industrialized countries for reducing greenhouse gas (GHG) emissions. These amounted to an average of five per cent against 1990 levels in the first commitment period (2008 to 2012). The Protocol is planned to be extended to 2020 (the Kyoto second commitment period), pending ratification of the Doha Agreement.</p>	<p>The Regional Plan should aim to reduce greenhouse gas emissions.</p> <p>The SEA assessment framework should include objectives/guide questions related to reducing greenhouse gas emissions.</p>

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United Nations Economic Commission for Europe (1998), <i>Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention)</i>	
<p>To contribute to the protection of present and future generations to live in an environment adequate to his or her health and well-being. This will be achieved through each Party subject to the convention guaranteeing the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention.</p> <p>To establish and maintain a clear, transparent and consistent framework to implement the provisions of this Convention. This will be achieved through each Party taking the necessary legislative, regulatory and other measures, including measures to achieve compatibility between the provisions implementing the information, public participation and access-to-justice provisions in this Convention, as well as proper enforcement measures. Responsibility for implementation is deferred to the member states.</p>	<p>The development of the Regional Plan needs to be a transparent process.</p> <p>The SEA should show a strong sense of safeguarding the lives of future generations and ensure that enough time is provided for consultation on the SEA documents in line with the Aarhus convention of establishing and maintaining a transparent clear framework.</p>
United Nations (2002) <i>The World Summit on Sustainable Development</i>	
<p>The World Summit resulted in the Johannesburg Declaration on Sustainable Development and a Plan of Implementation. The declaration reaffirms principles already agreed upon at the Rio Earth Summit UNCED in 1992 and the UN Millennium Summit in 1999. It recognises that poverty eradication is a key condition for sustainable development and addresses issues such as cultural diversity, patterns of production and consumption, health issues, armed conflicts, the new dimension created by globalisation, gender issues and financing for development.</p> <p>The implementation plan sets out actions to achieve sustainable development such as poverty eradication, changing unsustainable patterns of consumption and production, protecting and managing the natural resource base of economic and social development, sustainable development in a globalizing world and health and sustainable development.</p> <p>Sustainable development in England is delivered through the sustainable development strategy, Securing the Future, and in Wales through One Wales: One Planet, The Sustainable Development Scheme of the Welsh Assembly Government.</p>	<p>The Regional Plan should promote sustainable development.</p> <p>The SEA should help to deliver sustainable development through the balanced assessment of the Regional Plan.</p>
United Nations (2016) <i>The Paris Agreement</i>	
<p>The Paris Agreement was adopted at the 2015 UN Climate Change Conference, which aims to limit global temperature rises to 2 degrees, and to pursue efforts to limit the temperature increase even further to 1.5 degrees. It was adopted by 195 countries at the Conference, and came into force in November 2016, following ratification by sufficient parties.</p>	<p>The Regional Plan should aim to reduce greenhouse gas emissions.</p> <p>The SEA assessment framework should include greenhouse gas emissions.</p>
United Nations Framework Convention on Climate Change (UNFCCC) (2011) <i>The Cancun Agreements</i>	
<p>The Cancun Agreements were a set of significant decisions by the international community to address the long-term challenge of climate change collectively and comprehensively over time, and to take concrete action immediately to speed up the global response to it.</p> <p>The agreements, reached on December 11 in Cancun, Mexico, at the 2010 United Nations Climate Change Conference, represented key steps forward in capturing plans to reduce greenhouse gas emissions, and to help developing nations protect themselves from climate impacts and build their own sustainable futures.</p> <p>The Cancun Agreements' main objectives cover:</p> <ul style="list-style-type: none"> • Mitigation • Transparency of actions • Technology • Finance 	<p>The Regional Plan should aim to reduce greenhouse gas emissions and support climate change mitigation and adaptation.</p> <p>The SEA assessment framework should include greenhouse gas emissions and climate change.</p>

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<ul style="list-style-type: none"> • Adaptation • Forests • Capacity building 	
World Commission on Environment and Development (1987) <i>Our Common Future (The Brundtland Report)</i>	
<p>The Brundtland Report is concerned with the world's economy and its environment. The objective is to provide an expanding and sustainable economy while protecting a sustainable environment. The Report was a call by the United Nations:</p> <ul style="list-style-type: none"> • to propose long-term environmental strategies for achieving sustainable development by the year 2000 and beyond; • to strengthen co-operation among developing countries and between countries at different stages of economic and social development to achieve common and mutually supportive objectives which take account of the interrelationships between people, resources, environment and development; • to consider ways and means by which the international community can deal more effectively with environment concerns; and • to help define shared perceptions of long-term environmental issues and the appropriate efforts needed to deal successfully with the problems of protecting and enhancing the environment, a long term agenda for action during the coming decades, and aspirational goals for the world community. 	<p>The SEA and Regional Plan should seek to contribute to sustainable development.</p>
World Health Organisation (2004) <i>Children's Environment and Health Action Plan for Europe</i>	
<p>The action plan aims to address the causes of environment-related diseases in children, including the state of the physical environment, socio-economic conditions and behaviour. Key actions include:</p> <ul style="list-style-type: none"> • primary prevention, i.e. policies, programmes and plans aimed at improving the state of the physical environment (air, water, soil, noise), in particular through the integration of children's needs into housing, transport, infrastructure and planning; • equity, i.e. giving priority to protection of children at highest risk, and particularly of children who are neglected, abandoned, disabled, institutionalized or exploited, by improving access to preventive health and social protection services; • poverty reduction, i.e. policies addressing the multidimensional aspects of poverty among children; • health promotion, i.e. actions aimed at preventing and reducing exposures to environmental health hazards by adopting healthy lifestyles, achieving sustainable consumption patterns and helping to create healthy and enabling human settlements. 	<p>The Regional Plan should have regard to the requirements of the Action Plan.</p> <p>The SEA assessment framework should include for the protection of human health and vulnerable members of the community.</p>

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BEIS (2011) National Policy Statements for Energy Infrastructure	
<p>The energy National Policy Statements (NPSs) set out national policy against which proposals for major energy projects will be assessed and decided on by the Infrastructure Planning Commission. The following six NPSs have been designated:</p> <ul style="list-style-type: none"> Overarching NPS for Energy (EN1); Fossil Fuel Electricity Generating Infrastructure NPS (EN2); Renewable Energy Infrastructure NPS (EN3) ; Gas Supply Infrastructure & Gas and Oil Pipelines NPS (EN4); Electricity Networks Infrastructure NPS (EN5); Nuclear Power Generation NPS (EN6). <p>The Overarching NPS for Energy sets out that the purpose of the NPSs is to develop a clear, long-term policy framework which facilitates investment in the necessary new infrastructure (by the private sector) and in energy efficiency. The NPS highlights that the construction, operation and decommissioning of this infrastructure can lead to increased demand for water, involve discharges to water and cause adverse ecological effects resulting from physical modifications to the water environment. The NPSs expect applicants to undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment.</p> <p>The NPSs reiterate and are underpinned by the target to cut greenhouse gas emissions by at least 80% by 2050, compared to 1990 levels.</p>	<p>The Regional Plan may need to consider the potential impact of major energy proposals water resources in the plan area.</p> <p>The SEA should consider the cumulative effects of the Regional Plan and any major energy proposals.</p>
BEIS (2013) UK Renewable Energy Roadmap	
<p>The Renewable Energy Roadmap outlines the UK's framework for delivering 15% of energy demand from renewable sources by 2020 (as mandated by the EU Renewable Energy Directive). Although starting from a low-level of renewable generation, eight technologies were identified that have the potential to generate 90% of the renewable target by 2020. These are: onshore wind, offshore wind, marine energy, biomass electricity, biomass heat, ground source and air source heat pumps and renewable transport.</p> <p>The Roadmap includes an indication from the Welsh Government that it has the potential to double the amount of renewable energy consumption by 2025, and to deliver 4GW of power from marine energy.</p> <p>The 2013 update highlights that offshore wind and marine energy have the potential to make significant contributions to meeting the UK's future energy needs</p>	<p>The Regional Plan should contribute towards increasing the proportion of energy from renewable energy sources.</p> <p>The SEA assessment framework should include consideration of the use of energy from renewable energy sources.</p>
BEIS (2015) Future Electricity Networks	
<p>Overall aims:</p> <ul style="list-style-type: none"> • ensure the timely, cost-effective and reliable connection of electricity generation to demand • support a low-carbon, secure and affordable national system <p>Specific objectives for future electricity networks:</p> <ul style="list-style-type: none"> • maintain electricity network reliability • ensure new generation (renewables, nuclear and fossil fuels) and new demand (including electric vehicles and heat pumps) receive timely and affordable connection to the network 	<p>The Regional Plan should consider if it can support the delivery of the aims of the strategy.</p> <p>The SEA should include objectives and guide questions relating to energy use.</p>

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<ul style="list-style-type: none"> use regulation to make sure networks are cost effective, competitive and using smarter technology 	
BEIS (2020) Energy white paper: Powering our net zero future	
<p>The Energy White Paper sets out how the UK will clean up its energy system and reach net zero emissions by 2050, building on the Prime Minister's ten-point plan for a green industrial revolution</p> <p>The paper addresses the transformation of our energy system, promoting high-skilled jobs and clean, resilient economic growth as we deliver net-zero emissions by 2050.</p>	<p>The Regional Plan should consider utilisation of green energy.</p> <p>The SEA should include objectives and guide questions relating to energy use and carbon emissions.</p>
BEIS (2021) Heat and buildings strategy	
<p>This strategy sets out how the UK will decarbonise our homes, and our commercial, industrial and public sector buildings, as part of setting a path to net zero by 2050.</p> <p>The heat and buildings strategy sets out the government's plan to significantly cut carbon emissions from the UK's 30 million homes and workplaces in a simple, low-cost and green way whilst ensuring this remains affordable and fair for households across the country. Like the transition to electric vehicles, this will be a gradual transition which will start by incentivizing consumers and driving down costs.</p> <p>There are about 30 million buildings in the UK. Heating these buildings contributes to almost a quarter of all UK emissions. Addressing the carbon emissions produced in heating and powering our homes, workplaces and public buildings can not only save money on energy bills and improve lives, but can support up to 240,000 skilled green jobs by 2035, boosting the economic recovery, levelling up across the country and ensuring we build back better.</p>	<p>The Regional Plan should consider the impact of water supply and usage on carbon emissions from buildings.</p> <p>The SEA should include objectives and guide questions relating to energy use and carbon emissions.</p>
BEIS (2021) Net Zero Strategy: Build Back Greener	
<p>The Net Zero Strategy sets out policies and proposals for keeping the UK on track for carbon budgets, the Nationally Determined Contribution (NDC), and sets out our vision for a decarbonised economy in 2050. The Strategy sets out a delivery pathway showing indicative emissions reductions across sectors to meet targets up to the sixth carbon budget (2033-2037).</p>	<p>The Regional Plan should consider if it can support the delivery of the aims of the strategy.</p> <p>The SEA should include objectives and guide questions relating to energy use and carbon emissions.</p>
Cadw, CCW and ICOMOS (UK) (International Council on Monuments and Sites) (2001) Register of Landscapes of Historic Importance	
<p>Two-volume Register of Landscapes of Historic Interest in Wales. This advisory and non-statutory document highlights what are considered to be the best examples of different types of historic landscape in Wales and was the first step towards raising the profile of historic landscapes in Wales.</p>	<p>The Regional Plan and SEA should consider and take account of any potential impacts to heritage landscapes and assets.</p>
Canal & River Trust (2015) Living Waterways Transform Places & Enrich Lives: Our 10 Year Strategy	
<p>The strategy sets out goals for the organisation for the next ten years. These are themed under:</p> <ul style="list-style-type: none"> Waterways, including: 'To encourage and grow the number of people boating, using and enjoying the waterways' and 'To look after the heritage and wildlife on our canals and rivers for people to enjoy now and in the future'; Place, including: 'To provide havens for people to escape to away from the pressures of modern life' and 'Enhance wildlife habitats and the natural landscape'; Prosperity, including: 'Our waterways to drive and be a catalyst for regeneration and developments that make a difference to the local area' and 'To contribute to local economies and to provide opportunities and livelihoods for local people'; and 	<p>The Regional Plan should avoid causing detrimental effects on canals and rivers.</p> <p>The SEA assessment framework should include objectives which take into account the goals of the strategy and the protection of rivers and canals.</p>

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<ul style="list-style-type: none"> • People, including: '<i>Communities to feel ownership of, and get involved with caring for, their local waterway</i>' and '<i>To offer something for everyone to enjoy</i>'. <p>These are in addition to goals relating to Influence and Resources.</p>	
Canal and River Trust (2015) <i>Water Resources Strategy 2015 – 2020</i>	
<p>The Strategy sets out the Canal and River Trust's overarching vision for the period 2015 – 2020 for how it intends to manage water resources across the inland waterway network that it manages. The strategy is focused on delivering long-term security of water supply for the Canal & River Trust to achieve its vision of living waterways that transform places and enrich lives.</p>	<p>The Regional Plan should take into consideration the potential impact on the supply of water to the inland waterway network within the WRW area.</p> <p>The SEA should consider the effects of the Regional Plan on the long-term supply of water to the canal network.</p>
Centre for Environment Fisheries and Aquaculture Science and Natural Resources Wales (2021) <i>Assessment of Salmon Stocks and Fisheries in England and Wales 2020</i>	
<p>Annual reports on the status of salmon stocks and fisheries in England and Wales have been produced since 1997. These reports present a preliminary assessment for the most recent year to assist the International Council for the Exploration of the Sea (ICES) in providing scientific advice to the North Atlantic Salmon Conservation Organisation (NASCO) and to provide early feedback to fishery managers and anglers.</p>	<p>The Regional Plan should consider the information on salmon stocks and fisheries and the potential effects of Regional Plan measures on stocks and fisheries.</p> <p>The SEA should consider the effects of the Regional Plan on salmon stocks and fisheries and should include objectives and guide questions relating to the protection of salmon stocks and fisheries.</p>
Climate Change Committee (2020) <i>The path to Net Zero and progress on reducing emissions in Wales</i>	
<p>These documents are a series of reports on Wales's net zero carbon targets and ways in which Wales will achieve these targets. The December 2020 Advice Report: The path to a net zero Wales recommends that the Welsh Government revise targets and seek to reduce all greenhouse gas emissions to net zero by 2050.</p> <p>One of the reports looks into how Wales is progressing against previous requirements to reduce its carbon footprint. Key to achieving these targets is:</p> <ul style="list-style-type: none"> • Adopting low-carbon solutions; • Expanding low-carbon energy supplies; • Reduce demand for high-carbon activities; and • Transforming land away from agriculture. 	<p>The Regional Plan should seek to contribute to the reduction of the amount of carbon produced as much as possible and help towards achievement of net zero greenhouse gas emissions by 2050.</p> <p>The SEA should have an objective relating to sustainable development that references the need to reduce greenhouse gas emissions.</p>
Countryside Council for Wales (CCW) (2003) <i>Priority Habitats of Wales</i>	
<p>Provides information about Wales' priority habitats, as identified by UK Biodiversity Action Plans.</p>	<p>The Regional Plan and SEA objectives will need to consider the protection of priority habitats.</p>
Department for Culture, Media and Sport (DCMS) (2001) <i>The Historic Environment – A Force for the Future</i>	

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This strategy outlines the Government's policy regarding the historic environment. The strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being.	The Regional Plan and the SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided.
DCMS and Welsh Government (2007) <i>Heritage Protection for the 21st Century</i>	
The document has three core principles: <ul style="list-style-type: none"> Developing a unified approach to the historic environment; Maximising opportunities for inclusion and involvement; and Supporting sustainable communities by putting the historic environment at the heart of an effective planning system. 	The assessment framework should include objectives which take into account the White Paper's principles.
DCMS (2013) <i>Scheduled Monuments & Nationally Important but Non-Scheduled Monuments</i>	
This policy statement sets out Government policy on the identification, protection, conservation and investigation of nationally important ancient monuments, under the provisions of the Ancient Monuments and Archaeological Areas Act 1979. It includes principles relating to the selection of scheduled monuments and the determination of applications for scheduled monument consent.	The Regional Plan should seek to avoid adverse impacts on scheduled and non-scheduled monuments. The SEA assessment framework should include specific objectives relating to cultural heritage
DCMS (2016) <i>The Culture White Paper</i>	
This white paper sets out how the government will support the cultural sectors over the coming years and how culture will play an active role in building a fairer and more prosperous nation. It includes four key themes: <ul style="list-style-type: none"> everyone should enjoy the opportunities culture offers, no matter where they start in life; the riches of our culture should benefit communities across the country; and the power of culture can increase our international standing. <p>The white paper includes objectives relating to the development of the historic environment sector, and the protection of world heritage.</p>	The Regional Plan should seek to protect cultural heritage assets. The SEA assessment framework should include an objective relating to cultural heritage.
Defra (2004) <i>Rural Strategy</i>	
The strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations.	The implementation of certain Plan options may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced.
Defra (2005) <i>Making space for water: taking forward a new government strategy for flood and coastal erosion risk management in England</i>	
The programme seeks to embed flood and coastal erosion risk management across a range of Government policies, including planning, urban and rural development, agriculture, transport, nature conservation and conservation of the historic environment. The main objectives of the strategy are: <ul style="list-style-type: none"> To reduce the threat of flooding to people and their property, and To deliver the greatest environmental, social and economic benefit, consistent with the Government's sustainable development principles. 	The Regional Plan should seek to support the objectives of the strategy, where possible. The SEA should seek to ensure that coastal erosion in the region is not adversely affected by the implementation of the Regional Plan.

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There are no formal targets or indicators.	
Defra (2006) <i>Shoreline Management Plan Guidance</i>	
<p>A shoreline management plan (SMP) is a coastal defence management tool. It is a large-scale assessment of the risks associated with coastal processes and helps to reduce these risks to people and the developed, historic and natural environment. This guidance document sets out Defra's and the Welsh Government's strategy for managing flooding and coastal erosion.</p> <p>The guidance includes the following objectives:</p> <ul style="list-style-type: none"> • set out the risks from flooding and erosion to people and the developed, historic and natural environment within the SMP area; • identify opportunities to maintain and improve the environment by managing the risks from floods and coastal erosion; • identify the preferred policies for managing risks from floods and erosion over the next century; • identify the consequences of putting the preferred policies into practice; • set out procedures for monitoring how effective these policies are; • inform others so that future land use, planning and development of the shoreline takes account of the risks and the preferred policies; • discourage inappropriate development in areas where the flood and erosion risks are high; and, • meet international and national nature conservation legislation and aim to achieve the biodiversity objectives. 	<p>The Regional Plan should seek to align with the objectives of the guidance where appropriate.</p> <p>The SEA should take into account the effects of the Regional Plan on areas with a SMP.</p>
Defra (2007) <i>Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt</i>	
<p>The guiding principles described in this document summarise current thinking on how to reduce the impacts of climate change on biodiversity and how to adapt existing plans and projects in the light of climate change. The guidance is intended to inform implementation of the UK Biodiversity Action Plan, taking account of climate change is relevant to the fulfilment of many international agreements and obligations affecting the UK.</p>	<p>The SEA must consider the impacts on biodiversity whilst also taking into account the potential for future climate change.</p>
Defra (2007) <i>The Air Quality Strategy for England, Scotland, Wales and Northern Ireland</i>	
<p>The Air Quality Strategy sets out air quality objectives and policy options to further improve air quality in the UK to benefit public health, quality of life and help to protect our environment. The strategy sets out objectives relating to particles, nitrogen dioxide, ozone, sulphur dioxide, polycyclic aromatic hydrocarbons, benzene, 1,3- butadiene, carbon monoxide, lead, nitrogen oxides and sulphur dioxide.</p>	<p>The Regional Plan should take account of air quality objectives in the strategy.</p> <p>The SEA should include objectives and guide questions relating to air quality, human health and environmental protection.</p>
Defra (2009) <i>Safeguarding our Soils – A Strategy for England</i>	
<p>The new Soil Strategy for England – Safeguarding our Soils outlines the Government's approach to safeguarding our soils for the long term. It provides a clear vision to guide future policy development across a range of areas and sets out the practical steps that we need to take to prevent further degradation of our soils, enhance, restore and ensure their resilience, and improve our understanding of the threats to soil and best practice in responding to them.</p> <p>The Government's vision is that: By 2030, all England's soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations.</p>	<p>The SEA should seek to ensure that the quality of the region soils and their management is protected or enhanced.</p>

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Defra, Department of the Environment (NI), Scottish Government and Welsh Assembly Government (2010) <i>Air Pollution: Action in a Changing Climate</i>	
<p>This document highlights the health benefits that can be achieved through closer integration of air quality and climate change policies. Air pollution often originates from the same activities that contribute to climate change (notably transport and electricity generation), so linkages between these policy areas could help ensure that they are managed most effectively. Air quality/climate change co-benefits can be realised through actions such as promoting low-carbon vehicles and renewable sources of energy that do not involve combustion.</p> <p>The document aims to set ambitious but realistic air quality targets, and to ensure that climate and air quality targets are better aligned in future.</p>	<p>The Regional Plan should seek to ensure that air quality, climate change and human health are not adversely affected by the options/measures set out in the plan.</p> <p>The SEA should include guide questions relating to the effects of options on human health and the environment.</p>
Defra (2010) <i>Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network</i>	
<p>This independent review of England's wildlife sites and the connections between them sets objectives and recommendations to help achieve a healthy natural environment that will allow our plants and animals to thrive.</p>	<p>The SEA should seek to maintain and enhance the quality of habitats and biodiversity, where possible.</p>
Defra (2011) <i>UK National Ecosystem Assessment</i> and Defra (2014) <i>UK National Ecosystems Assessment Follow on, Synthesis of Key Findings</i>	
<p>Ecosystems services from natural capital contribute to the economic performance of the nation. Information and tools to enable decision makers to understand the wider value of ecosystems and their associated services.</p>	<p>For the purposes of the readership integrating an ecosystems services approach into the SEA is not being undertaken. However, it is realised that through the 'Objective-led' approach, many of the services relevant to the Regional Plan can be considered through the objectives and guide questions for example:</p> <ul style="list-style-type: none"> • Provisioning Services: Freshwater • Provisioning Services: Biodiversity • Regulating Services: Water Regulation • Cultural services: Recreation and ecotourism • Cultural services: Cultural heritage values • Cultural services: Aesthetic <p>The SEA should ensure the Regional Plan affects the related provisioning services in the least damaging way through informing the Regional Plan formulation and selection of options.</p> <p>In the event of further guidance being issued on incorporating ESA into SEA, the anticipated approach is sufficiently flexible that it should be able to</p>

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	accommodate this (subject to timing).
Defra (2011) <i>Water for Life - Water White Paper</i>	
<p>Water for Life describes a vision for future water management in which the water sector is resilient, in which water companies are more efficient and customer focused, and in which water is valued as the precious and finite resource it is.</p> <p>The White Paper includes several proposals for deregulating and simplifying legislation, to reduce burdens on business and stimulate growth. Ofwat's proposals for reducing its regulatory burdens complement these.</p>	<p>The Regional Plan should ensure that future water resources are resilient, efficient and customer focused</p> <p>The SEA should consider resilience to climate change and should consider the human environment to ensure the Regional Plan remains customer focused.</p>
Defra (2011) <i>Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services</i>	
<p>This new biodiversity strategy for England provides a comprehensive picture of how we are implementing our international and EU commitments. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea.</p> <p>The strategy sets 20 targets across 5 strategic goals:</p> <ul style="list-style-type: none"> • Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; • Reduce the direct pressures on biodiversity and promote sustainable use; • Improve status of biodiversity by safeguarding ecosystems, species and genetic diversity; • Enhance the benefits to all from biodiversity and ecosystem services; and <p>Enhance implementation through participatory planning, knowledge management and capacity building.</p>	<p>The Regional Plan should contribute towards meeting the targets and objectives within the strategy where possible.</p> <p>The SEA should include objectives to improve status of biodiversity and enhance benefits of biodiversity and its ecosystem services, and reduce pressures on ecosystems.</p>
Defra (2011) <i>Mainstreaming Sustainable Development</i>	
<p>This document sets out the Government's vision for mainstreaming sustainable development in relation to the operation of its buildings and estates, including the goods and services that it buys and the policies it makes. It builds on the principles that underpinned the UK's 2005 sustainable development strategy, and highlights that long term economic growth relies on protecting and enhancing the environmental resources that underpin it, and paying due regard to social needs.</p> <p>It sets out measures to achieve the mainstreaming of sustainable development, which include ministerial leadership and oversight; leading by example; embedding sustainable development in government policy; and transparency and independent scrutiny.</p>	<p>The Regional Plan should seek to be aligned with the principles of sustainable development.</p> <p>The SEA assessment framework should include objectives relating to the principles of sustainable development, including communities, economy and environment.</p>
Defra (2011) <i>The Natural Choice: Securing the Value of Nature</i>	
<p>The paper addresses the Government's approach to valuing economic and social benefits of a healthy natural environment while continuing to recognise nature's intrinsic value. It describes the vision of the Government for this to be the first generation to leave the natural environment of England in a better state than it inherited, requiring placing the value of nature at the heart of decision-making – in Government, local communities and businesses. Approaches to mainstream the value of nature across society include: Facilitating greater local action to protect and improve nature; Creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature; Strengthening the connections between people and nature to the benefit of both; and Showing leadership in the European Union and internationally, to protect and enhance natural assets globally.</p>	<p>Ecosystem services may include:</p> <p>Provisioning Services:</p> <p>Biodiversity Regulating Services:</p> <p>Water Regulation Cultural services: Recreation and ecotourism Cultural services: Cultural heritage values Cultural services: Aesthetic. The SEA should ensure the Regional Plan meets provisioning services in the least damaging way.</p>
Defra (2011) <i>Natural Environment White Paper</i>	

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<p>The Natural Environment White Paper (2011) recognises that nationally, the fragmentation of natural environments is driving continuing threats to biodiversity. It sets out the Government's policy intent to:</p> <ul style="list-style-type: none"> • improve the quality of the natural environment across England; • move to a net gain in the value of nature; • arrest the decline in habitats and species and the degradation of landscapes; • protect priority habitats; • safeguard vulnerable non-renewable resources for future generations; • support natural systems to function more effectively in town, in the country and at sea; and • create an ecological network which is resilient to changing pressures. <p>By 2020, the Government wants to achieve an overall improvement in the status of the UK's wildlife including no net loss of priority habitat and an increase of at least 200,000 hectares in the overall extent of priority habitats. Under the White Paper, the Government has also put in place a clear institutional framework to support nature restoration which includes Local Nature Partnerships creating new Nature Improvement Areas (NIAs).</p>	<p>The Regional Plan should reflect the Government's policy intent set out in the White Paper.</p> <p>The SEA assessment framework should include objectives, indicators and targets that reflect the Government's policy intent set out in the White Paper.</p>
Defra (2012) National Policy Statement for Waste Water	
<p>This National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructure. It will be used by the Infrastructure Planning Commission (IPC) to guide its decision making on development consent applications for waste water developments that fall within the definition of Nationally Significant Infrastructure Project (NSIP) as defined in the Planning Act 2008. As well as considering the general need for new waste water infrastructure, this NPS covers two NSIPs which have been assessed as required to meet this need.</p>	<p>The Regional Plan should be compliant with the policies set out within the National Policy Statement. The Regional Plan should also consider any unforeseen NSIP proposals that come forward prior to adoption which may affect water resource management in the WRW area.</p> <p>The SEA should consider the cumulative effects of the WRMP and any unforeseen NSIP proposals that come forward which may affect water resource management in the WRW area.</p>
Defra (2013) The National Adaptation Programme – Making the Country Resilient to a Changing Climate	
<p>This Programme contains a mix of policies and actions to help adapt successfully to future weather conditions, by dealing with the risks and making the most of the opportunities.</p> <p>It sets out a number of objectives, including:</p> <ul style="list-style-type: none"> • To provide a clear local planning framework to enable all participants in the planning system to deliver sustainable new development, including infrastructure that minimises vulnerability and provides resilience to the impacts of climate change. • To increase the resilience of homes and buildings by helping people and communities to understand what a changing climate could mean for them and to take action to become resilient to climate risks. <p>To ensure infrastructure is located, planned, designed and maintained to be resilient to climate change, including increasingly extreme weather events.</p>	<p>The Regional Plan should ensure that proposals are resilient to the effects of climate change. Where possible, options should be considered that enhance resilience.</p> <p>The SEA should consider the effects of options on climate change resilience.</p>
Defra (2013) What nature can do for you	
<p>This guide is designed to help policy makers across Government to understand:</p> <ul style="list-style-type: none"> • The value of what nature does for you now, 	<p>The Regional Plan should consider how to work with natural systems to provide efficient solutions with multiple benefits where possible, aiming to</p>

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<ul style="list-style-type: none"> The costs and risks we are leaving ourselves open to if we fail to take the value of its services into account in our decisions, How you can work with natural systems to help you deliver efficiently in the future. <p>The guide is focussed on helping policy makers to put this into practice and includes:</p> <ul style="list-style-type: none"> A clear explanation of the principles of an ecosystems approach Details on how an ecosystems approach can help policy makers to take account of the value of the natural environment at every stage of the policy making process 1 hour of essential reading to help readers quickly get up to speed on this issue A 'self-assessment' to help policy makers to see how they are doing already and what could be gained by doing more to understand how the natural environment interacts with their policy issue Sign-posting to a range of detailed resources, case-studies and further reading on specific topics such as valuation and systematic thinking. 	<p>implement an ecosystems approach.</p> <p>The SEA should consider the effects of the Regional Plan on nature.</p>
Defra (2015) <i>The government's response to the Natural Capital Committee's Third State of Natural Capital report</i>	
<p>This provides a number of recommendations such as:</p> <p>Agreement for the development of a 25 year plan for a healthy natural economy. This includes helping organisations understand the economic, social and cultural value the impact their actions have on it and how to use the knowledge for better decisions; identify most important and threatened environmental assets; protection of designated areas; address outstanding monitoring and data issues to enable better decisions about strategic investments in natural capital.</p> <p>Assigning institutional responsibility for monitoring the state of natural capital.</p> <p>Organisations that manage land and water assets should create a register of natural capital for which they are responsible.</p>	<p>Outputs from the SEA process will help to inform any future potential development of Natural Capital Accounting (NCA) approaches to assessing environmental asset performance. Government (led by HM Treasury and Defra) is increasingly using NCA to support future environmental policy and decision making, and there may be future expectations on water companies to follow suit.</p>
Defra (2015) <i>The Great Britain Invasive Non-native Species Strategy</i>	
<p>The strategy sets out key aims and actions for addressing the threats posed by invasive non-native species, including the prevention of invasive species arriving in Britain, early detection and monitoring, eradication and control. It also aims to:</p> <ul style="list-style-type: none"> get people to work better together, including the government, stakeholders, land managers and the general public; and improve co-ordination and co-operation on issues at a European and international level. <p>The strategy covers the period 2015 to 2020.</p>	<p>The Regional Plan should seek to avoid the spread of invasive species.</p> <p>The SEA should consider the effects of the Regional Plan on biodiversity.</p>
Defra (2016) <i>Guiding principles for water resources planning for water companies operating wholly or mainly in England</i>	
<p>The document sets out the key policy priorities the government expects water resources management plans (WRMP) to address. The four key principles are:</p> <ul style="list-style-type: none"> Take a long term, strategic approach to protecting and enhancing resilient water supplies; Consider every option to meet future public water supply needs; Protect and enhance our environment, acting collaboratively; and Promote efficient water use and reduce leakage. 	<p>The Regional Plan should consider the guiding principles.</p>
Defra (2017) <i>Air Quality Plan for Nitrogen Dioxide (NO2) in UK</i>	

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<p>This plan sets out how the Government will improve air quality in the UK by reducing nitrogen dioxide emissions in towns and cities. The air quality plans set out targeted local, regional and national measures across 37 zone plans (areas which have identified air quality issues with nitrogen dioxide), a UK overview document and a national list of measures. Measures relate to freight, rail, sustainable travel, low emission vehicles and cleaner transport fuels, among others.</p>	<p>The Regional Plan should have regard to the air quality plans and specific local measures.</p> <p>The SEA should consider the effects of the Regional Plan on air quality.</p>
Defra (2018) <i>The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting</i>	
<p>The National Adaptation Programme (NAP) sets the actions that government and others will take to adapt to the challenges of climate change in the UK. It sets out key actions for the next 5 years. Flooding and pressure on water services are considered to be cross cutting risks. The report also details how the third cycle of adaptation reporting will be managed, forming part of the five-yearly cycle of requirements laid down in the Climate Change Act 2008.</p>	<p>The Regional Plan should ensure that proposals are resilient to the effects of climate change. Where possible, options should be considered that enhance resilience.</p> <p>The SEA should consider the potential to include adaptive measures for climate change.</p>
Defra (2020) <i>Drought Plan Direction 2020</i>	
<p>Sets out the timescales for water companies to develop and consult on Drought Plans.</p>	<p>The Regional Plan SEA will take account of the statutory requirements of this Direction, where relevant.</p>
Defra (2020) <i>National food strategy for England</i>	
<p>This independent report looks at the entire food chain, from field to fork. This includes production, marketing, processing, sale and purchase of food (for consumption in the home and out of it). It also looks at the consumer practices, resources and institutions involved in these processes.</p> <p>The report makes recommendations for government, which has promised to respond formally with a White Paper within 6 months.</p>	<p>The implementation of the Regional Plan may have some indirect links with the food industry, through ensuring the availability of water for food based activities.</p> <p>The SEA should also seek to promote the most effective use of the region's natural resources</p>
Defra (2020) <i>Natural Capital Committee's Seventh Annual Report</i>	
<p>The government published its 25 Year Environment Plan (25 YEP) in 2018, setting out how it will deliver on its commitment to leave the environment in a better state for the next generation: as first made in the 2011 White Paper, The Natural Choice. Progress on the Agriculture and Fisheries Bills has been limited, but the Natural Capital Committee (NCC) welcomes the legislation for a target of net-zero greenhouse gas emissions by 2050. Nature based interventions will be critical in meeting this target.</p>	<p>Outputs from the SEA process will help to inform any future potential development of Natural Capital Accounting (NCA) approaches to assessing environmental asset performance. Government (led by HM Treasury and Defra) is increasingly using NCA to support future environmental policy and decision making, and there may be future expectations on water companies to follow suit.</p>
Defra (2020) <i>The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024</i>	
<p>The path to sustainable farming is aiming to achieve:</p> <ul style="list-style-type: none"> • a renewed agricultural sector, producing healthy food for consumption at home and abroad, where farms can be profitable and economically sustainable without subsidy • farming and the countryside contributing significantly to environmental goals including addressing climate change 	<p>The implementation of the Regional Plan may have some indirect links with the food industry, through ensuring the availability of water for food-based activities.</p>

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	The SEA should also seek to promote the most effective use of the region's natural resources, including soil, biodiversity and energy resources.
Defra (2020) <i>Water abstraction plan: Environment</i>	
<p>This document sets out how the government will reform water abstraction management over the coming years and how this will protect the environment and improve access to water.</p> <p>The plan states that the current approach to managing abstraction has three main issues:</p> <ul style="list-style-type: none"> • some older licences allow abstraction that can damage the environment; • the current approach is not flexible enough to cope with the pressures of increasing demand for water and climate change in the long term, or to allow abstractors access to additional water when it is available; and, • the abstraction service is outdated and paper-based. <p>The plan explains how approaches identified to address these issues will be implemented. The Government's approach to addressing these issues has three main elements:</p> <ul style="list-style-type: none"> • making full use of existing regulatory powers and approaches to address unsustainable abstraction and move around 90% of surface water bodies and 77% of groundwater bodies to the required standards by 2021 • developing a stronger catchment focus – bringing together the Environment Agency, abstractors and catchment groups to develop local solutions to existing pressures and to prepare for the future. These local solutions will: <ul style="list-style-type: none"> ○ protect the environment by changing licences to better reflect water availability in catchments and reduce the impact of abstraction ○ improve access to water by introducing more flexible conditions that support water storage, water trading and efficient use • supporting these reforms by modernising the abstraction service, making sure all significant abstraction is regulated and bringing regulations in line with other environmental permitting regimes <p>The supplementary <i>Environment</i> provides further information on the work to address unsustainable abstraction set out in the abstraction plan.</p> <p>The supplementary <i>Catchment Focus</i> document provides further information on proposals set out in the abstraction plan to develop a stronger catchment focus. This is about bringing together the Environment Agency, abstractors and catchment partnerships to identify and implement local solutions to existing pressures and to prepare for the future.</p> <p>The supplementary <i>Abstraction Licensing Service</i> document provides further information on the planned reforms to the abstraction licensing service set out in the abstraction plan.</p>	<p>The Regional Plan should consider if it can help to address the issues set out in the plan.</p> <p>The SEA should consider the effects of the Regional Plan on the environment, climate change and the sustainability of options.</p>
Defra (2021) <i>Waste Management Plan for England</i>	
<p>The Waste Management Plan for England is an analysis of the current waste management situation in England. The plan does not introduce new policies or change how waste is managed in England. Its aim is to bring current waste management policies together under one national plan.</p>	<p>The Regional Plan may involve the generation of waste (e.g. either through construction requirements or operation of options).</p> <p>The SEA should seek to enhance recycling and minimise the amount of waste going to landfill.</p>
Defra and the Environment Agency (2018) <i>Resources and Waste Strategy for England</i>	

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<p>This white paper outlines a package of reforms so that by 2030 there will be a flexible, smart and responsive electricity system, powered by a range of low carbon sources of electricity. This includes engaging with consumers on energy use. Decarbonisation is important in meeting the 2050 targets.</p>	<p>The implementation of the Regional Plan may have an influence upon total energy use. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant.</p>
Defra, Environment Agency, Natural England, Forestry Commission England (2016) <i>Creating a great place for living</i>	
<p>In 2016 Defra produced a report that set out objects to great a great place for living. The objectives are related to the following topics:</p> <ul style="list-style-type: none"> • Environment – a cleaner, healthier environment, benefiting people and the economy; • Food and farming – a world-leading food and farming industry; • Rural – a thriving rural economy, contributing to national prosperity and wellbeing; • Protection – a nation better protected against floods, animal and plant diseases and other hazards, with strong response and recovery capabilities; • Excellent Delivery – Excellent delivery, on time and to budget with outstanding value for money; <p>An outstanding organisation – an organisation striving to be the best, focused on outcomes and constantly challenging itself.</p>	<p>The SEA must take into account impacts of plan options (construction and operation) on the environment, as well as the population and human health and land use (which will impact on the food and farming and rural objectives).</p>
Defra and the Law Commission (2018) <i>Draft National Policy Statement for Water Resources Infrastructure</i>	
<p>The Government has laid before Parliament a draft National Policy Statement for water resources infrastructure. The NPS summarises the water infrastructure funding process. This would streamline the planning process for certain types of large-scale water supply project, under the regime for nationally significant infrastructure established in the Planning Act 2008.</p> <p>The draft NPS proposes that, if a nationally significant infrastructure project is identified in a company's final water resources management plan (WRMP), then the need for that project will have been established as part of a fast-tracked development consent application.</p>	<p>The draft NPS will influence implementation of large scale options identified by the Regional Plan.</p> <p>The SEA should consider the impacts of these large scale options on various environmental criteria.</p>
Defra and Welsh Government (2014) <i>River Basin Planning Guidance</i>	
<p>Aims to give guidance on practical implementation of the Water Framework Directive (WFD).</p> <p>The river basin planning process involves setting environmental objectives for all groundwater and surface waters (including estuaries and coastal waters) within the river basin district, and devising programmes of measures to meet those objectives.</p>	<p>The Regional Plan should take into account the contents of this statutory guidance</p>
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) <i>Renewable and Low Carbon Energy</i>	
<p>Increasing the amount of energy from renewable and low carbon technologies will help to make sure the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and businesses. Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable.</p>	<p>The Regional Plan should, where possible, contribute towards increasing the proportion of energy from renewable energy sources.</p> <p>The SEA assessment framework should include consideration of the use of energy from renewable energy sources.</p>

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Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) <i>Strategic environmental assessment and sustainability appraisal</i>	
<p>This guidance provides clarity on the need for sustainability appraisal and strategic environmental assessment in relation to plan development.</p> <p>Strategic environmental assessment considers only the environmental effects of a plan, whereas sustainability appraisal considers the plan's wider economic and social effects in addition to its potential environmental impacts. Sustainability appraisal should meet all of the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004, so a separate strategic environmental assessment should not be required.</p>	<p>The SEA should consider the environmental effects of the Regional Plan.</p>
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2021) <i>National Planning Policy Framework 2021</i>	
<p>The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The National Planning Policy Framework constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.</p> <p>At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. The NPPF requires that the planning system should be genuinely plan-led and that plans should:</p> <ol style="list-style-type: none"> a) be prepared with the objective of contributing to the achievement of sustainable development b) be prepared positively, in a way that is aspirational but deliverable; c) be shaped by early, proportionate and effective engagement between planmakers and communities, local organisations, businesses, infrastructure providers and operators and statutory consultees; d) contain policies that are clearly written and unambiguous, so it is evident how a decision maker should react to development proposals; e) be accessible through the use of digital tools to assist public involvement and policy presentation; and f) serve a clear purpose, avoiding unnecessary duplication of policies that apply to a particular area (including policies in this Framework, where relevant). 	<p>The Regional Plan and SEA should take account of the key components of sustainable development and consider the three dimensions to sustainable development: economic, social and environmental.</p>
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (various) <i>Planning Practice Guidance</i>	
<p>Planning Practice Guidance (PPG) is designed to support the NPPF. It reflects the objectives of the NPPF which are not repeated here. PPG provides additional planning guidance on a number of topics. Those that are particularly relevant to the Regional Plan include:</p> <ul style="list-style-type: none"> • Air quality; • appropriate assessment; • climate change; • effective use of land; • flood risk and coastal change; • healthy and safe communities; • historic environment; • natural environment; • open space, sports and recreation facilities, public rights of way and local green space; • strategic environmental assessment and sustainability appraisal; and, 	<p>The Regional Plan should take into consideration guidance set out in the PPG insofar as it relates to the area covered by the Regional Plan.</p>

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<ul style="list-style-type: none"> • water supply, wastewater and water quality. 	
Department for Transport (2022) UK Electric Vehicle Infrastructure Strategy	
<p>This strategy sets out the Department for Transport's vision and action plan for the rollout of electric vehicle charging infrastructure in the UK, ahead of the phase out dates. They intend:</p> <ul style="list-style-type: none"> • to end the sale of new petrol and diesel petrol and diesel vehicles by 2030 • for all new cars and vans to be fully zero emission at the tailpipe by 2035 	<p>The Regional Plan should consider use of zero emission vehicles when delivering options where applicable.</p> <p>The SEA should also promote the use of renewable energy, where relevant.</p>
Environment Agency (2004) Catchment Flood Management Plans: Guidelines – Volume 1 Policy	
<p>These guidelines support the Environment Agency's strategy for flood risk management and work towards achieving the government's strategy for flood and coastal erosion flood risk management. The aims of Catchment Flood Management Planning are:</p> <ul style="list-style-type: none"> • To promote sustainable flood risk management measures • To reduce the sources of flooding and harm to people, and the natural, built and historic environment caused by floods • To support the delivery of the Government's and others' policies and targets, and the Environment Agency's environmental vision. 	<p>The Regional Plan should seek to support the aims of the plan.</p> <p>The SEA should consider how the Regional Plan may affect flood risk across the region.</p>
Environment Agency (2007) Soil: A Precious Resource	
<p>The soil strategy identifies the Environment Agency's priorities, sets out their role and says what action is to be taken to protect, manage and restore soil. Damaged soil structure can lead to flooding, water pollution and can affect the landscape and archaeological features.</p> <p>The strategy also outlines the part managing soils can play in mitigating climate change.</p>	<p>The Regional Plan should ensure the sustainable management of soil resources.</p> <p>SEA objectives should reflect and consider relevant priorities from the Soil: A Precious Resource publication.</p>
Environment Agency (2008) Better Sea Trout and Salmon Fisheries: Our Strategy for 2008-2021	
<p>The strategy has the goal of more sea trout and more salmon in more rivers bringing more benefit. This goal is to be brought about through achieving three broad targets:</p> <ol style="list-style-type: none"> 1. Self-sustaining sea trout and salmon in abundance in more rivers 2. Economic and social benefits optimised for sea trout and salmon fisheries 3. Widespread and positive partnerships, producing benefits <p>There are twelve more detailed targets lying below these broad goals which relate to salmon and fisheries.</p>	<p>The Regional Plan should take the strategy into account where it may have an effect on salmon and trout, e.g. where an option may involve inserting or removing a barrier to fish.</p> <p>The SEA should include a guide question in relation to the effects of options on recreation (i.e. recreational angling) and also appropriate targets in monitoring proposals.</p>
Environment Agency (2009) Water for People and the Environment - Water Resources Strategy for England and Wales	
<p>Environment Agency's water resources strategy sets out how Environment Agency believe water resources should be managed England and Wales to 2050 and beyond to ensure that there will be enough water for people and the environment. It sets out how water resources should be managed within Defra frameworks in its water strategy for England 'Future Water', and in Wales, the Welsh Government's 'Environment Strategy for Wales'.</p> <p>Objectives in the strategy are set out under four broad themes: adapting to and mitigating climate change; a better water environment; sustainable planning and management of water resources; and, water and the water environment are valued.</p> <p>This strategy sets out the following objectives:</p>	<p>The objectives for the Regional Plan should reflect these objectives, where relevant.</p> <p>The SEA should seek to promote the protection and enhancement of water resources and to encourage sustainable management of the resource.</p>

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<ul style="list-style-type: none"> • Ecology is more resilient to climate change because abstraction pressures have been reduced and a diverse network of habitats has been allowed to develop; • The resilience of supplies and critical infrastructure is increased to reduce the impacts of climate change; • Flexible and incremental solutions in water resources management allow adaptation to climate change as it happens; • Everyone is able to make more informed decisions and choices about managing water resources, protecting the environment and choosing options to avoid security of supply problems; • Greenhouse gas emissions from using water resources are minimised and properly considered in future decisions; • Measures will be in place to make sure that water bodies achieve Water Framework Directive objectives; • Abstraction is sustainable, the environment is protected and improved, and supplies remain secure; • Environmental problems caused by historic unsustainable abstractions are resolved; • Catchment management is integrated so that impacts on water resources and the water environment are managed together; • The twin track approach of resource development with demand management is adopted in all sectors of water use; • In England, the average amount of water used per person in the home is reduced to 130 litres each day by 2030; • The Environment Agency targets and adapts its approach to reflect the location and timing of pressures on water resources; • In England, water companies implement near-universal metering of households, starting in areas of serious water stress; • Leakage from mains and supply pipes is reduced; • New and existing homes and buildings are more water efficient; • Water resources are allocated efficiently and are shared within regions where there are areas of surplus; • Water pricing for the abstraction and use of water acts as an incentive for the sustainable use of water resources; • Abstractors and users make informed choices to use water more efficiently; • Innovative tariffs are adopted by water companies to maximise savings and minimise issues of affordability; • The needs of wildlife, fisheries, navigation and recreation, as well as the environment and abstractors, are fully taken into account when allocating water resources; • Innovative technology is developed to improve water efficiency by all water users. <p>The strategy includes a number of actions for Environment Agency and others to develop targets for water reduction and efficiency.</p>	
Environment Agency (2010) <i>Water Resources Action Plan for England and Wales</i>	
<p>The strategy has four main aims:</p> <ul style="list-style-type: none"> • Adaptation to and mitigation of climate change; • A better water environment; 	<p>The SEA should seek to ensure that strategy objectives are also reflected in the SEA objectives particularly regarding the sustainable management of</p>

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<ul style="list-style-type: none"> • Sustainable planning and management of water resources; • People valuing water and the water environment. 	water resources and protecting the environment.
Environment Agency (2013) <i>Areas of Water Stress: Final Classification</i>	
The report is the Environment Agency's formal advice on which areas in England are of serious water stress.	<p>The Regional Plan should seek to contribute to addressing the requirements of water stressed areas.</p> <p>The SEA assessment framework should consider the effects of the Regional Plan on water resources and the associated socio- economic and environmental receptors.</p>
Environment Agency (2013) <i>Climate Change Approaches in Water Resources Planning: New Methods</i>	
This research paper examines how climate change has been built into water resource management plans and recommends best and appropriate practice for the future, with reference to the use of the detailed tools and probabilistic climate data in UKCP09.	<p>The Regional Plan should take into account climate projections and suggestions for best practice.</p> <p>The SEA should consider the effects of the Regional Plan on climate change</p>
Environment Agency (2013) <i>Managing Water Abstraction</i>	
Managing Water Abstraction sets out how the Environment Agency manage water resources in England and Wales. It is the overarching document that links together the abstraction licensing strategies. The availability of water resources for abstraction is assessed through a Catchment Abstraction Management Strategy (CAMS) approach.	The SEA should include a guide question relating to the sustainable use of water resources.
Environment Agency (2017) <i>Drought response: our framework for England</i>	
<p>This policy paper outlines how the Environment Agency works with government, water companies and others to manage water resources during a drought in England.</p> <p>It does this by setting out:</p> <ul style="list-style-type: none"> • how drought affects different parts of England in different ways • which organisations are involved in managing drought and how they work together • how the Environment Agency and others make decisions and decide on actions to take • how the Environment Agency monitors and measures the impacts of drought • how the Environment Agency reports on drought and communicates with others 	<p>The Regional Plan should consider how drought affects different areas and how it can act to mitigate the impacts of drought.</p> <p>The SEA should outline the impacts of potential Regional Plan options on drought.</p>
Environment Agency (2017) <i>Groundwater Protection Technical Guidance</i>	
<p>This guidance is for planners, applicants for environmental permits and abstraction licences, and landowners concerned with the quality and quantity of groundwater.</p> <p>The guidance helps to understand:</p> <ul style="list-style-type: none"> • inputs of substances and pollutants to groundwater • discernibility of hazardous substances • when geological formations can be determined permanently unsuitable for other purposes 	<p>The Regional Plan should follow the guidance where groundwaters/abstraction are concerned.</p> <p>The SEA should consider the impact of the Regional Plan on groundwater quality and quantity.</p>

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Environment Agency (2018) <i>The Environment Agency's Approach to Groundwater Protection</i>	
<p>This document updates Groundwater protection: Principles and practice (GP3). It contains position statements which provide information about the Environment Agency's approach to managing and protecting groundwater. They detail how the Environment Agency delivers government policy for groundwater and adopts a risk-based approach where legislation allows. Many of the approaches set out in the position statements are not statutory but may be included in, or referenced by, statutory guidance and legislation.</p> <p>This document will be of interest to developers, planners, environmental permit applicants and holders, abstractors, operators and anyone whose current or proposed activities have an impact on, or are affected by groundwater. Each section is focused on different activities or sectors.</p> <p>Environment Agency staff will use these position statements as a framework to make decisions. This clear approach aims to remove uncertainty and potentially inconsistent decision-making.</p> <p>The Environmental Permitting (England and Wales) Regulations 2016 (EPR) require permitting of activities that may lead to the input into groundwater of hazardous substances or non-hazardous pollutants. Groundwater resources are primarily managed by abstraction licensing.</p> <p>The primary aim of all of the position statements is the prevention of pollution of groundwater and protection of it as a resource. Groundwater protection is long term, so these principles and position statements aim to protect and enhance this valuable resource for future generations</p>	<p>The Regional Plan should aim to protect groundwater resources and use the document to aid decision making where groundwaters are concerned.</p> <p>The SEA should consider the impact of the Regional Plan on groundwater quality and quantity.</p>
Environment Agency (2020) <i>EA2025 creating a better place</i>	
<p>The plan sets out the Environment Agency's ambition for how they plan to create better places for people, wildlife and the environment, up to 2025.</p> <p>This document includes the Environment Agency's purpose, priorities, culture and values as well as how they will help to deliver the 25 year environment plan. It includes the metrics that the Environment Agency will be measured against so they know when they are succeeding in our ambitions. The plan sets out 3 long term goals:</p> <ul style="list-style-type: none"> • A nation resilient to climate change • Healthy air, land and water • Green growth and a sustainable future 	<p>The SEA and the Regional Plan should consider the Environment Agency's priorities.</p>
Environment Agency (2020) <i>Meeting our future water needs: a national framework for water resources</i>	
<p>The national framework report marks a move to strategic regional planning. It sets out the principles, expectations and challenges for 5 regional groups (including Water Resources West) made up of the 17 English water companies and other water users. The framework explores England's long term water needs for:</p> <ul style="list-style-type: none"> • public water supplies • agriculture • the power and industry sectors • environmental protection <p>For the Water Resources West Region the framework estimates that additional public water supply needs between 2025 and 2050 are 639 Ml/d.</p> <p>The framework states that the Water Resources West Region will face pressures in the future. However, it has a significant surplus, the potential to reduce demand further and options to supply more water. The framework states that the options identified in the water company WRMPs are enough to meet the higher need estimate. If greater reductions in water use can be achieved or further options identified, there is potential to transfer more water to other regions.</p>	<p>The Regional Plan should seek to support the achievement of the aims of the framework.</p> <p>The SEA should include an objective/guide question relating to water resources.</p>

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<p>The plan sets out that the regional groups will each produce one plan and states that it must consider how the region will be resilient to a range of uncertainties and future scenarios. It must identify a set of options that provide the best value to customers, society and the environment rather than simply the least cost. Together the 5 plans must meet the national need.</p> <p>The plans need to address the following:</p> <ul style="list-style-type: none"> • Increasing resilience to drought • Greater environmental improvement • Reducing long term water usage • Reducing leakage • Reducing the use of drought permits and orders • Increasing supplies. <p>The framework states that plans must include:</p> <ul style="list-style-type: none"> • an initial resource position – a resource assessment which looks at future scenarios and explores the main challenges and sensitivities • a statement of ambition, including the regional policies and principles • a list of the options considered – to meet the regional need and contribution to the national need • the preferred plan – identifying the best value options to meet all future water needs across multiple sectors and users. <p>The framework also sets out a number of criteria that the plans must fulfil as well as things that the plans should or could achieve or include.</p>	
Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England	
<p>This strategy describes what needs to be done by all organisations involved in flood and coastal erosion risk management. These include local authorities, internal drainage boards, water and sewerage companies, highways authorities, and the Environment Agency. They all act to reduce the risk of flooding and coastal erosion and manage its consequences.</p> <p>The strategy sets out a statutory framework that will help communities, the public sector and other organisations to work together to manage flood and coastal erosion risk. It supports local decision-making and engagement in FCERM, making sure that risks are managed in a co-ordinated way across catchments and along each stretch of coast. This includes the development of local flood risk management strategies by lead local flood authorities, as well as our strategic overview of all sources of flooding and coastal erosion.</p> <p>This strategy's long-term vision is for: a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100.</p> <p>It has 3 long-term ambitions, underpinned by evidence about future risk and investment needs.</p> <p>They are:</p> <ul style="list-style-type: none"> • climate resilient places: working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change • today's growth and infrastructure resilient in tomorrow's climate: making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change • a nation ready to respond and adapt to flooding and coastal change: ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action. 	
	<p>The Regional Plan should be prepared in line with the strategy.</p> <p>The SEA framework should consider flooding and coastal erosion.</p>

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Environment Agency (2020) <i>Water Company Drought Plan guideline</i>	
This guidance, written in conjunction with Defra, outlines the legislative requirements for a drought plan. This document also provides a timeline for the drought planning process.	The Regional Plan and the SEA should consider the guideline, where relevant.
Environment Agency, Natural Resources Wales and The Water Services Regulation Authority (2022) <i>Water resources planning guideline supplementary guidance – Environment and society in decision-making</i>	
This document supports the water resources planning guideline. It provides guidance on how to consider the environment and society in decision-making for water resources management plans and regional plans. It is applicable to England only. There is separate guidance for Wales available from Natural Resources Wales. This supplementary guidance sets out how the environment and society should be considered through: <ul style="list-style-type: none"> • Strategic Environmental Assessment (SEA) • biodiversity net gain assessment • natural capital assessments 	The Regional Plan and SEA should take into account the supplementary guidance.
Environment Agency, Natural Resources Wales and The Water Services Regulation Authority (2022) <i>Water Resources Planning Guideline</i>	
The water resources planning guideline provides an update to the framework for water companies to follow in developing and presenting their water resources plans. It sets out good practice behind the composition of a plan, the approaches to developing a plan and the information that a plan should contain. The guideline states that where feasible water and sewerage companies should ensure that their long-term planning for wastewater and water supply are aligned. Along with highlighting any linkages and, or interdependencies (or both). The guideline states that water/sewerage companies should consider alignment in their growth forecasts, climate change scenarios and timetable for delivering solutions.	The Regional Plan should align with the framework as suggested in the guideline. The SEA should seek to ensure that water supplies and resources are maintained or enhanced in line with the Water Resources Planning Guidelines.
Environment Agency (undated) <i>Hydroecology: Integration for modern regulation</i>	
This paper describes clear way forward in terms of hydroecology and a strategic direction to its development and application.	The Regional Plan should ensure relevant ecological considerations are integral to water resource management decisions across the range of temporal and spatial scales.
Environment Agency (undated) <i>Restoring Sustainable Abstraction Programme</i>	
Environment Agency note that there is evidence to suggest that unsustainable abstraction of groundwater and surface water could be contributing to environmental damage of rivers and wetlands in England and Wales, including sites of national and international conservation importance. In May 1997, at the Government's Water Summit, a commitment was made to reverse the damage caused by past decisions. Environment Agency investigates where over-abstraction has occurred and work with local people to restore sustainable supplies.	The Regional Plan should aim to maintain and implement sustainable abstraction practises. The SEA will assess the impacts of the Regional Plan and any associated abstraction on water quality and quantity.
Environment Agency (undated) <i>WFD River Basin Characterisation Project: Technical Assessment Method - River abstraction and flow regulation</i>	
This paper describes the method used to assess the likelihood of river water bodies achieving the relevant WFD objectives as a result of artificial influences on low river flows.	Implementation of the Regional Plan may impact river water quality. The SEA should seek to promote the protection and enhancement

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	of biodiversity and river water quality across the region.
English Heritage (2008) <i>Climate Change and the Historic Environment</i>	
Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation.	The SEA should seek to assess the implications of the Regional Plan in combination with climate change and the potential impacts on heritage and the historic environment.
English Heritage (2010) <i>Heritage at Risk</i>	
Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with increased risks of neglect and decay) and then help secure them for the future. Regional Heritage at Risk Registers were most recently published in 2017.	The SEA should seek to protect and enhance heritage and landscape and the assessment framework should include an objective relating to cultural heritage.
Future Generations Commissioner for Wales (2020) <i>The Future Generations Report 2020</i>	
Producing a Future Generations Report every five years, which provides an assessment of the improvements public bodies should make in relation to their wellbeing objectives, is a statutory duty of the Future Generations Commissioner under the Well-being of Future Generations (Wales) Act 2015. The report includes (as required by the act): <ul style="list-style-type: none"> • An assessment of how public bodies can better safeguard the ability of future generations to meet their own needs; and take greater account of the long-term impact of the things they do. • A summary of evidence gathered, and activities undertaken, by the Commissioner during the reporting period. • A summary of the reviews conducted by the Commissioner; an account of any research or other study undertaken. • Any other information the Commissioner considers appropriate. <p>This report provides advice, guidance and tools for public bodies involved in making the aspirations set out in the act a reality for people in Wales. It also showcases actions that are taking in place in Wales and across the world.</p>	The Regional Plan should consider how it can contribute to the seven well-being goals set out in the Wellbeing of Future Generations Act. The Regional Plan should take into consideration the recommendations of the report. The SEA Framework should reflect the seven well-being goals.
Historic England (2015) <i>The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3</i>	
This document sets out guidance, against the background of the NPPF, on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes. It gives general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting.	The Regional Plan and SEA should take account of the need to protect and enhance the setting of heritage assets.
Historic England (2016) <i>Historic England Advice Note 8: Sustainability Appraisal and Strategic Environmental Assessment</i>	
This Historic England Advice Note supersedes previous advice issued on this subject in 2013. It seeks to provide advice on historic environment considerations as part of the Sustainability Appraisal/Strategic Environmental Assessment process. This document is aimed at all relevant local planning authorities, neighbourhood groups, developers, consultants, landowners and other interested parties. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues.	The SEA should consider the potential effects of the Regional Plan on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this

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	document should be taken into account in the SEA.
The Historic Environment Group (2018) <i>Historic Environment and Climate Change Sector Adaption Plan</i>	
The sector adaptation plan (SAP) is a high-level, strategic document intended to identify climate change risks, opportunities and adaptation needs for the historic environment. Its aim is to stimulate action through strategies, programmes and partnerships.	<p>The Regional Plan should seek to reduce its contribution to climate change and aim to assist in the protection of the historic environment within the operational area.</p> <p>The SEA assessment framework should consider the effects of the Regional Plan on climate change and associated effects on the historic environment.</p>
HM Government (1975) <i>Salmon and Freshwater Fisheries Act 1975</i>	
The act encompasses fishing regulation, as well as illegal obstruction of migratory pathways and prohibited modes of destroying fish. The act allows the salmon to maintain an environmentally stable population and support the fishing industry.	The SEA and Regional Plan should consider the protection of salmon and freshwater fish.
HM Government (1975) <i>Reservoirs Act</i>	
<p>The Reservoirs Act 1975 provides a legal framework to ensure the safety against failure of large raised reservoirs.</p> <p>The act applies to reservoirs that hold at least 25,000 cubic metres of water above natural ground level.</p> <p>Safety legislation for reservoirs in the United Kingdom was introduced in 1930 after several reservoir disasters had resulted in loss of life. This law was superseded by the Reservoirs Act 1975.</p> <p>Under the Reservoirs Act 1975 reservoir owners (undertakers) have ultimate responsibility for the safety of their reservoirs.</p> <p>Reservoir owners must appoint a <u>panel engineer</u> (a specialist civil engineer who is qualified and experienced in reservoir safety) to supervise the design and construction of the reservoir, to continuously supervise the reservoir when built (supervising engineer) and to carry out periodic inspections (inspecting engineer).</p>	The Regional Plan should consider any effects of options on reservoirs capacity, functioning and downstream flows.
HM Government (1979) <i>Ancient Monuments and Archaeological Areas Act 1979</i>	
The Act defines sites that warrant protection as ancient monuments. They can be a Scheduled Monuments or "any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it".	<p>The Regional Plan should consider if there are ways in which they can contribute to the protection of Scheduled Monuments.</p> <p>The SEA assessment framework should include consideration of Scheduled Monuments.</p>
HM Government (1981) <i>Wildlife and Countryside Act 1981</i>	
<p>The Act makes it an offence (with exceptions) to;</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any wild bird or their eggs or nests; • Intentionally kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5; 	<p>The Regional Plan must ensure full compliance with the Act.</p> <p>The SEA should ensure a positive contribution to the wildlife within the operational area.</p>

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<ul style="list-style-type: none"> Prohibits interference with places used for shelter or protection, or intentionally disturbing animals; and Pick, uproot, trade in, or possess (for the purposes of trade) and wild plant listed in Schedule 8. <p>The Act also provides for the notification of Sites of Special Scientific Interest (SSSI) and require surveying authorities to maintain up to date definitive maps and statements, for the purpose of clarifying public rights of way.</p>	
HM Government (1990) <i>Environmental Protection Act</i>	
<p>The Act defines the legal framework for England, Wales and Scotland regarding environmental protection, including the duty of care for waste, contaminated land, and statutory nuisance. Under the Act, Local Authorities or private individuals may take action to secure abatement of any such nuisance, such as noise, and only one person need be affected for action to be possible. It also specifies offences related to the storage, movement, treatment or disposal of controlled waste, and sets out the regime for identifying and remediating contaminated land.</p>	<p>The Regional Plan must ensure compliance with the Act.</p> <p>The SEA assessment framework should include waste and nuisance.</p>
HM Government (1990) <i>Planning (Listed Buildings and Conservation Areas) Act 1990</i>	
<p>The Planning (Listed Buildings and Conservation Areas) Act 1990 provides specific protection for buildings and areas of special architectural or historic interest. The Act introduced the listing of buildings for buildings which possess special architectural or historic interest and the designation of conservation areas for areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance.</p>	<p>The Regional Plan should seek to avoid adverse impacts on cultural heritage assets.</p> <p>The SEA assessment framework should include specific objectives relating to cultural heritage.</p>
HM Government (1990) <i>Town and Country Planning Act 1990</i>	
<p>The Town and Country Planning Act controls and consents development, which is defined as building, engineering, mining or other operations in. on, over or under land, or the making of any material change in the use of any building or land.</p>	<p>The Regional Plan must ensure full compliance with the Act.</p> <p>The SEA should include objectives and guide questions relating to biodiversity, land use, and landscape.</p>
HM Government (1991 and 1994) <i>Land Drainage Act</i>	
<p>The Land Drainage Act 1991 requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded. The riparian owner must accept the natural flow from upstream but need not carry out work to cater for increased flows resulting from some types of works carried out upstream, for example a new housing development.</p> <p>If a riparian owner fails to carry out his responsibilities under the Land Drainage Act, or if anyone else causes a watercourse to become blocked or obstructed, the County and District Councils have powers of enforcement by serving a notice under the Act. If this is ignored, the Council concerned may carry out the necessary itself and then recharge the person responsible for the full cost incurred. The District Council normally implements these powers but the County Council will deal with problems that affect the highway. The person responsible may also be prosecuted for nuisance under the Public Health Act 1936.</p> <p>The 1994 Act amends the Land Drainage Act of 1991 in relation to the functions of internal drainage boards and local authorities.</p>	<p>The Regional Plan should be prepared in accordance with the act.</p>
HM Government (1991) <i>Water Industry Act 1991 (as amended by the Flood and Water Management Act 2010)</i>	

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The Water Industry Act sets out the regulatory, competition and consumer representation frameworks for the water sector in England and Wales including the duty for water companies to prepare WRMPs.	The Regional Plan should be prepared in accordance with the Water Industry Act 1991, where relevant.
HM Government (1991) <i>Water Resources Act 1991</i>	
The Water Resources Act applies to England and Wales and established the National Rivers Authority (now the Environment Agency) to regulate water pollution, water resources, flood defence, fisheries and navigation. The Act covers water abstraction and impounding and discharges to surface and ground waters and coastal waters.	The Regional Plan must ensure full compliance with the Act
HM Government (1994) <i>The Conservation (Natural Habitats, &c.) Regulations 1994</i>	
These regulations transposed European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) into national law. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.	<p>The Regional Plan should seek to protect European sites and species.</p> <p>The SEA assessment framework should include objectives and guide questions relating to the protection of European sites and species, as well as biodiversity more generally.</p>
HM Government (1994) <i>UK Biodiversity Action Plan</i>	
<p>The aim of the action plan is to conserve and enhance biological diversity in the UK and to contribute to the conservation of national and global biodiversity and include the follow aims to maintain and, where practicable, to enhance:</p> <ul style="list-style-type: none"> • The overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems; • Internationally and nationally important and threatened species, habitats and ecosystems; • Species, habitats and natural and managed ecosystems that are characteristic of Kent; • The biodiversity of natural and semi-natural habitats, where this has diminished over 3 recent decades, and • Public awareness of, and involvement in, conserving biodiversity. 	Ensure that the Regional Plan and SEA encourage conservation and offer protection to areas and species of high conservation importance as identified in this action plan.
HM Government (1994) <i>Urban Waste Water Treatment (England and Wales) Regulations 1994</i>	
The Regulations transposed the requirements of the Urban Waste Water Treatment Directive 91/271/EEC (as amended). The Regulations impose requirements for: collection systems for treated urban waste water; discharges from treatment plants, and sets out methods for monitoring; and makes provisions with regard to discharges of industrial wastewater and the dumping of sludge from ships.	The Regional Plan should reflect the requirements set out in the regulations.
HM Government (1995) <i>Environment Act 1995</i>	
The Act seeks to protect and preserve the environment and guard against pollution to air, land or water. The Act adopts an integrated approach to environmental protection and outlines where authorisation is required from relevant authorities to carry out certain procedures as well as outlining the responsibilities of the relevant authorities. It established the Environment Agency, the Scottish Environment Protection Agency and the National Park authorities. The Act also includes provisions relating to remediation of contaminated land, waste and the designation of Air Quality Management Areas.	<p>The Regional Plan must ensure compliance with the Act.</p> <p>The SEA assessment framework should include waste and air quality.</p>

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HM Government (2000) <i>The Countryside and Rights of Way (CROW) Act 2000</i>	
This act extends the public's ability to enjoy the countryside and safeguards landowners and occupiers. The Act creates a new statutory right of access to open country and registered common land, modernise the right of way system, give greater protection to Sites of Special Scientific Interest (SSSIs), provide greater protection arrangements for Areas of Outstanding Natural Beauty (AONBs) and strengthen wildlife enforcement legislation.	The SEA must make sure that the Act is supported and that public rights of way and access to the countryside are maintained and where possible enhanced.
HM Government (2002) <i>The National Heritage Act 2002</i>	
This Act builds on the preceding National Heritage Acts of 1980, 1983 and 1997. All four Acts define the way in which National heritage assets are managed and protected. The 2002 Act extended the powers of the Historic Buildings and Monuments Commission to include underwater archaeology within the territorial waters of the United Kingdom.	The Regional Plan should be compliant with the Act. The SEA should include objectives relating to the protection of heritage features.
HM Government (2003) <i>The Water Act 2003</i>	
The four broad aims of the Act are: <ul style="list-style-type: none"> the sustainable use of water resources; strengthening the voice of consumers; a measured increase in competition; and the promotion of water conservation. It amends the Water Industry Act 1991 so that water companies: <ul style="list-style-type: none"> are given a duty to prepare and publicise drought plans; are placed under a duty to agree and publicise water resource management plans; and are placed under an enforceable duty to further water conservation. As part of the Act the Water Services Regulation Authority (Ofwat) became the economic regulator of the water and sewage industry in England and Wales.	The Regional Plan should support the achievement of the aims of the act, where possible. The SEA should include objectives relating to water quality, water resources and sustainable water use.
HM Government (2004) <i>The Environmental Assessment of Plans and Programmes Regulations 2004</i>	
These regulations only apply to plans and programmes within England and set out the procedures required when undertaking an environmental assessment.	The SEA should take the regulations into account when assessing the Regional Plan.
HM Government (2005) <i>Securing the Future; Delivering UK Sustainable Development Strategy</i>	
The strategy for sustainable development aims to enable all people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The strategy places a focus on protecting natural resources and enhancing the environment.	The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the Regional Plan.
HM Government (2006) <i>Climate Change and Sustainable Energy Act 2006</i>	
The Act was enacted after the publication of the UK Climate Change Programme (2006). It places an obligation on the government to report to Parliament on greenhouse gas emissions in the UK and action taken by Government to reduce these emissions.	The Regional Plan should take into account carbon emissions associated with the measures. The SEA could include an objective/guide question in the assessment framework to reduce greenhouse gas/carbon dioxide emissions. Consider whether the

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	monitoring arrangements can be utilised to monitor the effects of the Regional Plan.
HM Government (2006) <i>Natural Environment and Rural Communities Act 2006</i>	
<p>The Act:</p> <ul style="list-style-type: none"> • makes provision about bodies concerned with the natural environment and rural communities; • makes provision in connection with wildlife, sites of special scientific interest, National Parks and the Broads; • amends the law relating to rights of way; • makes provision as to the Inland Waterways Amenity Advisory Council; and <p>provides for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.</p>	The Regional Plan and SEA should have regard to protected wildlife sites and species, landscapes and rights of way.
HM Government (2007) <i>Water Resources Management Plan Regulations 2007</i>	
These Regulations set out the process for the preparation of WRMPs.	The Regional Plan should consider these regulations, where relevant.
HM Government (2008) <i>The Climate Change Act 2008 and The Climate Change Act 2008 (2050 Target Amendment) Order 2019</i>	
<p>This Act aims:</p> <ul style="list-style-type: none"> • to improve carbon management and help the transition towards a low carbon economy in the UK; and • to demonstrate strong UK leadership internationally, signalling that the UK is committed to taking its share of responsibility for reducing emissions in the context of ratifying the global Paris Agreement. <p>The UK Climate Change Act 2008 sets legally binding targets for the UK to reduce greenhouse gas emissions by at least 80% by 2050, and CO₂ emissions by at least 26% by 2020, against a 1990 baseline.</p> <p>Further the Act provides for a carbon budgeting system which caps emissions over five year periods to set out our trajectory to 2050. Budgets have been set covering the periods 2008-12, 2013-17, 2018-22, 2023-27 and 2028-32, equivalent to 22%, 28%, 34%, 50% and 57% reductions in carbon emissions compared to 1990 levels respectively.</p>	<p>The Regional Plan should seek contribute towards increasing the proportion of energy from renewable energy sources.</p> <p>The SEA assessment framework should include consideration of greenhouse gas emissions and use of energy from renewable energy sources.</p>
HM Government (2008) <i>The Energy Act 2008</i>	
<p>The Energy Act 2008 contains the legislative provisions required to implement UK energy policy following the publication of the Energy Review 2006 and the Energy White Paper 2007.</p> <p>The key elements of the Act:</p> <ul style="list-style-type: none"> • Strengthens the regulatory framework for offshore gas supply infrastructure to enable private sector investment; • Creates a regulatory framework to enable private sector investment in Carbon Capture and Storage projects; • Strengthens the Renewables Obligation to drive greater and more rapid deployment of renewables in the UK; • Strengthens statutory decommissioning provisions for offshore renewables and oil and gas installations to minimise the risk of liabilities falling to the Government; 	<p>The Regional Plan should have regard to the provisions in the Act.</p> <p>The SEA should include objectives relating to energy and resource use.</p>

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<ul style="list-style-type: none"> Improves the offshore oil and gas licensing regime in response to changes in the commercial environment and enable the Department for Business Enterprise and Regulatory Reform to carry out its regulatory functions more effectively; Ensures the operators of new nuclear power stations accumulate funds to meet the full costs of decommissioning and their full share of waste management costs; and Introduces amending powers such that Ofgem is able to run the offshore electricity transmission licensing regime more effectively. <p>The subsequent Energy Acts (2010, 2011, 2013, 2016) contain provisions relating to carbon capture and storage, decarbonisation, fuel poverty, reductions in carbon emissions, security of energy supply, nuclear regulation and the Oil and Gas Authority, amongst others.</p>	
HM Government (2008) <i>Planning Act 2008</i>	
This Act introduced a new system for nationally significant infrastructure planning, alongside further reforms to the Town and Country Planning system.	<p>The Regional Plan should consider any unforeseen NSIP proposals that come forward prior to adoption which may affect water resources in the region.</p> <p>The SEA should consider the cumulative effects of the Regional Plan and any unforeseen NSIP proposals that come forward which may affect water resources in the region.</p>
HM Government (2009) <i>The Eels (England and Wales) Regulations 2009 (as amended 2011)</i>	
These regulations were introduced in 2009 and amended in 2011. They afford powers to the Environment Agency to implement measures for the recovery of European eel stocks and have important implications for operators of abstractions and discharges.	The SEA and Regional Plan should have regard to eel populations.
HM Government (2009) <i>The Groundwater (England and Wales) Regulations 2009</i>	
<p>The Groundwater Regulations are designed to implement a daughter directive to the European Water Framework Directive and prevent or limit the inputs of polluting substances into groundwater.</p> <p>Substances controlled under these regulations fall into two categories:</p> <ol style="list-style-type: none"> Hazardous substances, defined as those which are toxic, persistent or liable to bioaccumulate must be prevented from entering groundwater. Substances in this list may be disposed of to the ground, under a permit, but must not reach groundwater. They include pesticides, sheep dip, solvents, hydrocarbons, mercury, cadmium and cyanide. Non-hazardous pollutants are less dangerous, and can be discharged to groundwater under a permit, but must not cause pollution. Examples include sewage, trade effluent and most wastes. Non-hazardous pollutants include any substance capable of causing pollution and the list is much wider than the previous List 2 substances. 	<p>The Regional Plan will need to comply with the requirements of the Regulations where appropriate.</p> <p>The SEA assessment should include an objective relating to the effects of options on groundwater quality.</p>
HM Government (2009) <i>Marine and Coastal Access Act 2009</i>	
The Marine and Coastal Access Act sets out a number of measures including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans. It also includes amendments to the Salmon and Freshwater Fisheries Act, 1975.	<p>The Regional Plan should take into account its effects on coastal areas, where appropriate.</p> <p>The SEA assessment should take into account the effects of the actions on the coast where relevant.</p>
HM Government (2009) <i>Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 SI 3104</i>	

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Purpose of the Document, including Objectives and Targets relevant to the Regional Plan and SEA	Relationships and Influences on the Regional Plan and the SEA
<p>Amends Water Resources Act 1991 by extending the use of Water Protection Zones and Works Notices, in particular to deal with harm to aquatic ecosystems caused by the physical characteristics of a water course or lake, such as quantity, structure and substrate of river/lake bed.</p> <p>Aligns the Water Resources Act with the hydromorphological requirements of the WFD</p>	<p>The SEA should include objectives that cover hydromorphological aspects and seek to ensure that hydromorphological features within the plan are maintained or enhanced.</p>
HM Government (2009) <i>The UK Renewable Energy Strategy</i>	
<p>The Strategy sets out to:</p> <ul style="list-style-type: none"> Put in place the mechanisms to provide financial support for renewable electricity and heat worth around £30 billion between up to 2020; Drive delivery and clear away barriers; Increase investment in emerging technologies and pursue new sources of supply; and <p>Create new opportunities for individuals, communities and business to harness renewable energy.</p>	<p>The Regional Plan should contribute towards increasing the proportion of energy from renewable energy sources, where possible.</p> <p>The SEA assessment framework should include consideration of the use of energy from renewable energy sources.</p>
HM Government (2010) <i>Flood and Water Management Act 2010</i>	
<p>The Flood and Water Management Act 2010 aims to provide better, more sustainable management of flood risk for people, homes and businesses, help safeguard community groups from unaffordable rises in surface water drainage charges and protect water supplies to the consumer. The Act will also implement recommendations made by Sir Michael Pitt in his review of the 2007 floods. This will include giving water companies new powers to better control non-essential domestic uses of water during periods of water shortage.</p> <p>The Act places a number of statutory duties on water companies including:</p> <ul style="list-style-type: none"> a duty to act consistently with the National Strategy; and <p>a duty to have regard to the content of the Local Flood Risk Management Strategies. Does not contain any targets.</p>	<p>Regional Plan The SEA should include objectives relating to flood risk and water use.</p>
HM Government (2011) <i>Localism Act 2011</i>	
<p>The Localism Act provides greater devolved powers to councils and neighbourhoods and gives local communities more control over housing and planning decisions.</p>	<p>The Regional Plan and the SEA Environmental Report will be subject to public consultation.</p>
HM Government (2011) <i>UK Marine Policy Statement</i>	
<p>The Marine Policy Statement (MPS) sets out the framework for preparing Marine Plans and taking decisions affecting the marine environment, supporting the delivery of the following high-level marine objectives:</p> <ul style="list-style-type: none"> Achieving a sustainable marine economy; Ensuring a strong, healthy and just society; Living within environmental limits; Promoting good governance; Using sound science responsibly. <p>Does not contain any targets.</p>	<p>The Regional Plan should take into account its effects on coastal areas.</p> <p>The SEA assessment should take into account the effects of the actions on the coast/marine environment where relevant.</p>
HM Government (2011) <i>Water for Life: White Paper</i>	
<p>Water for Life describes a vision for future water management in which the water sector is resilient, in which water companies are more efficient and customer focused, and in which water is valued as the precious and finite resource it is.</p>	<p>The Regional Plan should help to contribute to the resilient and efficient management of water.</p>

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Water for Life includes several proposals for deregulating and simplifying legislation, to reduce burdens on business and stimulate growth. Ofwat's proposals for reducing its regulatory burdens complement these.	In order to ensure future water management is resilient SEA should consider resilience to climate change and should consider the human environment.
HM Government (2013) <i>The Energy Act 2013</i>	
The Act established a legislative framework for delivering secure, affordable and low carbon energy. At its core is the need to ensure that, as older power plants are taken offline, the United Kingdom remains able to generate enough energy to meet its needs even if demand increases. The Act sets out provisions for: <ul style="list-style-type: none"> • Decarbonisation • Electricity Market Reform (EMR) • Nuclear Regulation • Government Pipeline and storage system • Strategy and policy statement • Customer protection 	The Regional Plan should comply with the act, where relevant. The SEA should include guide questions relating to energy use and carbon emissions.
HM Government (2014) <i>Water Act 2014</i>	
The purpose of the Act was to make provision about the water industry; about compensation for modification of licences to abstract water; about main river maps; about records of waterworks; for the regulation of the water environment; about the provision of flood insurance for household premises; about internal drainage boards; about Regional Flood and Coastal Committees; and for connected purposes.	The Regional Plan help to ensure that future water management is resilient, efficient and customer focused
HM Government (2015) <i>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015</i>	
These regulations amend the 2009 regulations and provide additional protection to habitats and species identified on Annexes 1 and 2 of the EC Habitats Directive (92/43/EEC), SSSIs and, in some cases, classified waterbodies from environmental damage where an operator has intended to cause damage or been negligent to the potential for damage. Applies to the most serious categories of environmental damage, including: <ul style="list-style-type: none"> • Contamination of land that results in a significant risk of adverse effects on human health • Adverse effects on surface water or groundwater consistent with a deterioration in the water's status • Adverse effects on the integrity of a Site of Special Scientific Interest (SSSI) or on the conservation status of species and habitats protected by EU legislation outside SSSIs. 	The SEA should seek to ensure that the guidance provided by the regulations is considered when assessing the Regional Plan.
HM Government (2015) <i>Infrastructure Act 2015</i>	
The Infrastructure Act (inter alia) gives environmental authorities new powers to require landowners to take action on invasive non-native species or permit others to enter the land and carry out those operations.	The SEA assessment framework should include guide questions relating to invasive species.
HM Government (2015) <i>The Nitrate Pollution Prevention Regulations 2015</i>	
These regulations consolidate and revoke previous regulations on Nitrate Pollution Prevention (namely the 2008 Nitrate Pollution Prevention Regulations and subsequent amendments). The continue to provide for the implementation of EU Directive 91/676/EEC on the protection of waters against pollution by nitrates from agricultural sources, and Decision 2009/431/EC granting a derogation under that directive, in England.	The Regional Plan should have regard to the requirements of the regulations. The Regional Plan and the SEA should consider potential effects of Regional Plan measures on Nitrate Vulnerable Zones (NVZs).

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<p>The regulations: provide for the designation of land as nitrate vulnerable zones; impose annual limits on the quantity of nitrogen from organic manure that may be applied or spread in a holding in a nitrate vulnerable zone; establish requirements relating to the amount of nitrogen to be spread on a crop, and requires an occupier to plan in advance how much nitrogen fertiliser will be spread; require an occupier to provide a risk map of the holding; impose conditions on the spreading of nitrogen fertiliser; establish closed periods during which the spreading of nitrogen fertiliser is prohibited; and, makes provision for requirements for storage of nitrogen fertiliser and the keeping of records.</p>	
HM Government (2015) Ozone-Depleting Substances Regulations 2015	
<p>The 2015 ODS Regulations implementation of EU Ozone Depleting Substances Regulations (1005/2009). The principle objective is to phase out and control remaining uses of ozone depleting substances (ODS). ODSs commonly include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons, which were typically used as refrigerants, air-conditioning systems, and fire-fighting equipment. The Regulations place controls and phase-out dates on the manufacture and supply of ODSs. The Regulations also require ODSs to be removed from refrigeration equipment before such appliances are scrapped. The Regulations specify minimum qualifications for those working on the recovery, recycling, reclamation or destruction of ODS.</p>	<p>The Regional Plan should have regard to the requirements of the regulations.</p> <p>The SEA assessment framework should include emissions to air.</p>
HM Government (2015) Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015	
<p>The regulations implement provisions of the Water Framework Directive (Directive 2000/60/EC), the Environmental Quality Standards Directive (Directive 2008/105/EC) and the priority substances amendment of these directives (Directive 2013/39/EU). This includes directions for the classification of surface water and groundwater bodies, monitoring requirements, standards for ecological and chemical status of surface waters, and environmental quality standards for priority substances.</p>	<p>The Regional Plan should be aligned with the requirements of the Water Framework Directive.</p> <p>The SEA should include objectives relating to water quality, water resources, sustainable water use, and biodiversity.</p>
HM Government (2016) Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018)	
<p>Provides a system for environmental permits and exemptions for industrial activities, mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances activities. It also sets out the powers, functions and duties of the regulators.</p>	<p>The Regional Plan should accord with these Regulations.</p>
HM Government (2017) Conservation of Habitats and Species Regulations 2017 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	
<p>These regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.</p> <p>The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. Under the Regulations, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.</p> <p>New provisions implement aspects of the Marine & Coastal Access Act 2009. These provisions provide for:</p> <ul style="list-style-type: none"> the transfer of certain licensing functions from Natural England to the Marine Management Organisation (MMO); Marine Enforcement Officers to use powers under the Marine Act to enforce certain offences under the Habitats Regulations. <p>The 2019 (EU Exit) amendment to the Regulations ensures that the habitat and species protection and standards derived from EU law will continue to apply after Brexit.</p>	<p>The Regional Plan must ensure full compliance with the Regulations.</p> <p>The SEA should take into account the effects of the actions on biodiversity.</p>

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HM Government (2017) <i>The Water Environment (WFD) (England and Wales) Regulations 2017</i>	
<p>These regulations transpose the Water Framework Directive into law in England and Wales (see Water Framework Directive 2000/60/EC above).</p>	<p>The Regional Plan should be aligned with the requirements of the Water Framework Directive.</p> <p>The SEA should include objectives relating to water quality, water resources, sustainable water use, and biodiversity.</p>
HM Government (2017, updated 2019) <i>UK Clean Growth Strategy: Leading the way to a low carbon future</i>	
<p>This document affirms the UK's need to pursue de-carbonisation and provides information on how the UK is performing against its targets to become carbon neutral. The document highlights that continued emission reduction needs to continue in the fields of:</p> <ul style="list-style-type: none"> • Power Sector; • Buildings; • Industry; • Natural Resources; • Transport; and, • Devolved Administrations. 	<p>The SEA should have an objective/guide questions relating to sustainable development that references the need to reduce carbon emissions across all sectors.</p>
HM Government (2018) <i>A Green Future: Our 25 Year Plan to Improve the Environment</i>	
<p>This plan sets out government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in cities and rural landscapes, protect threatened species and provide richer wildlife habitats using a natural capital approach to better-inform policy.</p> <p>By adopting the plan, the government aims to achieve clean air; clean and plentiful water; thriving plants and wildlife; a reduced risk of harm from environmental hazards such as flooding and drought; using resources from nature more sustainably and efficiently; and, enhanced beauty, heritage and engagement with the natural environment. In addition, the plan will set out to manage pressures on the environment through; mitigating and adapting to climate change, minimising waste, managing exposure to chemicals and enhancing biosecurity.</p> <p>The six key areas for action are:</p> <ul style="list-style-type: none"> • Using and managing land sustainably, which includes embedding an 'environmental net gain' principle for development (including housing and infrastructure) • Recovering nature and enhancing the beauty of landscapes • Connecting people with the environment to improve health and wellbeing • Increasing resource efficiency, and reducing pollution and waste • Securing clean, productive and biologically diverse seas and oceans • Protecting and improving the global environment 	<p>The Regional Plan may influence the environmental benefits and pressures identified in the Environment Plan, such as:</p> <ul style="list-style-type: none"> • Clean air • Clean and plentiful water • Thriving plants and wildlife • Reducing risks of harm from environmental hazards • Using resources from nature more sustainably and efficiently • Enhancing beauty, heritage and engagement with the natural environment • mitigating and adapting to climate change • minimising waste • managing exposure to chemicals • enhancing biosecurity

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	The SEA should ensure that the impacts of any options on the 25-year goals set out in the Environment Plan are fully considered, whilst taking into account environmental net gain and natural capital approach, which the government have identified as principle themes.
HM Government (2018) <i>The Water Supply (Water Quality) Regulations 2018</i>	
<p>These regulations address the quality of water supplied by water undertakers, who supply areas mainly or wholly in England. The new Regulations implement Directive 98/83/EC on the quality of water intended for human consumption.</p> <p>Under these Regulations, water undertakers are required to identify the areas that are to be water supply zones on an annual basis. A water supply zone cannot exceed 100,000 in terms of population before the beginning of each year of the supply.</p> <p>The standards of wholesomeness are set out, in respect of water for human consumption, be that through drinking, washing, food preparation or cooking and food production. In order to qualify as wholesome, the water cannot contain any:</p> <ul style="list-style-type: none"> • micro-organism, other than those listed in the full text of Schedule 1 to the Regulations, or parasite; or • substances, other than those listed in the full text of Schedule 1 to the Regulations. 	<p>The Regional Plan should consider the Regulations.</p> <p>The SEA should take into account potential effects of the measures on drinking water quality.</p>
HM Government (2019) <i>the Invasive Alien species (Enforcement and Permitting) Order 2019</i>	
This Order allows for the enforcement of the EU Invasive Alien Species Regulation 1143/2014 on the prevention and management of invasive alien plant and animal species in England and Wales, including the relevant licenses, permits and rules for keeping invasive alien species.	The SEA should seek to address any potential issues or effects on existing measures to address invasive alien species.
HM Government (2020) <i>The Agriculture Act 2020</i>	
The Bill provides the legislative framework for replacement agricultural support schemes to replace the European schemes after UK's exit from the EU and the EU's Common Agricultural Policy (CAP). The Bill provides powers to implement new approaches to farm payments and land management. In England, farmers will be paid to produce 'public goods' such as environmental or animal welfare improvements. The Bill also includes wider measures, including on improving fairness in the agricultural supply chain and on the operation of agricultural markets.	The Regional Plan should consider the implications of the act.
HM Government (2020) <i>Energy White Paper: Powering our Net Zero Future</i>	
<p>The White Paper follows on from the Prime Minister's Ten Point Plan and the National Infrastructure Strategy. The Energy White Paper provides further clarity on the Prime Minister's measures and puts in place a strategy for the wider energy system that:</p> <ul style="list-style-type: none"> • Transforms energy, building a cleaner, greener future for the country, its people and the planet • Supports a green recovery, growing the economy, supporting green jobs across the country in new green industries and leveraging new green export opportunities • Creates a fair deal for consumers, protecting the fuel poor, providing opportunities to save money on bills, providing warmer, more comfortable homes and balancing investment against bill impacts 	<p>The Regional Plan should consider if it can support the delivery of the aims of the white paper.</p> <p>The SEA should include objectives and guide questions relating to energy use and carbon emissions.</p>
HM Government (2021) <i>The Environment Act</i>	

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<p>The Act seeks to set legislation to improve air and water quality, tackle waste, increase recycling, halt the decline of species, and improve the natural environment. Amongst its provisions, The Act places a duty enshrined in law to ensure water companies secure a progressive reduction in the adverse impacts of discharges from storm overflows. New duties will also require the government to publish a plan to reduce sewage discharges from storm overflows by September 2022 and report to Parliament on the progress towards implementing the plan. The Environment Act also includes a legally binding target on species abundance for 2030, to help reverse declines of species like the hedgehog, red squirrel and water vole.</p>	<p>The Regional Plan should seek to protect and enhance the natural environment, taking into consideration the principals and guidance set out through the Environment Bill.</p>
HM Government (2022) UK Climate Change Risk Assessment 2022	
<p>This report outlines the UK government and devolved administrations' position on the key climate change risks and opportunities that the UK faces today.</p> <p>As required by the Climate Change Act 2008, the UK government has undertaken the third five-year assessment of the risks of climate change on the UK. This is based on the Independent Assessment of UK Climate Risk, the statutory advice provided by the Climate Change Committee (CCC), commissioned by the UK government and devolved administrations.</p> <p>The risk assessment considers sixty-one UK-wide climate risks and opportunities cutting across multiple sectors of the economy and prioritises eight risk areas for action in the next two years.</p>	<p>The Regional Plan and the SEA should take into consideration the climate risks identified by the assessment.</p>
HM Treasury (2016) National Infrastructure Delivery Plan	
<p>This document is the Government's updated National Infrastructure Delivery Plan. It sets out the plan to 2021 and beyond and takes a targeted approach to infrastructure investment and delivery across different sectors. It contains major commitments to improve the UK's transport, energy, communications, waste, water, housing and flood and coastal erosion, as well as steps to attract new private sector investment. It includes reference to the production of Water Resources Management Plans and the Ofwat price review.</p>	<p>The Regional Plan should consider the content and commitments of the plan.</p>
JNCC and Defra (2012) UK Post-2010 Biodiversity Framework	
<p>The framework sets out UK priorities for work on the Convention on Biological Diversity, and follows on from the 1994 UK Biodiversity Action Plan. It sets out a vision that, 'by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people'. The goals and activities to meet this aim are grouped under the categories of International / European context; facilitating and contributing to common country approaches and solutions; evidence provision; and reporting.</p>	<p>The Regional Plan should support the protection and enhancement of biodiversity.</p> <p>The SEA assessment should include criteria relating to the protection of species and habitats.</p>
Ministry for Housing Communities and Local Government (MHCLG, formerly Department for Communities and Local Government (2014) National Planning Policy for Waste	
<p>Sets out detailed waste planning policies for local authorities. States that planning authorities need to:</p> <ul style="list-style-type: none"> • Need to use a proportionate evidence base in preparing Local Plans • Identify sufficient opportunities to meet the identified needs of their area for the management of waste streams • Identify suitable sites and areas for waste facilities. 	<p>The Regional Plan need to consider the potential impact of proposals on waste generation and on waste management facilities in the Regional Plan plan area.</p> <p>The SEA should consider the effects of the Regional Plan on waste generation and management capacity.</p>
MHCLG (2019) National Planning Policy Framework 2019	
<p>The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The National Planning Policy Framework constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.</p> <p>At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.</p>	<p>The Regional Plan should take into consideration the policies set out in the NPPF insofar as they relate to the areas covered by the Regional Plan.</p>

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<p>The NPPF requires that the planning system should be genuinely plan-led and that plans should:</p> <ul style="list-style-type: none"> a) be prepared with the objective of contributing to the achievement of sustainable development; b) be prepared positively, in a way that is aspirational but deliverable; c) be shaped by early, proportionate and effective engagement between plan makers and communities, local organisations, businesses, infrastructure providers and operators and statutory consultees; d) contain policies that are clearly written and unambiguous, so it is evident how a decision maker should react to development proposals; e) be accessible through the use of digital tools to assist public involvement and policy presentation; and f) serve a clear purpose, avoiding unnecessary duplication of policies that apply to a particular area (including policies in this Framework, where relevant). 	
National Assembly for Wales (2015) <i>Well-being of Future Generations Act (2015)</i>	
<p>The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.</p> <p>The Act puts in place seven well-being goals and makes it clear that public bodies must seek to achieve all seven of the goals:</p> <ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A more equal Wales • A healthier Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language • A globally responsive Wales 	<p>The Regional Plan should seek to contribute towards the achievement of the seven wellbeing goals, where relevant.</p> <p>The SEA assessment framework should include objectives and guide questions relating to the economic effects, human health and wellbeing and climate change.</p>
National Assembly for Wales (2016) <i>Historic Environment (Wales) Act 2016</i>	
<p>The Act improves the existing systems for the protection and sustainable management of the Welsh historic environment. It also gives more effective protection to listed buildings and scheduled monuments and enhances existing mechanisms for the sustainable management of the historic environment. The Act also creates new measures that enables authorities to halt works if protected buildings or monuments are under threat from unauthorised activities and to take action against those who have damaged or destroyed monuments.</p>	<p>The Regional Plan should have regard to the requirements of the Act.</p> <p>The SEA assessment should include criteria relating to the protection of the historic environment.</p>
National Assembly for Wales (2016) <i>Environment (Wales) Act 2016</i>	
<p>The Environment (Wales) Act 2016 introduced a new legislative approach for the Sustainable Management of Natural Resources (SMNR). The Act seeks to maintain and enhance the resilience of Wales' ecosystems and the services and benefits they provide and, in so doing, meet the needs of the present generation without compromising the ability of future generations to meet their needs.</p> <p>The overarching aims of the Act are to enable Wales' resources to be managed in a more proactive, sustainable and joined-up way and to establish the legislative framework necessary to tackle climate change.</p> <p>Some of the specific provisions in the Act include:</p>	<p>The Regional Plan should seek to enhance biodiversity, promote resilience in ecosystems and maintain and enhance biodiversity</p> <p>The SEA framework should include consideration of resilience in ecosystems and the maintenance and enhancement of biodiversity and resource use.</p>

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<ul style="list-style-type: none"> Helping to plan and manage Wales' natural resources at a national and local level, through a State of Natural Resources Report, a National Natural Resources Policy and area statements. Providing Natural Resources Wales (NRW) with a general purpose that aligns fully with the statutory principles for the sustainable management of natural resources. Providing NRW with powers to undertake land management agreements and experimental schemes. Providing public authorities with a reshaped requirement to seek to maintain and enhance biodiversity and promote resilience of ecosystems. Placing statutory emission reduction targets and carbon budgeting to support their delivery. Enabling improvements to the existing scheme for single use carrier bags. Providing the Welsh Ministers with powers to take action to achieve higher levels of recycling for business waste, food waste treatment and energy recovery. Clarifying the law for a number of existing environmental regulatory regimes including marine licensing, shellfisheries management, land drainage and flood risk management. 	
National Infrastructure Commission (2018) <i>Preparing for a Drier Future, England's Water Infrastructure Needs</i>	
This paper sets out a range of measures that the NIC believe government, water companies and the regulator should take to increase investment in supply infrastructure and encourage more efficient use of water, with the aim to halve leakage by 2050, extend metering and develop plans for a national water network.	The Regional Plan should take these measure into account where possible and aim to improve water efficiency.
Natural England (2011) <i>UK Geodiversity Action Plan</i>	
<p>The UKGAP sets out a framework for enhancing the importance and role of geodiversity across the UK, and provides a shared context and direction for geodiversity action through a common aim, themes, objectives and targets which link national, regional and local activities.</p> <p>The themes (on which the plan's objectives are based) include: furthering our understanding of geodiversity; gathering and maintaining information on our geodiversity; conserving and managing our geodiversity; inspiring people to value and care for our geodiversity; and sustaining resources for our geodiversity. It also aims to influence planning policy, legislation and development design.</p>	<p>The Regional Plan should take into account the aims of the UKGAP.</p> <p>The SEA assessment should consider effects of options on geodiversity and outline enhancement and mitigation opportunities where these are identified.</p>
Natural England (2016) <i>A narrative for conserving freshwater and wetland habitats in England</i>	
This narrative provides an overview of circumstances relating to the conservation of freshwater and wetland habitats in England, considering their ecological function, the natural and anthropogenic factors affecting them, the principles that should be applied to their management, and the respective roles of the main policy mechanisms involved in their conservation. It covers all running and standing water habitats, of whatever size, and terrestrial wetland habitats including bogs, fens, swamp and wet woodland.	<p>The Regional Plan should take into account the findings of the narrative relating to conservation.</p> <p>The SEA should note the impact of the Regional Plan on various habitats.</p>
Natural England (2016) <i>Conservation 21: Natural England's conservation strategy for the 21st century</i>	
Conservation 21 sets out how Natural England will work to protect England's nature and landscapes for people to enjoy and for the services they provide, in support of Defra's ambitions for the environment.	The Regional Plan should take into account the contents of this strategy.
Natural England and the Environment Agency (2014) <i>Protected Species and Development: Advice for Local Planning Authorities</i>	
This guidance from Natural England and Defra outlines how to assess a planning application when there are protected species on or near a proposed development site. Natural England must be consulted if a development proposal:	The Regional Plan and SEA should consider the impact of any

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<ul style="list-style-type: none"> might affect a site of special scientific interest (SSSI) needs an environmental impact assessment needs an appropriate assessment under the Habitats Regulations 	proposed developments on protected species.
Natural Resources Wales (2016) <i>The State of Natural Resources Report (SoNaRR) for Wales 2020</i>	
SoNaRR2020 builds on a number of Welsh, UK and global assessments of the status and trends of natural resources. It looks at the risks those trends pose to Welsh ecosystems and to the long-term social, cultural and economic well-being of Wales, in terms defined by the Well-Being of Future Generations (Wales) Act 2015 and opportunities for integrated solutions that provide multiple benefits (social, cultural, environmental and economic).	<p>The Regional Plan should have regard to opportunities to address risks and threats identified in the report and identify integrated solutions.</p> <p>The SEA should have regard to the risks, threats and opportunities identified in the report and the extent to which opportunities for integrated solutions can be incorporated in the Regional Plan.</p>
Natural Resources Wales (2020) <i>Salmon and sea trout plan of action for Wales</i>	
This plan provides details of, the actions required to restore healthy and more sustainable populations of salmon and sea trout in Welsh rivers.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity. The impacts of the Regional Plan on populations of salmon and sea trout should be addressed.
Ofwat (2008) <i>Water Supply and Demand Policy</i>	
Summarised the key areas of water supply and demand, focusing on water efficiency, leakage, metering, and climate change.	The SEA framework should ensure that consideration is given to the socio-economic and environmental impact of any demand and supply policies.
Ofwat (2016) <i>Water 2020</i>	
<p>This document sets out Ofwat's decisions on the design of its water and wastewater services regulatory framework in England and Wales. The approach aims to deliver the following benefits:</p> <ul style="list-style-type: none"> Greater customer engagement and understanding A sustainable investment model and a fair balance of risk and reward Choice where possible, and ensuring markets are effective for customers A focus on the long-term, targeted and risk-based Support for sustainable improvements in the environment. 	<p>The Regional Plan should take account of the regulatory framework.</p> <p>The SEA assessment should include criteria relating to the provision of water to customers and environmental protection.</p>
Ofwat (2017) <i>Resilience in the Round</i>	
<p>The report identifies that the water sector has historically invested in options which enhance capacity, especially operational capacity and that whilst additional capacity has an important role in delivering resilience against some threats, companies should start looking at a wider set of factors in order to deliver "smarter" options for the future, including:</p> <ul style="list-style-type: none"> Addressing multiple threats through a single intervention. For example, enhancing network connectivity to reduce the number of customers reliant on a single source of 	The Regional Plan should consider the content of the report.

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<p>supply. This type of approach can provide water supply resilience to multiple threats such as outages, drought and contamination.</p> <ul style="list-style-type: none"> Recognising that any intervention will have its own embedded vulnerabilities to future threats. Understanding the vulnerabilities of option types will be critical to planning respective roles in delivering the planned level of resilience. For example, water transfers between areas of surplus and deficit can be a good option but might be vulnerable to wider scale drought impacts and/or contamination. 	
Public Health Wales (2017) <i>Creating a Healthier, Happier and Fairer Wales</i>	
<p>This document creates the following commitments:</p> <ul style="list-style-type: none"> Improve health and wellbeing and reduce health inequalities; Improve the quality, equity and effectiveness of healthcare services; and Protect people from infectious and environmental hazards. 	<p>The Regional Plan should seek to contribute to the improvement of public health. The SEA should have objectives relating to improving health.</p>
UKCP (2018) <i>UK Climate Projections UKCP18</i>	
<p>The UKCP18 Projections provide a basis for studies of impacts and vulnerability and decisions on adaptation to climate change in the UK over the 21st century. Projections are given of changes to climate, and of changes in the marine and coastal environment; recent trends in observed climate are also discussed.</p> <p>The methodology gives a measure of the uncertainty in the range of possible outcomes; a major advance beyond previous national scenarios.</p> <p>The Projections will allow planners and decision-makers to make adaptations to climate change. In order to do so they need as much good information as possible on how climate change will evolve. They are one part of a UK government programme of work to put in place a new statutory framework on, and provide practical support for, adaptation.</p>	<p>The Regional Plan should take account of UKCP18 projections in its formulation, taking account of climate change in its projections. The SEA should also use UKCP18 projections in the broader assessment of climate change effects and any potential cumulative effects. For example, the ecological requirements of aquatic habitats that may be affected by the Regional Plan will also be influenced by climate change.</p>
UKTAG: <i>Phase 3 Review of Environmental Standards</i>	
<p>UKTAG prepares technical guidance designed to facilitate consistent implementation of the WFD in the UK.</p> <p>This report identifies standards for certain chemicals known as specific pollutants, developments in assessments of risk to groundwater, non-native species, standards for flows in rivers, standards for levels in lakes, standards for acidity in rivers and standards in intermittent discharges.</p>	<p>The SEA should seek to ensure that the guidance provided by the plan are considered when assessing the Regional Plan, especially with respect to objectives relating to ecology, water quality and water quantity. The SEA should also ensure the guidance in the plan is used in relation to other related regulations for example the Habitats Directive. The guidance could contribute to the formulation of any criteria for assessing significance of effects.</p>
Valuing Our Environment Partnership (2010) <i>Valuing the Welsh Historic Environment</i>	
<p>This document is a review and does not contain objectives or targets as such. It can be assumed however that the protection and enhancement of the historic environment is a key objective.</p> <p>It showed that in 2010 the historic environment contributes approximately £840 million to Wales's gross value added, some £1.8 billion in respect of output and supports 30,000 full time equivalent jobs.</p>	<p>The Regional Plan should consider effects of options on historic environment assets. The SEA should include a guide question relating to protecting and enhancing the historic environment.</p>
Wales Biodiversity Partnership (2015) <i>Nature Recovery Action Plan Wales – the Biodiversity Strategy for Wales</i>	

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<p>The Nature Recovery Action Plan (NRAP) for Wales is the National Biodiversity Strategy and Action Plan for Wales.</p> <p>Part 1: <i>Our Strategy for Nature</i>, sets out the commitment to reversing the loss of biodiversity in Wales, and the objectives for action.</p> <p>The Objectives contained in the plan are to:</p> <ol style="list-style-type: none"> 1. Engage and support participation and understanding to embed biodiversity throughout decision making at all levels. 2. Safeguard species and habitats of principal importance and improve their management 3. Increase the resilience of our natural environment by restoring degraded habitats and habitat creation 4. Tackle key pressures on species and habitats 5. Improve our evidence, understanding and monitoring 6. Put in place a framework of governance and support for delivery <p>It sets out how the United Nations Environment Programme's Convention on Biological Diversity's (CBD) Strategic Plan for Biodiversity (and the associated Aichi Biodiversity Targets for 2011-20 in Wales) is addressed in Wales.</p> <p>Part 2: <i>Our Action Plan</i>, sets out those actions which had been specifically identified to meet the objectives to reverse the decline of biodiversity. It has been refreshed for 2020-21 to provide focus and prioritisation within a fast changing policy context and the emerging ecological crisis. The 2015 Strategy for Nature will remain in place until it is realigned to address the post 2020 framework for the UN Convention on Biological Diversity.</p> <p>A number of objectives have been identified to address the issues that are driving the decline in our biodiversity, and to support recovery.</p>	<p>The Regional Plan should consider effects of options on biodiversity, species and habitats and seek to contribute towards the objectives of the plan. The SEA should include a objectives/guide questions relating to the protection of biodiversity, species and habitats and prevention of biodiversity loss.</p>
Waterwise (2017) <i>Water Efficiency Strategy for the UK</i>	
<p>The document sets out a strategy for achieving the vision of a water efficient UK. It suggests policy, regulatory and practical actions that can help in the process of achieving water efficiency.</p>	<p>The Regional Plan should take into account their possible impacts on water efficiency and aim to improve water efficiency.</p> <p>The SEA objectives should reflect the need improve water efficiency.</p>
Water UK (2016) <i>Water Resources Long-term Planning Framework (2015 – 2065)</i>	
<p>This research modelled the possible effects of climate change, population growth, environmental protection measures and trends in water use to produce a wide range of future scenarios. The results suggest that, in some scenarios, the United Kingdom is facing longer, more frequent and more acute droughts than previously thought.</p> <p>To contain the risk of drought extensive measures to manage demand and enhance supplies of water are needed such as (pp. 194-195):</p> <ul style="list-style-type: none"> • promoting more efficient water use in homes and businesses, through improved building standards and widespread use of smart metering, as well as more ambitious reduction in leakage from water mains; • moving more water from one region to another through existing waterways and new pipelines, building new reservoirs, treating more water for re-use and building desalination plants to make use of sea water. 	<p>Measures identified in the framework should be considered as part of the Regional Plan.</p> <p>The SEA should assess the impact of the Regional Plan on water resource and availability.</p>
Welsh Government (1998) <i>Technical Advice Note 14: Coastal Planning</i>	
<p>TAN 14 seeks to protect the coastline in relation to development, landscape, biodiversity and recreation</p>	<p>The Regional Plan should take into account its effects on coastal areas.</p>

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	The SEA assessment should take into account the effects of the options on the coast where relevant.
Welsh Government (2004) Technical Advice Note 15: Development and Flood Risk	
TAN 15 sets out a precautionary framework to guide planning decisions. The approach seeks to first, direct new development away from those areas which are at high risk of flooding and, second, where development has to be considered in high risk areas (Zone C), allow only those developments which can be justified to be located within such areas.	The Regional Plan should take account of flood risk management. The SEA should include a guide question relating to flood risk.
Welsh Government (2008) One Wales One Planet: The Sustainable Development Scheme for Wales	
<p>One Wales One Planet seeks to build on the two previous Sustainable Development Schemes. It sets out proposals to promote sustainable development, how the Welsh Government will make sustainable development a reality for people in Wales, and the benefits that people will see from this, particularly in less well-off communities.</p> <p>The strategy states that the Welsh Government is committed to working in partnership with others and notes that businesses can:</p> <ul style="list-style-type: none"> • Develop resource efficiency within the organisation and through supply chains, improving productivity and competitiveness; • Reduce waste; • Develop environmental and sustainability policies and targets; • Monitor performance and resource use and report publicly on them; • Engage with the workforce in both adopting sustainable practices and encouraging employees to become sustainable champions in their own communities; <p>Engage with and support local communities.</p>	<p>The Regional Plan should consider effects on sustainable development in Wales (where relevant).</p> <p>The SEA should include guide questions relating to improving resource efficiency, reducing waste, monitoring and public reporting, encouraging sustainable practices among the workforce and engaging with and supporting local communities. The SEA should also include proposals for monitoring the effects of the Regional Plan on the environment and sustainability and could utilise targets that arise from this document.</p>
Welsh Government (2009) Technical Advice Note 5: Nature Conservation and Planning	
<p>Technical Advice Note 5 sets out how the planning system should contribute to protecting and enhancing biodiversity and geological conservation. It stipulates that the planning system should:</p> <ul style="list-style-type: none"> • work to achieve nature conservation objectives through a partnership between local planning authorities, Countryside Council for Wales (CCW), the Environment Agency Wales, voluntary organisations, developers, landowners and other key stakeholders; • integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time; • ensure that the UK's international and national obligations for site, species and habitat protection are fully met in all planning decisions; • look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally; • help to ensure that development does not damage, or restrict access to, or the study of, geological sites and features or impede the evolution of natural processes and systems especially on rivers and the coast; and • plan to accommodate and reduce the effects of climate change by encouraging development that will reduce damaging emissions and energy consumption and that help habitats and species to respond to climate change. 	The Regional Plan should seek to protect and enhance biodiversity and geodiversity. SEA objectives should reflect the need to conserve and, where possible, enhance, biodiversity and geodiversity.
Welsh Government (2010) National Transport Plan	
<p>The Plan sets out five strategic transport priorities for the next 5 years:</p> <ul style="list-style-type: none"> • Reducing greenhouse gas emissions and other environmental impacts; 	The Regional Plan should consider any transport-related

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<ul style="list-style-type: none"> Integrating local transport; Improving access between key settlements and sites; Enhancing international connectivity; Increasing safety and security.	implications arising from the options and seek to reflect the transport hierarchy where possible. The SEA assessment should include an objective on improving and/or integrating transport and reducing greenhouse gases.
Welsh Government (2012) <i>Energy Wales: A Low Carbon Transition</i>	
Energy Wales and the supporting delivery plan set out what the Welsh Government intends to do to drive the change to a sustainable, low carbon economy for Wales. The Welsh Government commits to: <ul style="list-style-type: none"> Engage and support businesses that help to achieve Wales's low carbon ambition; Ensure that regulatory processes are as simplified and efficient as they can be and provide businesses with clarity and stability; Engage the UK Government to ensure that there is a credible framework for capital investment to support the transition to a low carbon economy; Support vital energy intensive industries in the transition to a low carbon economy; Pursue energy efficiency; Focus on low carbon sources of energy generation and approaches which will help to deliver lower overall emissions; and Assist the most vulnerable in Welsh society and work to ensure that costs of reform do not fall disproportionately on poor households. The delivery plan also sets out key delivery themes around low carbon energy, Anglesey Energy Island, energy efficiency and distributed energy generation.	The Regional Plan should seek to incorporate low carbon energy and energy efficiency. The SEA should include a guide question relating to climate change mitigation.
Welsh Government (2012) <i>Historic Environment Strategy for Wales</i>	
This strategy summarises the areas which the Welsh Government will prioritise for action, and aims to protect Wales' heritage whilst encouraging public access, enjoyment and participation. The Strategy sets out the role of the historic environment in delivering tangible social, economic and environmental benefits for Welsh communities. It also aims to further develop the economic role of heritage in Wales and maximise educational, training and leisure opportunities.	The Regional Plan should seek to protect and enhance the historic environment. The SEA should include assessment criteria relating to protection and enhancement of the historic environment.
Welsh Government (2014, updated 2019) <i>Energy Wales: A Low Carbon Transition Delivery Plan</i>	
The Plan seeks to create a stronger, more resilient Wales that has sustainability to its core. The plan states that Wales has many opportunities to do this, including through delivering renewable energy, and should be well placed to take advantage of the green transition.	The SEA should have objectives relating to sustainable development, protecting the natural environment and economic growth.
Welsh Government (2014) <i>Welsh Rural Development Plan Programme document 2014-2020</i>	
The Programme was adopted by the European Commission in May 2015. It is a 7-year investment programme supporting a wide range of activities which contribute to the following objectives: <ul style="list-style-type: none"> fostering the competitiveness of agriculture; ensuring the sustainable management of natural resources, and climate action; achieving a balanced territorial development of rural economies and communities, including the creation and maintenance of employment. 	The Regional Plan should consider the effect of options on rural areas. The SEA assessment should note where options will have significant effects on rural areas.
Welsh Government (2015) <i>Nature Recovery Plan for Wales</i>	

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<p>The Nature Recovery Plan for Wales is aimed at addressing the underlying causes of biodiversity loss by:</p> <ul style="list-style-type: none"> • putting nature at the heart of decision-making • increasing the resilience of the natural environment • taking specific action for habitats and species. <p>It sets out how Wales will deliver the commitments of the UN Convention on Biological Diversity and the EU Biodiversity Strategy to halt the decline in Wales' biodiversity by 2020 and then reverse that decline.</p> <p>The objectives of the plan are to:</p> <ul style="list-style-type: none"> • Engage and support participation and understanding to embed biodiversity throughout decision making at all levels. • Safeguard species and habitats of principal importance and improve their management • Increase the resilience of the natural environment by restoring degraded habitats and habitat creation • Tackle key pressures on species and habitats • Improve our evidence, understanding and monitoring • Put in place a framework of governance and support for delivery. 	<p>The Regional Plan should seek to protect and enhance biodiversity. SEA objectives should reflect the need to conserve and, where possible, enhance biodiversity.</p>
Welsh Government (2015) <i>Water Strategy for Wales</i>	
<p>This Strategy sets out long-term policy direction in relation to water. The aim is to ensure a more integrated and sustainable approach to managing water and associated services in Wales. This Strategy has been developed within this context and will contribute to the implementation of wider Welsh natural resource management policy.</p> <p>A more integrated approach to the way water resources in Wales are managed will help to promote the coordinated management of water, land and related resources. This in turn will enable the maximisation of economic and social benefits, including tackling poverty in an equitable way while protecting vital ecosystems and the environment. The Strategy aims ensure the long-term needs of a sustainable and resilient environment and that there are sufficient, reliable water resources and wastewater services available in Wales. This approach will also drive green growth by providing an essential resource for businesses, as well as providing new opportunities for employment.</p>	<p>The Regional Plan will have a key role in contributing to the wider objectives of the Strategy. The SEA should include objectives/guide questions relating to sustainable resource use.</p>
Welsh Government (2016) <i>Energy Efficiency in Wales: A Strategy for the next 10 years 2016-2026</i>	
<p>This strategy outlines the plan for energy efficiency in Wales. Green growth is predicted to be increasingly important to the Welsh economy and this document encourages such an industries growth. Energy efficiency also often has many economic benefits through reducing energy bills.</p>	<p>The SEA assessment framework should have objectives relating to sustainable development and energy efficiency.</p>
Welsh Government (2016) <i>Guiding Principles for Developing Water Resources Management Plans (WRMP's) for 2020</i>	
<p>The Guiding Principles set out the Welsh Government's expectations in terms of the role and content of WRMPs. The link is also made with recent legislation (including the Environment (Wales) Act and the Well-being of Future Generations (Wales) Act 2015. The process for preparing WRMPs is also set out in the document.</p>	<p>The Regional Plan should be prepared in line with the expectations and processes outlined in the guidance.</p>
Welsh Government (2016) <i>Taking Wales Forward 2016-2021</i>	
<p>Sets out how Welsh Government will deliver more and better jobs through a stronger, fairer economy, improve and reform our public services, and build a united, connected and sustainable Wales between 2016 and 2021. The document sets out its priorities under four key themes:</p> <ul style="list-style-type: none"> • Prosperous and Secure • Healthy and Active • Ambitious and Learning • United and Connected. 	<p>The SEA should ensure that the four key themes are embedded within the SEA objectives. The Regional Plan should ensure it is aligned to, and help deliver against, the priorities grouped under the key themes.</p>

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Welsh Government (2016) <i>Technical Advice Note 12: Design</i>	
<p>Technical Advice Note 12 sets out the Welsh Government's land use planning policy in respect of promoting sustainability through good design. It advocates a holistic approach to design that considers:</p> <p>Movement - promoting sustainable means of travel;</p> <p>Access- ensuring access for all;</p> <p>Character - sustaining or enhancing local character, promoting legible development, promoting a successful relationship between public and private space, promoting quality, choice and variety, promoting innovative design;</p> <p>Community safety - ensuring attractive, safe public spaces and security through natural surveillance;</p> <p>Environmental sustainability - achieving efficient use and protection of natural resources, enhancing biodiversity and designing for change.</p>	<p>The Regional Plan should promote good design in the development of any new facilities required as part of plan measure. The SEA objectives should include the promotion of good design.</p>
Welsh Government (2017) <i>Future Landscapes: Delivering for Wales</i>	
<p>This report contains a review of all the Areas of Outstanding Natural Beauty and National Parks within Wales. The report highlights the importance of these landscapes to shaping identity. The report seeks to improve the governance of these important natural assets. The report highlights how much of Wales falls within either designation and how many of these designations are at risk.</p>	<p>The SEA should have objectives relating to the protection of important natural assets. The Regional Plan should seek to ensure that these important natural designations have their resilience improved to ensure they will and seek to support enhancement of Wales' many natural assets, where possible.</p>
Welsh Government (2017) <i>Natural Resources Policy</i>	
<p>The Natural Resources Policy (NRP) is the second statutory product of the Environment (Wales) Act. The focus of the NRP is the sustainable management of Wales' natural resources, to maximise their contribution to achieving goals within the Well-being of Future Generations Act. The policy sets out three National Priorities. These are:</p> <ul style="list-style-type: none"> • Delivering nature-based solutions, • Increasing renewable energy and resource efficiency, • Taking a place-based approach. <p>Nature-based solutions may include developing resilient ecological networks, climate change adaptation and mitigation, flood risk management, green infrastructure, better soil and peat bog management, among others.</p>	<p>The WRMP should have regard to the National Priorities in the NRP.</p> <p>The SEA should include assessment criteria relating to protection and enhancement of the environment, ecology, soils, flooding and climate change.</p>
Welsh Government (2017) <i>Prosperity for All: National Strategy (2017) and Annual Report 2018</i>	
<p>This strategy establishes the Welsh government's desire to achieve a prosperous Wales that benefits everyone. The document outlines six areas that will be improved to afford a better life to the population of Wales. These six areas are:</p> <ul style="list-style-type: none"> • Early Years; • Housing; • Social Care; • Mental Health; • Skills and Employability; and • Decarbonisation. 	<p>The SEA should have objectives/guide questions relating to housing, education/skills, sustainable development and providing new healthcare facilities, and decarbonisation.</p> <p>The Regional Plan should seek to contribute to the improvement of the six key areas set out in the strategy.</p>
Welsh Government (2017) <i>Prosperity for All: Economic Action Plan</i>	

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<p>This plan is focused upon achieving economic growth whilst ensuring this growth delivers benefits for all. The document provides detail on how the Welsh government will achieve this through reducing economic inactivity, new technologies, decarbonising the employment sector, efficiencies and financing to name a few.</p>	<p>The SEA should have objectives relating to economic growth and sustainable development.</p> <p>The Regional Plan should look to achieve ambitious economic growth that is managed in a way that ensures the benefits of economic growth are experienced by the population of Wales.</p>
Welsh Government (2017) <i>Technical Advice Note 24 the Historic Environment</i>	
<p>This technical advice note sets out guidance on how to consider the historic environment in development plans and planning decisions. It includes guidance on the following:</p> <ul style="list-style-type: none"> • world heritage sites • scheduled monuments • archaeological remains • listed buildings • conservation areas • historic parks and gardens • historic landscapes • historic assets of special local interest 	<p>The Regional Plan and SEA should consider the impact of any proposed developments on the historic environment of Wales.</p>
Welsh Government (2018) <i>Priorities for the Historic Environment of Wales</i>	
<p>This document outlines Welsh Government's plans to protect our unique historic sites, in partnership with others, and to encourage more people to visit them.</p>	<p>The Regional Plan and SEA should consider the impact of any proposed developments on the historic environment of Wales.</p>
Welsh Government (2018) <i>Woodlands for Wales: The Welsh Government's Strategy for Woodlands and Trees</i>	
<p>This strategy affords protection to the woodlands and trees of Wales, which are identified as being important natural resources. The document stresses the importance that such resources play in maintaining and enhancing the natural environment of Wales.</p>	<p>The SEA should have an objective/guide question related to protecting the natural environment and make mention to the protection of trees. The Regional Plan should aim to contribute to the protection of woodlands and trees where possible.</p>
Welsh Government (2019) <i>Prosperity for All: A Low Carbon Wales</i>	
<p>This document seeks to work with the other documents in the Prosperity for All series but is focused upon reducing the carbon footprint of Wales. This would be achieved through encouraging sustainable development and using more sustainable technologies.</p>	<p>The SEA should have objectives relating to economic growth and sustainable development.</p>
Welsh Government (2019) <i>Welsh National Marine Plan</i>	
<p>The Plan sets out how Welsh Government will achieve sustainable development in the Welsh marine area through the sustainable management of marine natural resources. It covers both</p>	<p>The Regional Plan should take into account its effects on coastal areas.</p>

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<p>Welsh inshore and offshore waters and sets out the following vision, which will be achieved through the plan's objectives and policies:</p> <ul style="list-style-type: none"> • During the 20 year view taken by the plan, Welsh seas are clean, healthy, safe, productive and biologically diverse: • Through an ecosystem approach, our seas are healthy and resilient and support a sustainable and thriving economy. • Through access to and enjoyment of the marine environment, health and wellbeing are improving. • Through Blue Growth more jobs and wealth are being created which is helping coastal communities become more resilient, prosperous and equitable with a vibrant culture. • Through the responsible deployment of low carbon technologies, the Welsh marine area is making a strong contribution to energy security and climate change emissions targets. 	<p>The SEA assessment should take into account the effects of the actions on the coast/marine environment where relevant.</p>
Welsh Government (2020) <i>Agriculture (Wales) White Paper (2020)</i>	
<p>This white paper outlines the importance of farming to the Welsh economy whilst also being a source of locally grown food. It highlights the difficulties of Brexit and trade barriers with the EU, whilst also establishing a need to de-carbon the farming industry as much as possible but not in a way that compromises it.</p>	<p>The SEA should have objectives relating to the need to protect rural agriculture.</p>
Welsh Government (2020) <i>Historic Environment and Climate Change in Wales</i>	
<p>Some of Wales' most iconic historic sites and landscapes are threatened by warmer temperatures, rising sea levels, changing rainfall patterns and more frequent extreme weather events.</p> <p>The plan highlights the need for collaboration and action across all sectors that will improve understanding; build adaptive capacity and increase the resilience of the historic environment – so that it can be enjoyed by future generations.</p>	<p>The Regional Plan and SEA should consider the impact of any proposed developments on climate change and the historic environment of Wales.</p>
Welsh Government (2020) <i>National Strategy for Flood and Coastal Erosion Risk Management in Wales</i>	
<p>This Strategy sets out how Welsh Government intend to manage the risks from flooding and coastal erosion across Wales over the next 10 years, whilst strengthening and clarifying roles and responsibilities. It sets out the policies and direction for all Welsh Flood Risk Management Authorities to follow, with measures to explain how this will be achieved, which can be considered as its action plan.</p> <p>The Welsh Government considers FCERM as a priority area, this is set out through the Strategy.</p> <p>The aim of the strategy is to Reduce the risk to people and communities from flooding and coastal erosion and the strategy contains five objectives:</p> <ol style="list-style-type: none"> Improving our understanding and communication of risk Preparedness and building resilience Prioritising investment to the most at risk communities Preventing more people becoming exposed to risk Providing an effective and sustained response to events. 	<p>The Regional Plan should consider the aims and objectives of the strategy.</p> <p>The SEA should include objectives and guide questions relating to flooding and coastal erosion.</p>
Welsh Government (2020) <i>The Nature Recovery Action Plan for Wales 2020 – 21</i>	
<p>The Nature Recovery Action Plan for Wales refreshes the original plan published in 2015. The Plan sets out five themes for action:</p> <p>Spatial action:</p> <ul style="list-style-type: none"> • Maintaining and enhancing resilient ecological networks <p>Transformative:</p> <ul style="list-style-type: none"> • Increasing Knowledge and Knowledge Transfer; • Realising new Investment and funding; • Upskilling and capacity for delivery; • Mainstreaming, Governance and Reporting our Progress 	<p>The SEA should have objectives/guide questions relating to maintaining and enhancing resilient ecological networks and protecting sites designated for their biodiversity value.</p> <p>The Regional Plan should support the aims of NRAP and ensure that they help towards</p>

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<p>Five immediate priorities are identified for further action:</p> <ul style="list-style-type: none"> Aligning the responses to the climate emergency with the biodiversity crisis Addressing the post EU exit funding gap for agri-environment measures Providing spatial direction for targeting action for biodiversity Improving the condition of the Protected Sites Network Exploring new and sustainable funding mechanisms for biodiversity action. 	<p>maintaining and enhancing resilient ecological networks.</p>
Welsh Government (2020) Strategic Equality Plan 2020-2024	
<p>The Plan seeks to tackle inequality within Wales through improving the accessibility of services, seeking fairer outcomes for citizens and being pro-active in tackling all kinds of inequality.</p>	<p>The SEA should have objectives/guide questions relating to cohesion, accessibility, economic wellbeing and human health and well-being.</p>
Welsh Government (2020) Welcome to Wales: Priorities for the visitor economy 2020 – 2025	
<p>The strategy identifies the priorities to deliver a prosperous and competitive tourism industry in Wales. Sets out the Welsh Government/Visit Wales' ambition to grow tourism for the good of Wales: generating economic, environmental, cultural and health benefits that enrich the lives of visitors and local communities.</p> <p>The main goals of the plan are:</p> <ul style="list-style-type: none"> Economic growth that delivers benefits to people and places Environmental sustainability Social and cultural enrichment Health benefits. 	<p>The Regional Plan could take account of the benefits that tourism can bring to Wales. The SEA should include assessment criteria relating the importance of tourism and/or recreation.</p>
Welsh Government (2021) Future Wales: The National Plan 2040	
<p>Future Wales – the National Plan 2040 is the Welsh national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing the economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of Welsh communities.</p> <p>The document contains development policies that all new developments within Wales are required to adhere to.</p>	<p>The SEA should have objectives relating to economic and social well-being, protection of the historic and natural environment, carbon emissions and climate change/resilience.</p>
Welsh Government (2021) Our Economic Resilience & Reconstruction Mission	
<p>Sets out how the Welsh Government plans to recover from the economic damage of the coronavirus (COVID-19) pandemic.</p> <p>The Mission document seeks three outcomes, centred around the vision of a 'well-being economy':</p> <ul style="list-style-type: none"> Prosperous economy Green economy Equal economy 	<p>The Regional Plan should seek to support the outcomes of the plan.</p> <p>The SEA should include an objective relating to economic and social well-being.</p>
Welsh Government (2021) Planning Policy Wales (Edition 11)	
<p>Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.</p> <p>The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of</p>	<p>Measures recommended in the WRMP will need to confirm to LDPs and the policies of the PPW.</p> <p>The SEA objectives should reflect the Welsh Government's commitments to sustainable development.</p>

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Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Socio-economic Duty.	

Sub-regional/Local Plans and Programmes	
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AONB Management Units (various) AONB Management Plans	
<p>There are many AONBs present in the WRW area. The management plans for AONBs contain actions to ensure the protection and enhancement of the landscape.</p> <p>More detail is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>Regional Plan Measures within AONBs should be consistent with the management plan.</p> <p>The SEA assessment framework should consider the effects on landscapes, including designated landscapes.</p>
Defra (Various) Eel Management Plans	
<p>Eel management plans describe the current status of Eel populations across river basin districts and assesses compliance with targets set out in EU Council Regs 110/2207.</p> <p>Further information on relevant Eel Management Plans can be found in Appendix C of the United Utilities, Dwr Cymru Welsh Water and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should take Eel management plans into account.</p> <p>The SEA assessment framework should include an objective and guide questions relating to the protection of biodiversity.</p>
Economic Plans (various)	
<p>Economic plans such as the Cheshire and Warrington Enterprise Partnership (2017) Cheshire and Warrington Matters, A Strategic and Economic Plan for Cheshire and Warrington can set out a strategic road map to achieving growth ambition, covering topics including the deployment of funding for additional homes and new employment opportunities. More detail is available in Appendix C of the United Utilities WRMP24 SEA Environmental Report.</p>	<p>The implementation of the Regional Plan may have an effect upon community cohesion, wellbeing and continued prosperity within a sustainable environment.</p> <p>The SEA should seek to maintain and improve welfare and community infrastructure and maximise positive social impacts.</p>
Environment Agency/Natural Resources Wales (various) Catchment Flood Management Plans	
<p>Catchment Flood Management Plans (CFMPs) give an overview of the flood risk across each river catchment. They recommend ways of managing those risks now and over the next 50-100 years. CFMPs consider all types of inland flooding, from rivers, ground water, surface water and tidal flooding, but not flooding directly from the sea, (coastal flooding), which is covered in Shoreline Management Plans. They also take into account the likely impacts of climate change, the effects of how we use and manage the land, and how areas could be developed to meet our present day needs without compromising the ability of future generations to meet their own needs.</p> <p>There are many CFMPs present in the WRW area. More detail on these is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should take CFMPs into account.</p> <p>The SEA should include a guide question relating to flood risk.</p>
Environment Agency/Natural Resources Wales (various) River Basin Management Plans	
<p>River Basin Management Plans (RBMPs) set out how the water environment will be managed and provide a framework for more detailed decisions to be made. RBMPs set out a more integrated approach to river basin management based on the following principles:</p> <ul style="list-style-type: none"> • Integrate and streamline plans and processes; • Set out a clear, transparent and accessible process of analysis and decision-making; • Focus at the river basin district level; • Work in partnership with other regulators; • Encourage active involvement of a broad cross-section of stakeholders; • Make use of the alternative objectives to deliver sustainable development; 	<p>The Regional Plan should reflect the broad objectives of these plans.</p> <p>The SEA objectives should reflect the need to manage water resources on a catchment basis in a sustainable manner.</p>

Sub-regional/Local Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the WRMP and SEA	Relationships and Influences on the WRMP and the SEA
<ul style="list-style-type: none"> • Use Better Regulation principles and consider the cost-effectiveness of the full range of possible measures; • Seek to be even handed across different sectors of society and sectors of industry; • Seek to be even handed and transparent in the management of uncertainty; • Develop methodologies and refine analyses as more information becomes available. <p>More detail on RBMPs in the WRW area is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	
Environment Agency, Natural Resources Wales and Natural Scotland (2016) River Basin District Flood Risk Management Plans	
<p>Flood risk management plans (FRMP) explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs, and set out how risk management authorities will work with communities to manage flood risk over the next six years.</p> <p>More detail on these is available in Appendix C of the Dwr Cymru Welsh Water WRMP24 SEA Environmental Report.</p>	<p>The Regional Plan should take FRMPs into account.</p> <p>The SEA should include a guide question relating to flood risk.</p>
Environment Agency, Natural Resources Wales and SEPA (2016) Flood Risk Management Plans (various)	
<p>Flood Risk Management Plans (FRMPs) give an overview of the flood risk across each river catchment. They recommend ways of managing those risks now and over the next 50-100 years. FRMPs consider all types of inland flooding, from rivers, groundwater, surface water and tidal flooding. They also take into account the likely impacts of climate change, the effects of how we use and manage the land, and how areas could be developed to meet our present day needs without compromising the ability of future generations to meet their own needs. Policies for managing flood risk and proposed actions for implementation are set out for each of sub-areas within the FRMPs.</p> <p>More detail is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water and South Staffs Water WRMP24 SEA Environmental Report's.</p>	<p>The Regional Plan should take FRMPs into account.</p> <p>The SEA should include a guide question relating to flood risk.</p>
Environment Agency Waterway Plans	
<p>The Wye Waterway Plan 2017 – 2022 sits within the WRW area.</p> <p>The Wye waterway plan addresses the Environment Agency's responsibilities and aspirations (as the navigation authority responsible for the Rivers Wye and Lugg) for recreation and navigation on the Rivers Wye and Lugg. The plan's vision is to develop and promote appropriate navigation and recreational activities for all waterway users on the River Wye and Lugg, while protecting, maintaining and enhancing the unique conservation status of these waterways.</p> <p>More information can be found in Appendix C of the Dwr Cymru Welsh Water SEA WRMP24 Environmental Report.</p>	<p>Regional Plan measures in the Wye catchment should be consistent with the aims of the Wye Waterway Plan.</p> <p>The SEA assessment should consider the effects of options on recreational use of waterways.</p>
Environment Agency and Natural Resources Wales (various) Salmon Action Plans	
<p>Salmon action plans have been produced for many river catchments in the WRW area.</p> <p>The aim of the action plans is to ensure the objectives set out in the National Salmon Strategy are met. They set out what needs to be done to support and restore salmon populations.</p> <p>Individual targets are set out in each action plan.</p> <p>More detail on Salmon Action Plans in the WRW area is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should consider its effects on salmon populations.</p> <p>The SEA assessment framework should include a guide question relating to the effects of options on fish.</p>
Landscape Character Assessments (various)	
<p>Landscape character assessment (LCA) is the process of identifying and describing variation in character of the landscape. LCA documents identify and explain the unique combination of elements and features that make landscapes distinctive by mapping and describing character types and areas. They also show how the landscape is perceived, experienced and valued by people.</p> <p>Within the WRW Region there are many landscape character areas, including the Lake District National Park (Lake District National Park Authority (2008) Landscape Character Assessment and</p>	<p>The Regional Plan should recognise the importance of effective management of water as an issue for natural landscapes. The Regional Plan may also have an effect on access to landscape character areas and recreational</p>

Sub-regional/Local Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the WRMP and SEA	Relationships and Influences on the WRMP and the SEA
Guidelines), more detail on this is available in Appendix C of the United Utilities WRMP24 SEA Environmental Report.	<p>opportunities for local communities and visitors.</p> <p>The SEA should seek to protect the landscapes within the WRW region; including the conservation and enhancement of the historic environment and the enrichment of biological diversity.</p>
Local Biodiversity Action Plans (LBAPs), including Species and Habitats Action Plans (various)	
<p>There are numerous LBAPs in the WRW area. More detail on these is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water and South Staffs Water WRMP24 SEA Environmental Reports.</p> <p>Each Local Biodiversity Action Plan works on the basis of partnership to identify local priorities and to determine the contribution they can make to the delivery of the national Species and Habitat Action Plan targets. They include targets for increasing and enhancing biodiversity.</p> <p>Species Action Plans set objectives with regard specific species and set out proposed actions and targets along with which agency will be responsible for carrying them out.</p> <p>Habitat Action Plans sets objectives with regard specific UK habitats and sets out proposed actions targets along with which agency will be responsible for carrying them out.</p>	<p>The Regional Plan should take into account LBAP objectives.</p> <p>The SEA assessment should consider effects of options on biodiversity and outline enhancement and mitigation opportunities where these are identified</p>
Local Geodiversity Action Plans (LGAPs) (Various)	
<p>Local Geodiversity Action Plans (LGAPs) set out actions to conserve and enhance the geodiversity of a particular area. In general they aim to:</p> <ul style="list-style-type: none"> • identify, conserve and enhance the best sites that represent the geological history of an area in a scientific, educational, recreational and cultural setting, • promote geological sites and make geo-conservation relevant to people, • provide a local geodiversity audit (an audit of sites and skills) and influence local planning policy. <p>There are numerous LGAPs in the WRW area. More detail on these is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>Any Regional Plan measures that affect areas with Geodiversity Action Plans should be consistent with the respective plan. The Regional Plan should seek to conserve and enhance geodiversity.</p> <p>The SEA assessment should consider effects of options on geodiversity and outline enhancement and mitigation opportunities where these are identified.</p>
Local Planning Authorities (various) Water Cycle Studies	
<p>Water cycle studies identify tensions between growth proposals, particularly housing development, and environmental requirements, and identify potential solutions to addressing them. The strategic objectives for Outline Water Cycle Studies are to:</p> <ul style="list-style-type: none"> • Identify whether environmental resources can cope with further development, with particular reference to Water Framework Directive targets and UKCP09 climate change projections (i.e. can growth be accommodated without breaching water quality and abstraction limits); • Identify any potential impacts of development on the specially designated conservation sites and watercourses in the specified areas and other sites or features of significant nature conservation importance resulting from additional abstraction and wastewater discharge. <p>Further detail is available in Appendix C of the United Utilities and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should take into account any water cycle studies completed for identified growth areas.</p> <p>The SEA assessment framework should include an objective relating to the efficient management of water.</p>
Local Planning Authority (various) Land Use Plans	
The WRW area covers a large number of Local Planning Authorities.	Measures identified in the Regional Plan should be consistent with the Land Use

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<p>The main objectives of the existing and emerging Land Use Plans in these areas are related to the sustainable development of the area.</p> <p>More detail on Land Use Plans within the WRW area is available in Appendix C of the United Utilities, Dwr Cymru Welsh Water and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>Plans of those local authorities that will be affected by the plans.</p>
Local Planning Authority (various) Local Plans/Local Development Plans	
<p>A Local Plan sets out the vision for future development in the borough. Every area in England and Wales should have an up-to-date Local Plan in place and review it at least every five years. Local Plans are used to help decide on planning applications and other planning related decisions. In effect, they are the local guide to what can be built where, shaping infrastructure investments and determining the future pattern of development in the borough.</p> <p>The WRW area includes many Local Planning Authorities. The main objectives of the existing and emerging Local Plans in these areas are related to the sustainable development of the area.</p> <p>More detail on these can be found in Appendix C of the United Utilities, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should have regard of the Local Plans and emerging Local Plans.</p> <p>The SEA assessment framework should consider the effects of the Regional Plan on the achievement of the Plans' visions and the effects of options on sustainable land use.</p>
Local and Strategic Flood Risk Management Strategies (FRMs)	
<p>Lead local flood authorities in England must develop local strategies for flood and coastal erosion risk management. These must be consistent with the national flood and coastal erosion risk management (FCERM) strategy, take account of the current policy and reflect the aspirations and priorities of other partners with responsibilities for FCERM along with wider local interests in linked environmental or social outcomes.</p> <p>More detail on these can be found in Appendix C of the South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional should include objectives that take into account the existing flood risk at the local level.</p>
Local Transport Plans (various)	
<p>Transport plans outline the need and direction for investment in transport locally, and identify the priority areas for improved connectivity, as well as outline a vision for the future.</p> <p>More detail on these can be found in Appendix C of the United Utilities, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>There may be some effects on transport with the implementation of the Regional Plan. This may have an impact upon some of the strategic ambitions set out in the objectives of the transport plans.</p> <p>The SEA should include objectives that take into account the objectives of transport plans where relevant.</p>
Local Wildlife Trust Strategies (various)	
<p>There are many Wildlife Trusts present in the WRW area. The objectives/outcomes of the plans are largely related to the conservation of wildlife and wild places and enjoyment of wildlife by the public, as well as ensuring the effectiveness of the Trust as an organisation.</p> <p>More detail on these can be found in Appendix C of the United Utilities and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should have regard to the protection of local wildlife.</p> <p>The SEA assessment framework should consider the effects of the options on biodiversity.</p>
National Park Management Plans (various)	
<p>There are numerous National Parks present in the WRW area. The management plans for National Parks contain actions to ensure the protection and enhancement of the landscape and natural environment of these areas.</p> <p>Further information on National Park Management Plans within the WRW area can be found in Appendix C of the United Utilities and Dwr Cymru Welsh Water WRMP24 SEA Environmental Reports.</p>	<p>Regional Plan measures that affect National Parks should be consistent with the respective management plan.</p> <p>The SEA assessment framework should consider</p>

Sub-regional/Local Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the WRMP and SEA	Relationships and Influences on the WRMP and the SEA
	the effects of options on landscapes and the natural environment, including designated areas.
Natural England, Site Improvement Plans (SIPs) for Natura 2000 Sites (various)	
<p>Site Improvement Plans (SIPs) have been developed for each Natura 2000 site in England as part of the Improvement Programme for England's Natura 2000 Sites (IPENS).</p> <p>The plan provides a high level overview of the issues (both current and predicted) affecting the condition of the Natura 2000 features on the site(s) and outlines the priority measures required to improve the condition of the features. It does not cover issues where remedial actions are already in place or ongoing management activities which are required for maintenance.</p> <p>There are a number of Natura 2000 sites within the WRW operational area.</p> <p>More detail on these can be found in Appendix C of the United Utilities and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should seek to avoid contributing to any issues affecting the condition of Natura 2000 site features and contribute to their improvement where appropriate.</p> <p>The SEA should include an objective and guide questions related to the protection of biodiversity and designated species and habitats.</p>
Natural England National Character Area (NCA) Profiles (various)	
<p>There are many NCAs within WRW's operating boundary. Each of these have individual objective relating to specific landscapes, habitats and species.</p> <p>Generalised objectives for each of these include:</p> <ul style="list-style-type: none"> • Conserve characteristic historic structures • Protect the area's rich and diverse archaeology • Protect the area's high levels of tranquillity • Protect, manage and enhance the good rights of way network • Manage and enhance existing habitats • Encourage the maintenance of traditional land management practices • Protect, and encourage sympathetic management • Protect and manage geological features • Plan for climate change mitigation and adaptation <p>The WRMP may have an effect on NCAs.</p> <p>More detail on these can be found in Appendix C of the United Utilities and South Staffs Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan may have an effect on NCAs.</p> <p>The SEA should include objectives that consider the objectives of the NCAs where relevant (e.g., manage and enhance existing habitats).</p>
Natural England and Environment Agency (various) River Restoration and Water Level Management Plans	
<p>River restoration interventions reinstate natural river processes that provide benefits to both people and wildlife.</p> <p>More detail on these can be found in Appendix C of the United Utilities, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should seek to support the delivery of the aims of the strategies, where appropriate.</p> <p>The SEA should include an objective and guide questions related to the protection of biodiversity, designated species and habitats and restoration of rivers.</p>
Natural Resources Wales (Various) Catchment Abstraction Management (Licencing) Strategies (CAMS)	
<p>Catchment Abstraction Management Strategies (CAMS) to assess how much water is available for abstraction, and where. Therefore, highlighting where water abstraction licences can be granted.</p> <p>A water abstraction licence is required to remove more than 20 cubic metres (4,400 gallons) of water per day from a river or stream, reservoir, lake or pond, canal or spring. The strategies aim to</p>	<p>The Regional Plan should take the CAMS into account.</p> <p>The SEA assessment should consider the effects</p>

Sub-regional/Local Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the WRMP and SEA	Relationships and Influences on the WRMP and the SEA
<p>meet the water needs of the environment and to allow water users to sustainably exploit any surplus.</p> <p>There are numerous Catchment Abstraction Management Strategies (CAMS) in place within the WRW region. More detail on these can be found in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South Staffs Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>of options on the availability and sustainability of water supply.</p>
Public Rights of Way Improvement Plans (ROWIP)	
<p>Most local authorities have a rights of way improvement plan. The plan must explain how improvements made by the local authority to the public rights of way network in their area will provide a better experience for these users:</p> <ul style="list-style-type: none"> • walkers • cyclists • horse riders • horse and carriage drivers • people with mobility problems • people using motorised vehicles, e.g. motorbikes <p>Objectives include those associated with each local authority's rights of way improvement plans.</p> <p>More detail on these can be found in Appendix C of the United Utilities, South Staffs Water and Severn Trent WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan may have the potential to affect the objectives of the ROWIPs.</p> <p>The SEA should include objectives that take into account the objectives of the ROWIPs where relevant.</p>
Public Services Boards (PSBs) (Various) PSB Assessments and Local Well-being Plans	
<p>The purpose of Public Services Boards (PSBs) is to improve the economic, social, environmental and cultural well-being in its area by strengthening joint working across all public services in Wales.</p> <p>The Well-being of Future Generations (Wales) Act 2015 establishes statutory PSBs which will replace the voluntary Local Service Boards in each local authority area.</p> <p>Each PSB must prepare and publish a plan setting out its objectives and the steps it will take to meet them. This is called a Local Well-being Plan.</p> <p>Each PSB will carry out an annual review of their plan showing their progress. When producing their assessments of local well-being and Local Well-being plan, PSBs must consult widely.</p> <p>More detail on PSBs can be found in Appendix C of the Dwr Cymru Welsh Water WRMP24 SEA Environmental Report.</p>	<p>The Regional Plan should take into account the objectives of the PSBs and the Local Well-being Plans and seek to contribute to their achievement, where appropriate.</p> <p>The SEA should include objectives and guide questions relating to economic, social, environmental and cultural well-being.</p>
Shoreline Management Plans (various)	
<p>Shoreline Management Plans are prepared in England and Wales. They are developed by Coastal Groups with members drawn from local authorities and other stakeholders. They identify the most sustainable approach to managing the flood and coastal risks to the coastline in the short term (up to 20 years), medium term (20 to 50 years) and long term (50 to 100 years).</p> <p>More detail on PSBs can be found in Appendix C of the United Utilities, Dwr Cymru Welsh Water and Severn Trent Water WRMP24 SEA Environmental Reports.</p>	<p>The Regional Plan should take into account the policies and actions of the SMP.</p> <p>Where appropriate, the SEA should consider the cumulative effect of SMP policies and actions and Regional Plan measures.</p>
Sub-regional strategies (various)	
<p>Strategies set out a sustainable approach to securing economic growth, social progress and environmental protection and enhancement in local areas over the next 20 years.</p> <p>The Sub-Regional Strategy for Cumbria sits within the WRW area, more detail can be found in Appendix C of the United Utilities WRMP24 SEA Environmental Report.</p>	<p>There may be some social, economic and environmental effects associated with the implementation of the Regional Plan that may have effect upon the sustainable development and regeneration of local areas.</p>

Sub-regional/Local Plans and Programmes	
Purpose of the Document, including Objectives and Targets relevant to the WRMP and SEA	Relationships and Influences on the WRMP and the SEA
	The SEA should seek to address the potential effects upon the local economy.
World Heritage Site Management Plans (Various)	
<p>World Heritage Sites are required to have a Management Plan, as part of their management system, that sets out why the place is special; what will be done to conserve and enhance it over the plan period, and what will be done to explain its significance to visitors. To be included on the World Heritage List, sites must have Outstanding Universal Value (OUV). The statement of OUV gives a clear, shared understanding of the reasons for the site's inscription and identifies what it is about the site that needs to be managed over the long-term</p> <p>Within the WRW operational area there are a number of World Heritage Sites, each with their own management plan. More information can be found in Appendix C of the United Utilities, Dwr Cymru Welsh Water, South staffs Water and Severn Trent WRMP24 SEA Environmental Reports.</p>	<p>The SEA should ensure that there are no negative direct or indirect impacts, for example during construction, on the world heritage sites situated within the Welsh Water area.</p>

Appendix D

Definitions of Significance

SEA Objectives	Guide Questions	Score		Description
1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain.	<ul style="list-style-type: none"> Will it protect, restore and enhance where possible, the most important sites for nature conservation (e.g., internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)? Will it protect, restore and enhance non-designated sites and local biodiversity? Will it provide opportunities for new terrestrial and aquatic habitat creation or restoration and/or link existing habitats as part of the development process? Will it provide opportunities to deliver biodiversity net gain? Will it lead to a change in the ecological quality of habitats? Will it protect, restore and enhance where appropriate, coastal and marine habitats and species? Will it maintain and enhance the green infrastructure network and the biodiversity it supports? Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems? 	+++	Major/Significant Positive	The option would result in a major enhancement on the quality of designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat quality and availability. The option would result in a major increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or large amounts of creation or enhancement of habitat, promoting a major increase in ecosystem structure and function.
		++	Moderate Positive	The option would result in a moderate enhancement on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat creation and enhancement measures. The option would result in a moderate increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or moderate amounts of creation or enhancement of habitat, promoting a moderate increase in ecosystem structure and function.
		+	Minor Positive	The option would result in a minor enhancement of the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat creation and enhancement measures. The option would result in a minor increase in the population of, or habitats for, a priority species. Effects could be caused by beneficial changes in water flows/water quality, or small amounts of creation or enhancement of habitat, promoting a minor increase in ecosystem structure and function.
		0	Neutral	The option would not result in any effects on designated or non-designated sites including habitats and/or species).
		-	Minor Negative	The option would result in a minor negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a minor decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or small losses or degradation of habitat leading to a minor loss of ecosystem structure and function.
		--	Moderate Negative	The option would result in a moderate negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a moderate decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or moderate loss or degradation of habitat leading to a moderate loss of ecosystem structure and function.
		---	Major/Significant Negative	The option would result in a major negative effect on the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat loss or degradation. The option would result in a major decrease in the population of, or habitats for, a priority species. Effects could be caused by detrimental changes in flows/water quality, or large losses or degradation of habitat leading to a major loss of ecosystem structure and function.

SEA Objectives	Guide Questions	Score		Description
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
2. To protect and enhance sustainable natural resources and the ecosystem services they provide.	<ul style="list-style-type: none"> Will it protect or enhance natural capital and ecosystem services? Will it maintain and enhance ecosystem resilience? Will it contribute to the sustainable management of natural habitats and ecosystems, i.e., within their limits and capacities taking into account climate change adaptability? Will it provide opportunities for climate adaptation and protect the climate resilience of vulnerable and priority sites 	+++	Major/Significant Positive	The option would lead to a major increase in natural capital/ecosystem resilience and enhancement (as measured by the NCA). The option would lead to a biodiversity net gain of greater than 10% (as measured by the BNG assessment). The option would protect and enhance all the ecosystem services identified in the NCA (biodiversity and habitat, climate regulation, natural hazard regulation, water purification, water regulation, recreation and tourism, health and well-being and agricultural).
		++	Moderate Positive	The option would lead to a moderate increase in natural capital/ecosystem resilience and enhancement (as measured by the NCA). The option would lead to a biodiversity net gain of 10% (as measured by the BNG assessment). The option would protect and enhance at least three categories of ecosystem services identified in the NCA (with neutral effects on the remaining services).
		+	Minor Positive	The option would lead to a minor increase in natural capital/ecosystem resilience and enhancement (as measured by the NCA). The option would lead to a biodiversity net gain of less than 10% (as measured by the BNG assessment). The option would protect and enhance at least one category of ecosystem services identified in the NCA (with neutral effects on the remaining services).
		0	Neutral	The option would have no effect on natural capital, biodiversity net gain or ecosystem services.
		-	Minor Negative	The option would lead to a minor decrease in natural capital/ecosystem resilience (as measured by the NCA). The option would lead to a biodiversity net loss of less than 10% (as measured by the BNG assessment). The option would adversely affect at least one category of ecosystem services identified in the NCA (with neutral effects on the remaining services).
		--	Moderate Negative	The option would lead to a moderate decrease in natural capital/ecosystem resilience (as measured by the NCA). The option would lead to a biodiversity net loss of 10% (as measured by the BNG assessment). The option would adversely affect at least three categories of ecosystem services identified in the NCA (with neutral effects on the remaining services).
		---	Major/Significant Negative	The option would lead to a major decrease in natural capital/ecosystem resilience (as measured by the NCA). The option would lead to a biodiversity net loss of greater than 10% (as measured by the BNG assessment). The option would adversely affect all categories of ecosystem services identified in the NCA.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.

SEA Objectives	Guide Questions	Score		Description
3. To avoid and minimise the risk of spread of, and, where required, manage invasive and non-native species (INNS).	<ul style="list-style-type: none"> Will it prevent or minimise the risk of spread/introduction of invasive and non-native species? Will it contribute to the eradication of invasive and non-native species, where they are already present and it is technically and economically feasible to do so? 	+++	Major/Significant Positive	The option would result in a major reduction or management of INNS.
		++	Moderate Positive	The option would result in a moderate reduction or management of INNS.
		+	Minor Positive	The option would result in a minor reduction or management of INNS.
		0	Neutral	The option would not result in any effects on INNS.
		-	Minor Negative	The option would result in a minor increase or spread of INNS.
		--	Moderate Negative	The options would result in a moderate increase or spread of INNS.
		---	Major/Significant Negative	The option would result in a major increase or spread of INNS.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
4. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.	<ul style="list-style-type: none"> Will additional land be required for the development or implementation of the option or will the option require below ground works leading to land sterilisation? Will it avoid damage to, protect and enhance where possible protected sites designated for their geological interest (GCR sites, SSSI and RIGS) and features of wider geodiversity interest? 	+++	Major/Significant Positive	The option would result in a major enhancement on the quality of soils as a result of remediation, implementation of catchment approaches, or other measures.
		++	Moderate Positive	The option would result in a moderate enhancement on the quality of soils as a result of remediation, implementation of catchment approaches, or other measures.
		+	Minor Positive	The option would be located on a brownfield site and has no effect on soils or existing land use. The option results in the remediation of contaminated land.
		0	Neutral	The option would not result in any effects on soils or land use.

SEA Objectives	Guide Questions	Score		Description
	<ul style="list-style-type: none"> Will it minimise the loss of best and most versatile agricultural land? Will it minimise land contamination? Will it ensure efficient use of land (e.g., make use of previously developed land)? Will it contribute towards a catchment-wide approach to land management? Will it avoid adverse effects on other land uses (such as forestry)? 	-	Minor Negative	<p>The option would not be located on a brownfield site and/or results in a minor loss of best and most versatile agricultural land or is in conflict with existing land use.</p> <p>The option would result in land contamination.</p> <p>The option would result in a minor negative effect on a site designated for their geological interest.</p>
		--	Moderate Negative	<p>The option would result in a moderate loss of best and most versatile agricultural land or is in substantial conflict with existing land use.</p> <p>The option would result in land contamination.</p> <p>The option would result in a moderate negative effect on a site designated for their geological interest.</p> <p>The option would be partially overlying mineral resources leading to partial mineral sterilisation.</p>
		---	Major/Significant Negative	<p>The option would result in a major loss of best and most versatile agricultural land or is in substantial conflict with existing land use.</p> <p>The option would result in land contamination.</p> <p>The option would result in a major negative effect on a site designated for their geological interest.</p> <p>The option would be directly overlying mineral resources leading to mineral sterilisation.</p>
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
5. To protect and enhance surface and ground water levels and flows.	<ul style="list-style-type: none"> Will it minimise the demand for water resources? Will it result in changes to river flows, channel morphologies, wetted width or river levels? Will it result in changes to groundwater levels? Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans? Will it alter the flow regime of surface waters? 	+++	Major/Significant Positive	The option would result in major reduction in the demand for water.
		++	Moderate Positive	<p>The option achieves savings through demand management and does not require abstraction to achieve yield.</p> <p>The option would result in moderate reduction in demand for water.</p>
		+	Minor Positive	<p>The option achieves savings through demand management and does not require abstraction to achieve yield.</p> <p>The option would result in minor reduction in the demand for water.</p>
		0	Neutral	The option would have no discernible effect on river flows or on groundwater levels.

SEA Objectives	Guide Questions	Score		Description
		-	Minor Negative	The option would result in minor short-term decreases in river flows, wetted width, depth, and velocity over small distances. The option would result in minor decreases in groundwater levels. The option would result in minor increases in demand for water.
		--	Moderate Negative	The option would result in medium-term, moderate decreases in river flows, wetted width, depth, and velocity over moderate distances. The option would result in moderate decreases in groundwater levels. The option would result in moderate increases in demand for water.
		---	Major/Significant Negative	The option would result in major decreases in river flows over the long-term affecting significant stretches of river. The option would result in major decreases in groundwater levels. The option would result in major increases in demand for water.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
6. To protect and enhance the quality of surface and groundwater resources.	<ul style="list-style-type: none"> Will it prevent pollution and protect and improve surface, groundwater, estuarine and coastal water quality? Will it prevent the deterioration of Water Framework Directive (WFD) waterbody status (or potential)? Will it support the achievement of WFD protected area objectives? Will it ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body? Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans? Will the option prevent nutrient loading in water bodies? 	+++	Major/Significant Positive	The option would result in addressing failure of WFD Good Ecological Status / Good Ecological Potential.
		++	Moderate Positive	The option would contribute to addressing failure of WFD Good Ecological Status / Good Ecological Potential.
		+	Minor Positive	The option would contribute to a minor improvement in surface/coastal water quality or in groundwater quality.
		0	Neutral	The option would have no discernible effect on river flows or surface/coastal water quality or on groundwater quality. The option would not lead to a change in WFD classification.
		-	Minor Negative	The option would have a minor effect on river and/or coastal water quality and lead to short term or intermittent effects on receptors (e.g., designated habitats, protected species or recreational users of rivers and the coastline) that could not be avoided but could be mitigated. The option would result in minor decreases in groundwater quality.
		--	Moderate Negative	The option would have a moderate effect on river and/or coastal water quality and lead to long term or continuous effects on receptors (e.g., designated habitats, protected species or recreational users of rivers and the coastline) that could not reasonably be mitigated. The option would result in the likely deterioration of WFD classification. The option would result in moderate decreases in groundwater quality.
		---	Major/Significant Negative	The option would have a major effect on river and/or coastal water quality and lead to long term or continuous effects on receptors (e.g., designated habitats, protected species or recreational users of rivers and the coastline) that could not reasonably be mitigated. The option results in the deterioration of WFD classification. The option would result in major decreases in groundwater quality.

SEA Objectives	Guide Questions	Score		Description
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
7. To reduce or manage flood risk.	<ul style="list-style-type: none"> Will the option be at risk of flooding now or in the future? Will it have the potential to cause or exacerbate flooding in the catchment area including the risks to people and property, now or in the future? Will it have the potential to help alleviate or mitigate flooding in the catchment area including to people and property now or in the future? E.g. will it avoid reducing flood plain storage, or provide opportunities to improve flood risk management? Will it promote the use of sustainable drainage systems? Will it promote opportunities for collaborative working with other risk management authorities? 	+++	Major/Significant Positive	The option would result in a major improvement to flood risk.
		++	Moderate Positive	The option would result in a moderate improvement to flood risk.
		+	Minor Positive	The option would involve the construction of above-ground water supply infrastructure which would help alleviate flooding in the catchment.
		0	Neutral	The option would involve the construction of above-ground water supply infrastructure, but is located outside floodplain areas. It is anticipated that the option would neither cause nor exacerbate flooding in the catchment.
		-	Minor Negative	The option would involve the construction of above-ground water supply infrastructure which would be wholly or partially located within Flood Zone 2.
		--	Moderate Negative	The option would involve the construction of above-ground water supply infrastructure which would be partially (but < 40% by area) located within Flood Zone 3 and/or site is at medium risk of surface water flooding.
		---	Major/Significant Negative	The option would involve the construction of above-ground water supply infrastructure which would be wholly or partially (≥40% of the site) within flood zone 3a or 3b and/or site is at high risk of surface water flooding.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
8. To minimise emissions of pollutant gases and particulates and enhance air quality.	<ul style="list-style-type: none"> Will it maintain or enhance ambient air quality, keeping pollution below Local Air Quality Management thresholds (e.g., in Air Quality Management Areas or sensitive habitats)? 	+++	Major/Significant Positive	The option would result in a major enhancement of the air quality within one or more AQMAs.
		++	Moderate Positive	The option would result in a moderate enhancement of the air quality within one or more AQMAs.
		+	Minor Positive	The option would result in an enhancement of the air quality.

SEA Objectives	Guide Questions	Score		Description
		0	Neutral	The option would not result in any effects on Air Quality and AQMAs. Vehicle movements of < 1,000 per annum, assuming that this is equivalent to < 5 per day.
		-	Minor Negative	The option would result in a decrease of the air quality. Vehicle movements of 1000 to < 7,750, per annum assuming that this is an equivalent to 5 to <35 per day (so an average max of 5 per hour)
		--	Moderate Negative	The option would result in a decrease of the air quality within one or more AQMAs. Vehicle movements of 7,750 to <15,500 per annum assuming that this is an equivalent to 35 to <70 per day (so an average max of 10 per hour)
		---	Major/Significant Negative	The option would result in a major decrease in the air quality within one or more AQMAs. Vehicle movements > 15,500 per annum, assuming that this is an equivalent of ≥ 70 per day.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain
9. To reduce greenhouse gas emissions.	<ul style="list-style-type: none"> Will it reduce or minimise greenhouse gas emissions? Will it have a low level of embodied carbon? Will it provide new infrastructure that is energy efficient and/or minimises the use of energy? Will it provide new infrastructure that could contribute or make use of renewable energy sources? Will the option affect carbon sequestration? 	+++	Major/Significant Positive	The option would reduce operational carbon emissions by more than 1,000 tonnes CO2e/year e.g., it would provide new infrastructure/assets that maximise the use of renewable energy sources. The option would result in a major increase in carbon sequestration.
		++	Moderate Positive	The option will reduce operational carbon emissions by between 100 and <1,000 tonnes CO2e/year. The option will result in a moderate increase in carbon sequestration
		+	Minor Positive	The option will reduce operational carbon emissions by less than 100 tonnes CO2e/year
		0	Neutral	The option would have no discernible effect on greenhouse gas emissions.
		-	Minor Negative	The construction of the option would use of materials with a minor amount of embodied carbon (100 to <1,000 tonnes CO2e). The option would result in a minor or temporary increase in operational carbon emissions (100 to <500 tonnes CO2e).
		--	Moderate Negative	The construction of the option would use of materials with a moderate amount of embodied carbon (1,000 to 7,500 tonnes CO2e). The option would result in a moderate increase in operational carbon emissions (500-2,000 tonnes CO2e). The option will result in a moderate release of previously sequestered carbon.

SEA Objectives	Guide Questions	Score		Description
		---	Major/Significant Negative	The construction of the option would use of materials with a major amount of embodied carbon (>7,500 tonnes CO2e). The option would result in major or long term increases in operational carbon emissions (>2,000 tonnes CO2e). The option would result in a major release of previously sequestered carbon.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
10. To adapt and improve resilience to the threats of climate change.	<ul style="list-style-type: none"> Will it improve resilience and/or adaptability to the likely effects of climate change, e.g., by increasing resilience of water supplies or catchments? Will it increase environmental resilience to the effects of climate change including to impacts on flood risk and water quality? Will coastal erosion have consequences on the operation of this option now or in the future, taking account of expected climate change sea level rise? 	+++	Major/Significant Positive	The option would have a major positive effect on increasing the resilience/decreasing the vulnerability to climate change effects.
		++	Moderate Positive	The option would have a moderate positive effect on increasing the resilience/decreasing the vulnerability to climate change effects.
		+	Minor Positive	The option would have a minor positive effect on increasing the resilience/decreasing the vulnerability to climate change effects.
		0	Neutral	The option would have no effect on resilience/decrease vulnerability to climate change effects
		-	Minor Negative	The option would not increase resilience/decrease vulnerability to climate change effects.
		--	Moderate Negative	The option would have a moderate negative effect on resilience/decreasing vulnerability to climate change effects.
		---	Major/Significant Negative	The option would have a major negative effect on resilience/significantly decrease vulnerability to climate change effects.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain
		11. To promote a sustainable economy and	<ul style="list-style-type: none"> Will it ensure that sufficient water resources infrastructure is in place 	+++

SEA Objectives	Guide Questions	Score		Description
maintain and enhance the economic and social well-being of local communities.	<ul style="list-style-type: none"> to support predicted population increases? Will it ensure sufficient infrastructure is in place to sustain a seasonal influx of tourists? Will it help to meet the employment needs of local people? Will it ensure that an affordable supply of water is maintained, and vulnerable customers protected? Will it contribute to sustaining and growing the local and regional economy? Will it avoid disruption through effects on the transport network? Will it avoid negative effects on built assets/ existing infrastructure including transport? 	++	Moderate Positive	The option would provide an additional design capacity of 5MI/d to <25MI/d. The option would result in a moderate increase in construction jobs (capital spend £5m to <£25m).
		+	Minor Positive	The option would provide an additional design capacity of 1MI/d to <5MI/d. The option would result in a minor increase in construction jobs (capital spend £1m to <£5m).
		0	Neutral	The option would have no effect on local employment opportunities, the regional or local economy, or on recreational facilities. The option would provide an additional design capacity of <1MI/d.
		-	Minor Negative	It is not expected that any options will have a negative effect on employment opportunities, the economy or design capacity. The option would result in a minor disruption on built assets and infrastructure, including transport.
		--	Moderate Negative	It is not expected that any options will have a negative effect on employment opportunities, the economy or design capacity. The option would result in a moderate disruption on built assets and infrastructure, including transport.
		---	Major/Significant Negative	It is not expected that any options will have a negative effect on employment opportunities, the economy or design capacity. The option would result in a major disruption on built assets and infrastructure, including transport.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
12. To maintain and enhance tourism and recreation.	<ul style="list-style-type: none"> Will it protect and enhance public access to, and enjoyment of, green and blue infrastructure, open space/recreational facilities and the natural and historic environment, and in doing so help promote healthy lifestyles including mental well-being? 	+++	Major/Significant Positive	The option would provide new, and/or significantly enhances existing, recreational facilities, publicly accessible greenspace and/or tourism within the operational area.
		++	Moderate Positive	The option would have a moderate positive effect on existing, recreational facilities, publicly accessible greenspace and/or tourism within the operational area
		+	Minor Positive	The option would have a minor positive effect on existing, recreational facilities, publicly accessible greenspace and/or tourism within the operational area
		0	Neutral	The option would not result in any effects on existing recreational facilities and/or tourism.
		-	Minor Negative	The option would reduce the availability and quality of existing recreational facilities and/or tourism within the operational area.

SEA Objectives	Guide Questions	Score		Description
		--	Moderate Negative	The option would result in the permanent removal of existing recreational facilities, publicly accessible greenspace and/or tourism within the operational area.
		---	Major/Significant Negative	The option would result in the removal of existing recreational facilities, publicly accessible greenspace and/or tourism within the operational area.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain
13. To protect and enhance human health and well-being.	<ul style="list-style-type: none"> Will it ensure the continuity of a safe and secure drinking water supply? Will it help to protect or improve drinking water quality? Will it maintain surface water and bathing water quality within statutory standards? Will it help to promote healthy communities and avoid risks to health and wellbeing (for example, due to noise resulting from construction traffic or disruption to safe and reliable water/sewerage services)? Will it raise awareness of the importance and value of the water environment for health and well-being? Will it be located in an area considered to be significantly more health deprived than others in the region? Will it improve opportunities for social interaction and community cohesion? 	+++	Major/Significant Positive	The option would lead to a major increase in design capacity (≥ 25 MI/d) of drinking water, would have a sustained positive effect on the health of local communities and would ensure that surface water and bathing water quality is maintained within statutory limits.
		++	Moderate Positive	The option would lead to a moderate increase in design capacity (5MI/d to <25MI/d) of drinking water, would have a positive effect on the health of local communities and would ensure that surface water and bathing water quality is maintained within statutory limits.
		+	Minor Positive	The option would lead to a minor increase in design capacity (1MI/d to <5MI/d) of drinking water, would have a temporary positive effect on the health of local communities and would ensure that surface water and bathing water quality is maintained within statutory limits.
		0	Neutral	The option would not result in any effects on human health and existing recreational facilities and/or tourism.
		-	Minor Negative	The option would result in the deterioration of surface water or bathing water quality and would have a temporary effect on human health (e.g., noise or air quality).
		--	Moderate Negative	The option would have a moderate long-term negative effect on human health (e.g., noise or air quality).
		---	Major/Significant Negative	The option would have a significant long-term effect on human health (e.g., noise or air quality).
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain
14. To promote and enhance the sustainable and	<ul style="list-style-type: none"> Will it lead to reduced leakage from the supply network? 	+++	Major/Significant Positive	The option would involve a major reduction in leakage from the supply network or is a water efficiency option with a design capacity of >10 MI/d. The option would result in a major improvement in water efficiency and resilience.

SEA Objectives	Guide Questions	Score		Description
efficient use of resilient water resources.	<ul style="list-style-type: none"> Will it improve efficiency in water consumption? Will it ensure sustainable abstractions, taking account of water resource availability? Will it enable efficient water resource management to help maintain a supply-demand balance? Will it increase the resilience of water resources, now and into the future? Will it contribute towards improving the awareness of water sustainability? 	++	Moderate Positive	The option would involve a moderate reduction in leakage reduction from the supply network or is a water efficiency option with a design capacity of 5 to 10MI/d. The option would result in a moderate improvement in water efficiency and resilience.
		+	Minor Positive	The option would involve reducing leakage from the supply network or is a water efficiency option with a design capacity of <5 MI/d. The option would result in a minor improvement in water efficiency and resilience.
		0	Neutral	The option will have no effect on sustainable and efficient use of resilient water resources.
		-	Minor Negative	The option would result in minor decreases in water efficiency and reduces resilience.
		--	Moderate Negative	The option would result in moderate decreases in water efficiency and reduces resilience.
		---	Major/Significant Negative	The option would result in major decreases in water efficiency and reduces resilience.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
15. To minimise waste, promote resource efficiency and move towards a circular economy.	<ul style="list-style-type: none"> Will it make use of existing infrastructure? Will it promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill? Will it help to encourage sustainable design or use of sustainable materials (e.g., supplied from local resources)? 	+++	Major/Significant Positive	The option would make extensive reuse of existing built assets and infrastructure. The option will re-use or recycle substantial quantities of waste materials and any new infrastructure will incorporate substantial sustainable design measures and materials.
		++	Moderate Positive	The option would make reuse of existing built assets and infrastructure. The option would re-use or recycle moderate quantities of waste materials and any new infrastructure would incorporate some sustainable design measures and materials.
		+	Minor Positive	The option would re-use or recycle limited quantities of waste materials and any new infrastructure would incorporate limited sustainable design measures and materials.
		0	Neutral	The option would largely rely on existing infrastructure and only require small quantities of additional materials to realise design capacity. Quantities of concrete required are estimated as < 100 tonnes.
		-	Minor Negative	The option would require new infrastructure. The quantities of concrete required are estimated as between 100 to <1,000 tonnes. The option would have limited opportunities for the re-use or recycling of waste materials. There would be limited opportunities for sustainable design or the use of sustainable materials.

SEA Objectives	Guide Questions	Score		Description
		--	Moderate Negative	The option would require new infrastructure. The quantities of concrete required are estimated as between 1,000 to <15,000 tonnes. The option would have limited opportunities for the re-use or recycling of waste materials.
		---	Major/Significant Negative	The option would require significant new infrastructure that cannot be provided through the re-use or recycling of waste materials. There are no opportunities for sustainable design or the use of sustainable materials. The quantities of concrete required are estimated as ≥ 15,000 tonnes.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain.
16. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	<ul style="list-style-type: none"> Will it avoid damage to, conserve or enhance the historic environment, including heritage assets and their settings such as historic buildings, conservation areas, features, places and spaces, that enhance local distinctiveness? Will it avoid or minimise damage to archaeologically important sites? Will the hydrological setting of water-dependent assets be altered, such as important wetland areas with potential for paleo-environmental deposits? Will it avoid damage to important wetland areas with potential for paleo-environmental deposits? Will it improve access, value, understanding or enjoyment of heritage assets and culturally/historically important assets in the region? Will it protect or enhance (where relevant) Welsh language and culture? 	+++	Major/Significant Positive	The option will result in enhancements to designated heritage assets and/or their setting, fully realising the significance and value of the asset, such as: Securing repairs or improvements to heritage assets, especially those identified in the Historic England Buildings/Monuments at Risk Register; Improving interpretation and public access to important heritage assets.
		++	Moderate Positive	The option will result in enhancements to designated heritage assets and/or their setting. Improving interpretation and public access to important heritage assets.
		+	Minor Positive	The option will result in enhancements to non-designated heritage assets and/or their setting.
		0	Neutral	The option will have no effect on cultural heritage assets or archaeology.
		-	Minor Negative	The option will result in the loss of significance of undesignated heritage assets and/or their setting, notwithstanding remedial recording of any elements affected. There will be limited damage to known, undesignated archaeology important sites with a consequent loss of significance only partly mitigated by archaeological investigation
		--	Moderate Negative	The option will result in the loss of significance of undesignated heritage assets and/or their setting, notwithstanding remedial recording of any elements affected. The option will diminish significance of designated heritage assets and/or their setting, notwithstanding remedial recording of any elements affected.
		---	Major/Significant Negative	The option would diminish the significance of designated heritage assets and/or their setting such as: <ul style="list-style-type: none"> Demolition or further deterioration in the condition of designated heritage assets especially those identified in the Historic England Buildings/Monuments at Risk Register; Loss of public access to important heritage assets and lack of appropriate interpretation. There would be major damage to known, designated archaeological sites/remains or geologically important sites with a consequent loss of significance only partly mitigated by archaeological investigation.

SEA Objectives	Guide Questions	Score		Description
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain
17. To conserve, protect and enhance landscape and townscape character and visual amenity.	<ul style="list-style-type: none"> Will it avoid adverse effects to, and enhance where possible, protected/designated landscapes and the settings of designated landscapes (including woodlands) such as National Parks or AONBs? Will it help to protect and improve non-designated areas of natural beauty and distinctiveness (e.g., woodlands) and avoid the loss of landscape features and local distinctiveness? Will it protect and enhance landscape character, townscape, seascape and green infrastructure? Will it minimise adverse visual impacts? 	+++	Major/Significant Positive	The option results in new, above ground infrastructure that significantly enhances the local landscape, townscape or seascape.
		++	Moderate Positive	The option results in new, above ground infrastructure that has a moderate positive effect on the local landscape, townscape or seascape
		+	Minor Positive	The option results in new, above ground infrastructure that has a minor positive effect on the local landscape, townscape or seascape.
		0	Neutral	The option would not result in any effects on the local landscape, townscape or seascape
		-	Minor Negative	The option results in new, above ground infrastructure that has a minor negative effect on the local landscape, townscape or seascape.
		--	Moderate Negative	The option would have a moderate negative effect on a designated landscape or feature (i.e. significant visually intrusive infrastructure) whose effects could not be reasonably mitigated. The option results in new, above ground infrastructure that has a moderate negative effect on the local landscape, townscape or seascape.
		---	Major/Significant Negative	The option would have a negative effect on a designated landscape or feature (i.e. significant visually intrusive infrastructure) whose effects could not be reasonably mitigated. The option results in new, above ground infrastructure that has a major negative effect on the local landscape, townscape or seascape.
		?	Uncertain	From the level of information available the effect that the option would have on this objective is uncertain

Appendix E

Draft Best Value Plan Options

Table E.1. Demand management options selected in Water Resources West's draft best value planⁱ

Water Company	Option ID	Option Name	Water saving benefit in 2050 (MI/d) ⁱⁱ	Implementation dates ⁱⁱⁱ	Total benefit in 2050 by company (MI/d)
Hafrren Dyfrdwy	173+174	Retrofitting indoor water efficiency devices	0.01	2025-2055	9
	176	Home water efficiency check with social housing	0.03	2025-2054	
	N/A	Leakage reduction	6	2025-2100	
	N/A	Enhanced/Innovation led household water efficiency	3	2030-2100	
Severn Trent	180	Compulsory metering	51	2026-2084	218
	173+174	Retrofitting indoor water efficiency devices	1	2025-2054	
	541	Household water audit	0	2025-2049	
	181	Non-household water audit (leak alarm)	0	2025-2049	
	176	Social housing water audit (leak alarm)	0.6	2025-2068	
	N/A	50% Reduction in leakage	166	2025 - 2051	
South Staffs	2021-116	Fitting of Enhanced Meter Technology over 2025-2035 to all non-household	12	2025-2100	60
	SN_02	Fitting of universal smart meter technology throughout AMP8 and AMP9 (enabler option with no benefit)	0	2025	
	2021-001	Proactive trunk mains leakage reduction	3	2025-2100	
	2021-003	Advanced pressure optimisation	3	2025-2100	
	2021-045	Customer supply pipe repair or replacement (without smart networks)	2	2025-2100	
	2021-099	Distribution Mains/Comms pipe replacement	6	2045-2100	
	2021-106	Customer supply pipe repair or replacement (with smart networks)	3	2035-2100	

ⁱ Most benefit figures apart from very small ones (<1 MI/d) have been rounded

ⁱⁱ Zero values indicate that the option does not have any benefit in 2050 either because the benefit has finished before that date or due to the option being an enabler for another option, with no MI/d benefit.

ⁱⁱⁱ An option may start to be implemented at different times in different water resource zones.

Water Company	Option ID	Option Name	Water saving benefit in 2050 (MI/d) ⁱⁱ	Implementation dates ⁱⁱⁱ	Total benefit in 2050 by company (MI/d)
	2021-107	District Metered Area MOT (with smart networks)	0.3	2039-2100	
	2021-108	District Metered Area Active Leakage Control plus (with smart networks)	8	2039-2100	
	2021-118	District Metered Area MOT (without smart networks)	0.06	2029-2100	
	2021-012	Household water efficiency programme (partnering approach, home visit)	4	2025-2100	
	2021-036	Housing associations - targeted programme	2	2035-2100	
	2021-048	Innovative tariffs	13	2035-2100	
	2021-091	Targeting properties for efficiency audits (without smart metering)	1	2025-2100	
	2021-094	Water neutrality (without smart metering)	2	2025-2100	
	2021-093	Community Water Efficiency Scheme (without smart metering)	0.3	2025-2100	
United Utilities	WR601a+W R601e+WR6 03b	Enhanced metering of households (smart meters)	91	2025-2100	257
	WR619a+W R619d	Upgrade existing household meters to smart	16	2025-2100	
	WR658a+W R658c+WR6 59a+WR659c	Free water efficiency devices (inside/internal and outside/external)	5	2025-2100	
	WR661c+WR 661a	Free water efficiency audits (households)	2	2025-2100	
	WR669a+W R669b	Flow regulators	4	2025-2100	
	WR677a+W R677c	Non-household water efficiency programme	7	2025-2100	
	WR685a+W R685c	Rainwater harvesting and water reuse (new builds)	2	2026-2100	

Water Company	Option ID	Option Name	Water saving benefit in 2050 (MI/d) ⁱⁱ	Implementation dates ⁱⁱⁱ	Total benefit in 2050 by company (MI/d)
	WR502a+W R502c	Permanent network sensors	21	2025-2100	
	WR524c	Upstream tile optimisation	3	2025-2100	
	WR516a1+W R516h1+WR 516h2	Mains rehabilitation, renewal or replacement	101	2025-2100	
	WR511c	Pressure management	0.5	2045-2100	
	WR520a	District Metered Area optimisation	0.2	2041-2100	
	WR510	In-pipe repairs and lining technologies	4		
		Metering-customer demand saving	59	2025-2100	
Welsh Water		Water efficiency customer education / awareness – company led intervention	21	2041-2100	92
		Active leakage control	12	2025-2100	

Table E.2. Benefit arising from the Government’s introduction of water labelling^{iv} by water company

Water Company	Option ID	Option Name	Water saving benefit in 2050 (MI/d)
Hafren Dyfrdwy	539	Government intervention (water labelling)	2
Severn Trent	N/A		161
South Staffs Water	N/A		20
United Utilities	WR694d+WR694e+WR694f		82
Welsh Water	N/A		12
Total water labelling benefit across region			278

^{iv} Water labelling benefits do not include benefits from the introduction of minimum standards as part of Building Regulations.

Table E.3. Supply options (including transfers) selected in Water Resources West's draft best value plan^v

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
Severn Trent	Kinsall	101	Kinsall additional resource (United Utilities import)	1	2062	0	0	0.35 surplus
	Mardy	103	Mardy support link	1	2035	3	3	0.44 surplus
	Ruyton	105	Ruyton support link	1	2050	1	0	1 surplus
	Stafford	44	New river Sow abstraction and water treatment works near Stafford	23	2045	23	12	11 surplus
	Strategic Grid	303A	North West Transfer: Vyrnwy	68	2030	121	0	149 surplus
		66	Strensham water treatment works expansion	15	2030			
		434	Trimpley water treatment works deployable output recovery	4	2030			
		435	Whitacre water treatment works deployable output recovery	4	2030			

^v Large surplus figures in the Strategic Grid and Nottinghamshire occur due to the way Severn Trent has accounted for the impact of water labelling (i.e. assuming the benefits of the intervention will be seen later in the planning horizon), which then offset deficits beyond 2050.

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
		29	Homesford water treatment works capacity increase	5	2030			
		426	Little Eaton water treatment works deployable output recovery	5	2030			
		122A	Draycote Reservoir expansion (6%)	9	2030			
		169	Terminate raw water export to Yorkshire Water	35	2035			
		95B	Ogston water treatment works expansion	15	2045			
		6	Upper Derwent Valley reservoir expansion (UDVRE)	60	2050			
		190	Eyebrook Reservoir and new water treatment works	18	2050			
		84A	Standofrd minor dam expansion	3	2050			
		84B	Lower Shustoke minor dam expansion	3	2050			
		84C	Whitacre minor dam expansion	3	2050			

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
		423	Draycote deployable output recovery	4	2050			
		64	Rehabilitation Milton groundwater source	4.5	2050			
		528	New groundwater source Soar - Permian Sandstone near Coalville	5	2050			
		557	Oldbury to Meriden capacity increase	15	2050			
		31C	East Midlands raw water storage (CQ)	24	2050			
		134A	Blackbrook reservoir to Cropston water treatment works	8	2059			
		420	Campion Hills water treatment works deployable output recovery	2	2058			
		31D	East Midlands raw water storage (CHQ)	45	2060			
		187C	Expand Carsington reservoir (25000 MI)	110	2067			

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
	Shelton	33Z	Shelton water treatment works expansion	12	2030	82	57	20 surplus
		301B	United Utilities import from Llanforda to Shelton (large)	25	2040			
		143	West Midlands raw water storage	33	2050			
		309Z	Transfer from Hampton Loade water treatment works to Nurton service reservoir (small)	12	2050			
	Nottinghamshire	305	Heathy Lea to North Notts transfer	30	2030	90	67	23 surplus
		304	Ambergate to Mid Notts transfer	30	2050			
		406	New abstraction and water treatment works on river Trent	30	2050			
	North Staffs	128	Carsington to Tittesworth main (large)	30	2030	90	80	10 surplus
		128Z	Carsington to Tittesworth main (small)	14	2050			

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
		22	Recommission Elmhurst groundwater source	2	2050	16	4	12 surplus
		117	Peckforton bulk import from United Utilities	5	2050			
		523	United Utilities Mow Cop borehole treated water import	2	2050			
		552	United Utilities Bearstone treated water import	1	2050			
		123B	Raise dam at Tittesworth reservoir (25%)	14	2050			
		58	River Weaver to new water treatment works at Stoke	20	2050			
	Wolverhampton	79A	Wolverhampton-Birmingham strategic link main (large)	30	2050			
United Utilities	Strategic	WE015	New surface water (River Irwell)	27	2031	111	0	201 surplus
		WR111	Groundwater enhancement (Woodford)	2	2031			

Water Company	Zone	Option ID	Option Name	Option Benefit (Water Available for Use on full implementation) (MI/d)	Operational date	Total benefit in WRZ by 2050-51 (MI/d)	Baseline deficit in WRZ by 2050-51 (MI/d)	Residual deficit or surplus in final plan (MI/d)
		WR113	Groundwater enhancement (Tytherington)	2	2031			
		WR149	Increased Treatment capacity (Wigan)	7	2031			
		STTA4	Northwest Transfer (Vyrnwy)	0 ^{vi}	2031			
		WR076	New surface water (River Bollin)	16	2041			
		WR107a2	Groundwater enhancement (Aughton Park)	5	2060			
		WR049d	New surface water (River Ribble)	22	2060			
Welsh Water	SEWCUS	WRMP24-SEW166	SEWCUS network upgrade	21	2027	32	0	60 surplus
		WRMP24-SEW168	Llwynon gravity	9	2027			

^{vi} Vyrnwy enabling works to facilitate bulk transfer of surface water for external trade so no WAFU benefit to United Utilities Water.

Table E.4. Water Resources South East- Water Resources West updated baseline reconciliation position

Transfer Option Selection	Vol (MI/d)	Date
GUC supported by Minworth WWTW effluent	50	2031
GUC supported by Minworth WWTW effluent (additional amount)	50	2040
STT supported by Netheridge	35	2050
STT supported by North West Transfer (Vyrnwy reservoir)	135	2060



