



Water Resource Management Plan 2029 SEA Scoping Report

Thames Water
September 2026

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Glossary of Acronyms

Acronym	Definition
AA	Appropriate Assessment
ALS	Abstraction Licensing Strategies
AMWB	Artificially Modified Water Bodies
AMP	Asset Management Period
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
BESP	Best Environmental and Societal Plan
BNG	Biodiversity Net Gain
BVP	Best Value Plan
CaBA	Catchment-Based Approach
CAMS	Catchment Abstraction Management Strategy
CDRC	Consumer Data Research Centre
CFMP	Catchment Flood Management Plans
cSAC	Candidate Special Areas of Conservation
DEFRA	Department for Environment Food and Rural Affairs
DLA	Data Landing Platform
DWI	Drinking Water Inspectorate
DWSZ	Drinking Water Safeguard Zones
EA	Environment Agency
FRA	Flood Risk Area
FRMP	Flood Risk Management Plans
GB NNSS	GB Non-Native Species Secretariat
GCS	Good Chemical Status
GEP	Good Ecological Potential
GES	Good Ecological Status
GHG	Greenhouse Gas
GVA	Gross Value Added
GWDTE	Groundwater Dependent Terrestrial Ecosystems
HGV	Heavy Goods Vehicle
HMWB	Heavily Modified Water Bodies
HRA	Habitat Regulations Assessment
INNS	Invasive Non-Native Species
IPENS	Improvement programme for England's Natura 2000 sites
IROPI	Imperative Reasons of Overriding Public Interest
IVM	Investment Model
JNCC	Joint Nature Conservation Committee
LCA	Landscape Character Assessment
LCP	Least Cost Plan
LGV	Large Goods Vehicle
LLFA	Lead Local Flood Authorities
LNPs	Local Nature Partnerships
LNR	Local Nature Reserves
LNRS	Local Nature Recovery Strategies
LSE	Likely Significant Effects

NC	Natural Capital
NCA	National Character Areas
NCIP	Natural Capital Improvement Plans
NE	Natural England
NHS	National Healthcare Service
NNR	National Nature Reserves
MCZ	Marine Conservation Zones
MPA	Marine Plan Area
Ofwat	Water Services Regulation Authority
ONS	Office for National Statistics
PLA	Port of London Authority
PM	Particulate Matter
PPPs	Policies, Plans, Programmes
pSPA	Potential Special Protection Areas
SAI-RAT	SRO Aquatic INNS Risk Assessment Tool
SEWPAG	South East Waste Planning Advisory Group
SIPs	Site Improvement Plans
SMP	Shoreline Management Plans
SPZ	Source Protection Zones
SSSI	Site of Special Scientific Interest
RAG	Red Amber Green
RAPID	Regulators Alliance for Progressing Infrastructure Development
RBD	River Basin District
RBMP	River Basin Management Plans
RP	Regional Plan
RSPB	Royal Society for the Protection of Birds
RWT	Raw Water Transfers
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Areas
SRO	Strategic Resource Option
SWA	Slough, Wycombe and Aylesbury
SWOX	Swindon and Oxfordshire
UKCP	UK Climate Projections
UKWIR	UK Water Industry Research
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WER	Water Environment Regulations
WFD	Water Framework Directive
WINEP	Water Industry National Environment Programme
WISER	Water Industry Strategic Environmental Requirements
WRMP	Water Resource Management Plan
WRPG	Water Resource Planning Guidance
WRSE	Water Resources South East
WRZ	Water Resource Zones

1. Introduction

This Strategic Environmental Assessment (SEA) Scoping Report sets out Thames Water Utilities Limited's proposed approach for assessing the likely environmental effects of our forthcoming Water Resource Management Plan 2029 (WRMP29).

The aim of this scoping exercise is to set out the context to our WRMP29 SEA through environmental baseline and Plans, Policies and Programmes (PPPs) reviews, leading to the identification of key issues, implications and opportunities to inform the SEA objectives and the assessment framework.

The SEA of our WRMP29 is prepared to ensure alignment with the Environmental Assessment of Plans and Programmes Regulations 2004¹, the Water Resources Planning Guideline (WRPG)², and wider environmental legislation. Our Scoping Report builds upon the regional evidence, baseline, environmental issues and assessment framework established in Water Resources South East (WRSE) Regional Plan (RP29) SEA Scoping Report, while refining and supplementing these to reflect our specific supply region, water resource options and local environmental receptors.

We are required to prepare and maintain our WRMP under the provisions of the Water Industry Act 1991 (as amended by the Water Act 2003). WRMPs set out how a water company will balance the supply of and demand for water and demonstrate how they will maintain secure and sustainable water supplies while protecting and enhancing the environment. Our most recent statutory plan, WRMP24³, was approved by the Government in 2024. WRMPs are updated in full every 5 years, with annual reviews.

WRMP29 is being developed in alignment with the WRSE RP29. WRSE brings together the six water companies operating across the South East of England. Through WRSE, we and the other regional companies work collaboratively to assess future water needs, identify supply-demand solutions and develop a coordinated, resilient water resources strategy across the region. The plan will cover a 50-year planning period, 2030-2080.

Consultation on this Scoping Report is aimed at ensuring that the SEA will be comprehensive and robust in supporting the emerging WRMP29 by gathering early views on how the SEA should be developed. Consultation questions are provided to guide your review at the end of each relevant chapter.

We note that wider discussions on the drivers of the WRMP29 or potential solutions within are planned to occur as part of the pre-consultation on the WRMP29 in 2026 and 2027, in advance

¹ UK Government (2004) The Environmental Assessment of Plans and Programmes Regulations 2004. Available: <https://www.legislation.gov.uk/uksi/2004/1633/contents>

² Environment Agency (2026) Water resources planning guideline. Available: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

³ Thames Water, Water Resources Management Plan 2024. Available: [Water resources](#) | [Regulation](#) | [About us](#) | [Thames Water](#)

of the public consultation on WRMP29 and the SEA Environmental Report planned from March to May 2028.

Our scoping report is structured as follows:

- Background and Context (Chapter 2).
- Overview and key facts of the WRMP29, including its rationale and the geographic and temporal scope of the plan (Chapter 3).
- Overview of SEA screening and scoping process (Chapter 4).
- The relationship between the WRMP29 and other plans, policies and legislation (Chapter 5).
- The baseline conditions for the Thames Water region (Chapter 6)
- Key issues arising from WRMP29 in the Thames Water region, identifying implications and opportunities for the WRMP29 and the SEA (Chapter 7).
- A series of SEA objectives and the framework for appraising likely significant effects arising from the WRMP29 (Chapter 8).
- Information on the development of alternatives (Chapter 9).
- SEA assessment methodology to be applied, including methodologies for Habitats Regulations Assessment (HRA), Water Framework Directive (WFD), Invasive Non-Native Species (INNS), Natural Capital (NC) and Biodiversity Net Gain (BNG) (Chapter 10); and
- Next steps in the environmental assessment process (Chapter 11).

2. Background & Context

2.1. Thames Water

We are the largest water and wastewater services company in the UK, providing approximately 16 million customers. Our water supply region extends approximately 13,000km² and covers one of the most densely populated areas of the country, including Greater London and parts of Berkshire, Buckinghamshire, Gloucestershire, Kent, Oxfordshire, Surrey, Wiltshire and Essex.

Our water supplies are derived from a mix of surface water sources (mostly from large storage reservoirs supplied from the River Thames and River Lee) and groundwater sources. We also have a desalination water treatment works on the River Thames (Tideway) that can supplement water supplies at times of high demand and/or during drought conditions.

The South East of England faces significant and increasing pressures on water resources being one of the driest regions in the UK, with water availability challenged by the growth agenda, climate change, environmental protection requirements and the requirement to increase levels of drought resilience. We have identified the need to adapt our water supply system to ensure long-term resilience while reducing pressures on rivers, groundwater bodies and other environmental receptors.

We are now developing the next WRMP. Building on the evidence base established through WRMP24 and the WRSE's RP29, WRMP29 will identify the combination of demand management measures, leakage reduction initiatives, water resource development options and water transfers required to ensure resilience to future challenges.

Our WRMP29 is being developed in accordance with the Environment Agency/Ofwat Water/Natural Resource Wales' Resources Planning Guideline (WRPG), broader government policy and relevant legislation, as outlined in Table 1 and will be the subject of consultation with regulators, stakeholders and the public before being approved by the UK Government.

Table 1 - WRMP29 Regulations, Drivers, Informants and Guidance

Category	Regulations, Drivers, Informants and Guidance
Core WRMP guidance	Water Resources Planning Guideline 2026 ⁴
Statutory Directions	Defra WRMP Directions 2022 ⁵ Error! Bookmark not defined.
National strategy	National Framework for Water Resources 2025 ⁶

⁴ Environment Agency (2026) Water resources planning guideline. Available: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

⁵ Environment Agency (2026) Water resources planning guideline. Available: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

⁶ Environment Agency (2025) National Framework for Water Resources 2025: water for growth, nature and a resilient future. Available at: <https://www.gov.uk/government/publications/national-framework-for-water-resources-2025-water-for-growth-nature-and-a-resilient-future>

Environmental requirements	Environmental Destination for Water Resources – Principles and Technical Guidance ⁷
Drought planning	Water Company Drought Plan Guideline 2025 ⁸
Economic regulation	Ofwat PR24 long term delivery strategy guidance ⁹
Regional planning	NFWR 2025 regional planning expectations ¹⁰
Environmental regulations and guidance	Environmental regulations and guidance: SEA ^{11, 12} , HRA ^{13, 14} , WFD ¹⁵ , INNS ¹⁶ , BNG ¹⁷ and NC ¹⁸

To support the development of the WRMP29 and following relevant environmental regulations and guidance, an integrated environmental assessment process will take place which includes the following assessments:

- **Strategic Environmental Assessment (SEA):** A statutory process to assess plans and programmes across a wide range of sectors that are likely to have significant effects on the environment, including WRMPs. It follows a set process as described in Chapter 2.3 and is the main subject of this WRMP29 SEA Scoping Report.

⁷ Environment Agency (2025) Principles for protecting the water environment in water resources planning. Available: <https://assets.publishing.service.gov.uk/media/6881f33d9fab8e2e86160faa/Appendix-D-Environmental-Destination-principles-for-protecting-the-water-environment-in-water-resources-planning.pdf>

⁸ Environment Agency and Department for Environment, Food and Rural Affairs (2025) Water company drought plan guideline, 2025. Available:

<https://www.gov.uk/government/publications/water-company-drought-plan-guideline-2025>

⁹ Ofwat (2022) PR24 and beyond: Final guidance on long-term delivery strategies. Available:

https://www.ofwat.gov.uk/wp-content/uploads/2021/11/PR24-and-beyond-Final-guidance-on-long-term-delivery-strategies_Pr24.pdf

¹⁰ Environmental Agency (2026) Appendix A: regional water resources planning expectations: National Framework for Water Resources 2025. Available: <https://www.gov.uk/government/publications/national-framework-for-water-resources-2025-water-for-growth-nature-and-a-resilient-future/appendix-a-regional-water-resources-planning-expectations-national-framework-for-water-resources-2025>

¹¹ UK Government (2004) The Environmental Assessment of Plans and Programmes Regulations 2004. Available: <https://www.legislation.gov.uk/uksi/2004/1633/contents>

¹² UK Government (2005) A Practical Guide to the Strategic Environmental Assessment Directive. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf

¹³ UK Government (2017) The Conservation of Habitats and Species Regulations 2017. Available: <https://www.legislation.gov.uk/uksi/2017/1012/contents>

¹⁴ Department for Environment, Food and Rural Affairs (2021) Habitats regulations assessments: protecting a European site. Available: <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

¹⁵ UK Government (2017) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Available: <https://www.legislation.gov.uk/uksi/2017/407/contents>

¹⁶ UK Government (2019) The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019. Available: <https://www.legislation.gov.uk/uksi/2019/223/contents>

¹⁷ Department for Environment, Food and Rural Affairs (2023) Biodiversity net gain: guidance for developers, land managers and authorities. Available: <https://www.gov.uk/government/collections/biodiversity-net-gain-guidance-for-developers-land-managers-and-authorities>

¹⁸ Department for Environment, Food and Rural Affairs (2026) Enabling a Natural Capital Approach guidance (accessible). Available: <https://www.gov.uk/government/publications/enabling-a-natural-capital-approach-enca-guidance/enabling-a-natural-capital-approach-guidance>

- **Habitats Regulations Assessment (HRA):** A statutory process to assess whether WRMP29 is likely to have significant effects on European sites, either alone or in combination with other plans or projects, and to determine whether adverse effects on site condition can be ruled out.
- **Water Framework Directive (WFD) Assessment:** An assessment to determine whether WRMP29 complies with Water Framework Directive requirements, including preventing deterioration and supporting the achievement of water body objectives.
- **Biodiversity Net Gain (BNG) Assessment:** An assessment to quantify changes in biodiversity value associated with WRMP29 options, in line with statutory BNG requirements.
- **Natural Capital (NC) Assessment:** An assessment to identify and quantify the impacts of WRMP29 options on natural capital assets and ecosystem services; and
- **Invasive Non-Native Species (INNS) Assessment:** A screening and risk assessment to identify the potential for WRMP29 options to introduce or spread invasive non-native species, and to inform the need for mitigation measures.

All the above assessments are also specific requirements of the WRPG 2026, which outlines guidance for environmental assessment of WRMPs to demonstrate they comply with all relevant statutory environmental requirements and government policy.

Further detail on the integration of SEA with the various other assessments can be found in Chapter 10.5.

2.2 Relationship with Water Resources South East

We are a key partner within WRSE, the regional water resources planning group responsible for developing a long-term strategy to secure water supplies for the future and address the challenges across an area of the South East of England covering approximately 26,400km². The aim of WRSE is to undertake water resource options modelling at a regional scale to explore the potential opportunities for water companies to share water resources within the region. To achieve this, WRSE work collaboratively with the six water companies that make up the WRSE alliance, Thames Water being one of them, to try and overcome the constraints imposed on the distribution of water resources in the region. The overall intent of WRSE is to determine a regional water resources strategy that will inform but not replace the statutory duties of the water companies in the development of their own WRMPs and Business Plans.

The five other water companies are:

- Affinity Water;
- Portsmouth Water;
- South East Water;
- Southern Water; and
- Sutton and East Surrey (SES) Water.

WRSE are producing a Regional Plan (RP29) which will provide a blueprint for water supply investment by WRSE water supply companies, including Thames Water, with a long-term view to 2080, providing a consistent and aligned framework for development of member water companies' WRMP29.

To support the development of RP29, WRSE are undertaking an environmental assessment process which includes SEA, WFD, HRA, NC, BNG and INNS. The RP29 environmental process provides the strategic framework within which we and the other South East water companies

develop their individual WRMPs environmental processes. To ensure consistency and avoid duplication, the environmental assessment processes undertaken at both regional and company levels are closely aligned.

This tiered approach enables environmental effects identified through the WRSE RP29 to be considered and refined at the WRMP29 level, ensuring that strategic decisions remain consistent across planning scales whilst taking account of local environmental sensitivities, statutory requirements and stakeholder priorities. The alignment of regional and company-level assessments thus supports a coordinated approach to water resources planning, facilitates the assessment of shared and inter-regional schemes, and promotes the delivery of environmentally sustainable solutions across the South East.

2.3. The SEA process

SEAs are a systematic way of evaluating the environmental implications of proposed interventions on environmental, social, and economic factors early in the planning process. Their purpose, as defined by the Environmental Assessment of Plans and Programmes Regulations 2004 (as amended) ('the 2004 SEA Regulations'¹⁹) which transpose the requirements of Directive 2001/42/EC²⁰ into UK law) 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 to promoting sustainable development...'

This requires plans and programmes to undergo environmental assessment to determine the likely significant effects on topics such as:

- Air
- Biodiversity, Fauna, Flora
- Climatic factors
- Historic Environment
- Human health
- Landscape
- Material assets
- Soil
- Population
- Water
- As well as the relationship between any of the topics set out above.

The SEA of WRMP29 will involve an iterative process of collecting information, defining alternatives, identifying environmental effects, developing mitigation measures and revising proposals in light of the predicted environmental effects. The intention is that the SEA is fully integrated into the WRMP29 plan-making process from the earliest stages, both informing and being informed by WRMP29 as it develops, to ensure that potential significant effects arising

¹⁹ UK Government (2015) Strategic environmental assessment and sustainability appraisal. Available: <https://www.gov.uk/guidance/strategic-environmental-assessment-and-sustainability-appraisal>

²⁰ European Commission (2004) Strategic Environmental Assessment. Available: https://environment.ec.europa.eu/law-and-governance/environmental-assessments/strategic-environmental-assessment-sea_en

from WRMP29 are identified, assessed, mitigated and communicated to plan-makers. The SEA process includes consultation on the potential effects of a plan with a wide range of stakeholders and identifies and assesses the likely significant environmental effects of a plan or programme, taking account of effects arising both from the plan in isolation and cumulatively with other plans and programmes.

The SEA process will follow current and upcoming guidance on the application of SEA assessment within water resource planning including incorporating best practice within the proposed approach. The current and upcoming guidance documents include:

- Water Resource Planning Guidelines (WRPG), 2026, Environment Agency, Ofwat, Natural Resources Wales
- Strategic environmental assessment and habitats regulations assessment - guidance for water resources management plans and drought plans, 2021, UK Water Industry Research²¹

The Environment Agency's WRPG 2026 is a key document informing the SEA. The latest update introduces refinements to strengthen plan resilience, improve alignment with Environmental Destination guidance, and support greater consistency across water companies. As the guidance continues to evolve, WRMP29 activities will be iteratively reviewed and updated to ensure full alignment with the latest WRPG. In particular, the 'Environment and Society' supplementary guidance (forthcoming at the time of writing) will contain specific guidance on the recommended approach to natural capital assessment for water resource planning. This will be reviewed on release.

There are five stages of SEA preparation as set out below. This report covers Stage A.

- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope;
- Stage B: Developing, refining and appraising strategic options and assessing effects of WRMP29;
- Stage C: Prepare the Environmental Report;
- Stage D: Consulting on the plan and the SEA Environmental Report; and
- Stage E: Monitoring implementation of the plan.

It should be noted that the regional water resources management plans (including WRSE RP29) within the UK are not statutory, with no current legal requirement for the preparation of an SEA at regional level. WRSE are, however, adopting an SEA framework approach to provide a legally and environmentally compliant RP29 framework that can then be utilised by the water companies within the South East region for their WRMP29 process. The WRSE RP29 SEA Scoping Report adopted recommendations from the National Standardised Scoping Feasibility Study, including:

- a) Development of a standardised compliant framework for use by the regional group and water companies,

²¹ UK Water Industry Research (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans. Available: <https://ukwir.org/water-industry-technical-report?object=50c34550-4a58-4f3e-abdb-99aba73618c9>

- b) Application of a joint approach for technical assessments including Water Framework Directive (WFD) and Habitat Regulation Assessment (HRA) for consistency;
- c) Ongoing alignment with stakeholder needs and regulatory requirements; and
- d) Early legal review on proposed approach to confirm the robustness of all environmental assessments associated with the SEA.

An integrated and collaborative approach to the SEA between WRSE and the regional water companies is therefore being followed. WRSE are coordinating the development of a regional SEA framework and will undertake environmental assessment at the regional plan level. WRSE have prepared a regional SEA Scoping Report and will produce an SEA Environmental Report for RP29 while we, as a competent authority under the SEA Regulations, have prepared our own SEA Scoping Report and will produce an SEA Environmental Report for our WRMP29.

2.4. Purpose of the Scoping Report

The scope and context of the SEA (Stage A) of our WRMP29 is detailed in this Scoping Report. It builds on the regional evidence, baseline, environmental issues and assessment framework established in WRSE RP29 SEA Scoping Report²² while refining and supplementing these to reflect our specific supply region, water resource options and local environmental receptors (see Chapters 4, 5, 6, 7 and 8). This helps ensure consistency between regional and company-level planning while providing the additional detail required to assess the environmental effects of the WRMP.

An overarching set of SEA objectives and assessment questions to guide the assessment of RP29 have been developed in the WRSE RP29 SEA Scoping Report. The overarching objectives have been used to inform the SEA framework for WRMP29 for a consistent approach. It is recognised, however, that certain SEA objectives or sub-themes require us to further consider local conditions and designations as well as plan wide considerations rather than just option specific, for example sourcing power from renewables and procuring low/zero carbon emissions construction materials. This detail has been considered at the WRMP29 SEA level through the preparation of this scoping report.

WRSE have already prepared and consulted on the RP29 SEA Scoping Report for a 6 week - period between 04th June and 15th July 2026. We have considered the consultation comments received and sought to address those that specifically pertain to the SEA Stage A Scoping in our Scoping Report. Further detail of where such comments have been incorporated in this report has been set out in Appendix F.

2.5. Scoping consultation process and consultees

The SEA Regulations require that during Stage A (Scoping) of the SEA process, when setting the context and objectives, establishing the baseline and deciding on the scope,

²² [Water Resources South East \(2026\) Strategic Environmental Assessment Scoping Report. Available: wrse.org.uk/media/3pkjnydc/wrse-strategic-environmental-assessment-scoping-report-june-2026.pdf](https://wrse.org.uk/media/3pkjnydc/wrse-strategic-environmental-assessment-scoping-report-june-2026.pdf)

'The responsible authority shall consult the consultation bodies on the scope and level of detail of the information which must be included in the environmental report'²³

We are consulting on this Scoping Report to ensure that the SEA will be comprehensive and robust in supporting the emerging WRMP29 through:

- Gathering and understanding stakeholders' views on the environmental challenges the Thames Water's plan region faces and reflect as such within WRMP29.
- Building relationships with key environmental stakeholders and increasing their understanding of, and involvement in, the SEA process.
- Early engagement with regulators on components of the best practice technical methodology for application to WRMP29 process.

The SEA Scoping Report will be issued for a formal five-week consultation period from 21st September until 26th October to statutory consultees in England and Wales²⁴ (The Environment Agency, Natural England, Historic England, Natural Resource Wales, Welsh Ministers and Cadw). Noting that the list below is not exhaustive, the following categories of key stakeholders in our region will also be consulted on our SEA Scoping Report:

- Water regulators
- Rivers trusts
- Canal trusts
- Local councils & Greater London Authority
- Catchment partnerships
- Community interest groups
- Market operators
- Advisory groups
- User groups

The report will also be made available to wider stakeholders via a dedicated Thames Water webpage.

Comments are being sought on how the evidence-gathering and proposed approaches could be improved or clarified. The following questions may assist consultees in making responses:

1. Are there any additional plans, policies or programmes at the international, national, regional or local level which are not included in the plans policies and programmes review, which your organisation considers are relevant to the Thames Water WRMP29?
2. Do you have any comments or additions to the baseline information presented that you think should be considered?

²³ UK Government (2005) A Practical Guide to the Strategic Environmental Assessment Directive. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf

²⁴ In-line with the SEA Regulations, these consultation bodies were selected because 'by reason of their specific environmental responsibilities, [they] are likely to be concerned by the environmental effects of implementing plans and programmes'.

3. Do you have any comments on the key issues, implications and opportunities identified?
4. Do you have any comments on the proposed SEA Objectives and Assessment Questions?
5. Do you have any comments on the SEA Objectives scoring criteria which will be used to complete the assessment?
6. Do you have any feedback on the proposed assessment approach and the format of the Level 1 and Level 2 assessments?
7. Do you have any other comments on the scoping report?

Note these questions have also been replicated at the end of each relevant chapter in this report as an aide-mémoire. You can respond to the questions via email at: waterresources@thameswater.co.uk.

Following the close of the scoping consultation stage, all consultation responses will be reviewed carefully and responded to. Details on how the scoping stage consultation feedback has been taken into account will be presented in the SEA Environmental Report.

Further still, the comments received on this scoping exercise will be provided to WRSE to inform the regional process and ensure a consistent approach across the region.

3. Description and Context of WRMP29

3.1. Objectives

Our WRMP29's objectives are detailed below:

- Deliver a secure and wholesome supply of water to customers and other sectors
- Deliver environmental improvement and social benefit
- Increase the resilience of the region's water systems
- Be deliverable at a cost that is acceptable to customers

WRMPs have a statutory minimum planning period of 25 years, but given the scale of the challenges faced in the South East and the complexity of potential solutions, we will plan for a minimum of 50 years.

3.2. Challenges

The main challenges to future security of supply in our region come from:

- Increased demand for water due to housing and population growth and from non-household need.
- Climate change both reducing supplies and increasing demands.
- Increased levels of service for drought resilience. Making the region's water supply resilient to a 1:500 year drought.
- Improving river flows and preventing deterioration of our waterbodies which may require a fundamental shift in where we get our water from (see environmental destination, below).

Demand and supply forecasts will be completed for all water resource zones in the region.

3.3. Environmental destination

The term environmental destination was introduced into the development of WRMPs during the last cycle of water resource planning, WRMP24, by the Environment Agency's Water Resources National Framework. The Environmental Destination is the quantification of changes to current and future abstractions needed to meet environmental requirements. The term refers to the consideration of actions to build environmental resilience to future challenges, for example, to drought, flooding, raw water quality decline, impact from invasive non-native species, land use change, and impacts from run off. Development of the Environmental Destination is undertaken by:

- Defining the long-term environmental outcomes to ensure abstraction is environmentally sustainable, taking into account current abstractions and future pressures.
- Calculating where abstraction may need to be reduced, as well as by how much, to allow for environmentally sustainable abstraction.

Our WRMP29 Environmental Destination will be supported by the environmental assessment process, with assessment informing the long-term resilience of WRMP29 and wider RP29. At the regional plan level, this includes using the SEA and associated assessment processes to inform the development and appraisal of options and programmes, test reasonable alternatives, and consider cumulative and in-combination effects. The findings of these assessments will help ensure that both WRSE RP29 and our WRMP29 are resilient to current and future environmental

requirements, including those reflected in the environmental destination, and that it supports environmentally sustainable abstraction and supply strategies.

3.4. Option types

Our plan will include demand-side options, supply-side options (including strategic resource options and drought management options), WINEP options and catchment management options, as outlined further below. Options will continue to be developed and refined iteratively as development of WRMP29 and RP29 progresses.

Demand management options

Demand management is considered at two key levels: policy decisions around the scale of demand management; and the development of a portfolio of options that reduce demand.

Our demand management measures include leakage reduction, water metering and water efficiency measures.

Supply-side options

Thames Water's supply side options include (for example):

- Reservoirs (new and expansions)
- Aquifer storage and recovery
- New groundwater sources
- Changes to existing groundwater sources
- Third party options
- New surface water sources
- Changes to existing surface water sources
- Internal transfer
- External transfer
- Network improvement
- New treatment works
- Upgrades to existing treatment works
- Desalination
- Water recycling

Strategic resource options

Our option list includes a range of Strategic Resource Options (SROs), which are significant strategic options spanning across multiple water companies. The principal SROs currently being progressed include the White Horse Reservoir (formerly the South East Strategic Reservoir Option, SESRO) in Oxfordshire, the Teddington Direct River Abstraction (TDRA) scheme to improve drought resilience in London, and a number of water transfer schemes designed to move water between regions and increase system resilience. The results of any environmental assessments undertaken for the SROs for their enhanced regulatory submissions will be considered within the RP29 and WRMP29 SEA processes.

Drought management options

Drought management options, including temporary supply, demand or operational measures implemented during drought conditions, will also be considered where relevant. While these options form part of our statutory Drought Plans, they may have implications for the environment

and will therefore be considered as part of the wider environmental assessment where appropriate.

WINEP options

The Water Industry National Environment Programme (WINEP) options are environmental improvement schemes that ensure water companies meet European and national targets related to water. The WINEP process is an ongoing process which sits outside of the WRMP. The WINEP process involves investigations into specific abstractions and their consequences for the environment due to effects on surface or groundwater. Each WINEP investigation seeks to identify opportunities to improve the affected environment and has its own processes and approach that sit outside the WRMP plan-making process. However, details of the WINEP options that will be taken forward and implemented by us between 2030 and 2035 are included, reported and costed for within WRMP29. As such, the options selected for delivery by the WINEP process will be included as 'WINEP options' and will be assessed within the SEA.

Catchment management options

In addition to WINEP schemes that are committed by us for delivery within the 2030 to 2035 period, the Regional WINEP process will also identify potential wider catchment management options. These options are not necessarily committed for delivery within the plan period but will form part of the feasible options set for RP29, for consideration as part of the Regional Plan. Catchment management options include a range of nature based and land management measures that support water resources resilience and environmental objectives. Examples of such options include river restoration, wetland creation and enhancement, pesticide reduction, terrestrial habitat creation and management and natural flood management. Regional catchment management options will be assessed within the SEA.

3.5. WRSE Regional Investment Model

The WRSE investment model will be used to inform the selection and development of the options that form the Best Value Plan (BVP) for the region. The BVP is the preferred plan that delivers the greatest overall benefit, rather than simply the lowest cost. In line with the WRPG, it considers environmental, social and long-term resilience factors as well as economic costs. The WRSE investment model will consider three programmes of options, in line with WRPG requirements:

- Best Value Plan (BVP);
- Least Cost Plan (LCP); and
- Best Environmental and Societal Plan (BESP).

For further details see Chapter 10.

3.6. Adaptive pathways

A key objective of our WRMP29 plan making process is to prepare a plan which is adaptable to change and can respond to changes in circumstances. WRMP29 will be developed using an adaptive pathways approach; this is done to reflect that there is significant uncertainty over future conditions, including population growth, water demand, climate change and environmental requirements in our region. The purpose of the adaptive pathways is to enable WRMP29 to remain flexible and robust under a range of future scenarios.

The main differences between the adaptive pathways will be the level and rate of future growth, the severity of climate change impacts, and the extent of environmental requirements, including various assumptions about environmental destination and abstraction licence reductions. Pathways may also reflect different levels of demand management ambition and reliance on supply side interventions.

Our WRMP29 adaptive plan will include key elements of:

- A preferred set of pathways that show the preferred options that we may develop in response to changing conditions.
- The short-term actions and the longer-term investments.
- Any preparatory actions that need take place now and going forwards to allow longer term options to remain open to use.
- A monitoring plan that identifies how we will track the situation, and what will trigger the transition to a different pathway.

The nine variations of our BVP will include different options being delivered in different years for each situation/pathway.

4. Approach to SEA

4.1. Introduction

This Chapter describes the SEA Screening exercise that has been undertaken to determine whether a SEA of the WRMP is required (Section 4.2). It also outlines the staged approach applied to Stage A scoping the SEA of the WRMP29 and sets out the geographical, temporal and technical scope of the SEA (Section 4.3). Chapters 5, 6, 7 and 8 present the results of the key scoping tasks as described in Section 4.3 below.

Known details of the regional and company integrated assessment methodologies that will be applied for Stage B of the SEA are presented in Chapters 9 and 10 and the next steps of the SEA in Chapter 11.

4.2. SEA Screening

We have reviewed WRMP29 proposals and undertaken a screening exercise to determine whether a SEA is required as per the screening requirements set out in the SEA Regulations 2005 and the decision tree in Section 3.2.1 of the UK Water Industry Research (UKWIR) report 'Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans'. The screening exercise (presented in Appendix E) concluded that an SEA is required for our plan.

4.3. SEA Scoping

It is important to emphasise that our plan is strategic in nature, with this reflected in the SEA scope. As such, the focus of our SEA is on significant issues²⁵ related to our proposed plan, as defined in the latest guidance from the Institute of Sustainability & Environment Professionals²⁶.

Specifically, the SEA scoping stage aims to:

- Review relevant International, European, National, and local policies, plans and programmes and their implications for the Thames Water WRMP29 (see Chapter 5);
- Establish the baseline environmental and socio-economic information and key sustainability issues, implications and opportunities for the Thames Water plan region (see Chapters 6 and 7);
- Decide on the scope for the SEA, ensuring that it covers all the likely significant environmental effects of our WRMP29 (see Chapter 8);
- Set the context and objectives of the SEA for WRMP29 to cover not only negative effects and mitigation but also improve the plan performance from an environmental/sustainability perspective (see Chapters 7 and 8); and
- Provide an opportunity to engage and collaborate with the Consultation Bodies and wider stakeholders (the consultation on this Scoping Report).

The geographical and temporal scope of the SEA

²⁵ Criteria for determining likely significant effects are set out in the SEA Regulations (schedule 1) and reflect the characteristics of the plan, effects, and area likely affected

²⁶ Institute of Sustainability and Environmental Professionals (2026). Available: <https://www.isepglobal.org/resources/blogs/2026/february/new-strategic-assessment-guide-practical-advice-for-modern-practitioners/>

Thames Water is made up of six Water Resource Zones (WRZs). WRZs are areas within which the sources of water and distribution of water to meet demand are largely self-contained. The WRZs are shown in Figure 4-1, and include:

- Guildford WRZ;
- Henley WRZ;
- Kennet Valley WRZ;
- London WRZ;
- Slough Wycombe Aylesbury (SWA) WRZ; and
- Swindon and Oxfordshire (SWOX) WRZ.



Figure 1 - Thames Water supply area and Water Resources Zones

All our geographical areas (as shown in Figure 1) have been scoped into this SEA. Where necessary, the SEA will also consider the influence of options and/or programmes from outside our plan boundary, which interface with our WRMP29 areas. Conversely, the SEA will also consider the influence of options and/or pathways from inside our plan boundary, which interface with other water company WRMP29 geographical areas. It is also noted that all WRZs for all water companies within the WRSE region have been scoped into the RP29 SEA, due to the Regional Plan requiring supply-demand forecasts to be produced for all WRZs.

The temporal scope of the SEA has been aligned with the temporal scope of WRMP29. We plan not only to maintain the balance between supply and demand for water for the statutory planning period for 25 years (2030-2055) but will go beyond this to 2080. This will enable us to ensure a secure and sustainable supply of water to the supply area in the long term. This is the

same temporal scale as for the RP29 SEA. Given the long planning period, there is a significant level of uncertainty as to how the environmental and social baseline, or wider policy context, will evolve. It is important to remember that we are required by law to produce a WRMP every five years. As a result, proposed schemes occurring later in the planning period will be subject to more detailed assessment with increased certainty and consultation with stakeholders as part of the subsequent WRMP production cycles and options refinement.

The technical scope of the SEA

Our SEA covers the full range of topics (and interrelationships between them) associated with the SEA Regulations which require that the likely significant effects on the environment are assessed, as follows:

- Biodiversity;
- Population;
- Human health (covering noise, vibration and light issues among other effects on local communities and public health);
- Fauna and flora;
- Soil;
- Water;
- Air
- Climatic factors (covering GHG emissions and adaptation to climate change);
- Material assets (covering infrastructure, waste and other assets);
- Cultural heritage (including architectural and archaeological heritage); and
- Landscape.

PPPs, baseline, and key issues, implications and opportunities have been reviewed in Chapters 5, 6 and 7 against the WRSE RP29 SEA Scoping Report, and subsequent consultation feedback, to confirm the inclusion of the full range of SEA topics within the WRMP29 SEA Scoping Report. It was determined that all SEA topics are scoped into the assessment, due to the nature of the plan, its potential environmental effects and the characteristics of the plan area.

4.4 Limitations to approach

The environmental baseline presented in this Scoping Report has largely been compiled using publicly available information sources, including published datasets, plans, programmes, and reports available at the time of assessment. While these sources are considered appropriate for strategic-level assessment, there are limitations relating to the availability, consistency, resolution, and currency of data across the study area.

The overarching limitations include the availability of future social and environmental baselines, as projections in population and housing forecasts rarely go beyond a 40-year time horizon, whilst the scope of WRMP29 reaches 2080. In addition, the SEA study area for our region covers a large, and diverse geographical and political region, providing a challenge in establishing sub-regional baselines. There are also challenges regarding extrapolation of data, with differing spatial resolutions and timestamps of data collection varying across datasets. As a result, the environmental baseline summarised in this report is the best possible high-level review of conditions within the area given the limitations noted.

By seeking early comments, the scoping consultation process aims to minimise any identified gaps in information (which will be addressed in preparation for the assessment of WRMP29) to ensure all potential environmental effects have been considered against a sound and representative understanding of the baseline conditions and their evolution, as far as possible.

5. Relationship with other Policies, Plans and Programs

The SEA Regulations require:

‘An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes.’

‘The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any considerations have been taken into account during its preparation.’

SEA Regulations Schedule 2 paragraphs (1) and (5).

5.1. Policies, plans and programmes review

Our WRMP29 should support current, relevant PPPs and environmental protection legislation at international, national and local level.

A comprehensive review of relevant international, national and regional PPPs was undertaken as part of the WRSE RP29 SEA Scoping Report. Consequently, this Scoping Report focuses on PPPs that are particularly relevant to our operating area and the environmental, social and economic characteristics of the local area and any additional themes that arise out of this tailored review. This approach recognises that local policy priorities, environmental sensitivities and sustainability issues may not be fully captured at the regional level and may require specific consideration within the SEA framework. By considering local plans and policies, the assessment can better reflect area-specific issues and ensure that the SEA objectives, assessment questions and assessment criteria are appropriately tailored to the receiving environment.

This Scoping Report also considers national and regional PPPs which have been identified as missing from the RP29 SEA Scoping Report during the scoping consultation and notes any additional themes.

All PPPs which have been considered in the review for our WRMP29 are summarised in Appendix A and listed below. References to all PPPs are provided in Appendix A.

National and regional PPPs

The national PPPs are:

- Planning and Infrastructure Act 2025
- Water (Special Measures) Act 2025
- A New Vision for Water White Paper 2026
- New Towns Draft Programme 2026
- Salmon Five Point Action Plan
- Oxford Cambridge Growth Corridor Opportunities Investment Prospectus Policy Paper 2025
- The Wildlife and Countryside Act 1981
- The Natural Environment and Rural Communities Act 2006
- The Levelling -Up and Regeneration Act 2023
- Plan for Water: Our Integrated Plan for Delivering Clean and Plentiful Water 2023

- Land Use Framework 2026
- Green Infrastructure Framework 2023
- National Standard for Sustainable Urban Drainage Systems 2025
- Management plans for Protected Landscapes in England 2025
- Protected Site Strategies Advisory Guidance 2025
- National Planning Policy Framework update 2026

Local PPPs

- Local Nature Recovery Strategies 2023
- Catchment Management Plans
- River Basin Management Plans (2021-2027) (as updated in 2022)
- Catchment Abstraction Management Strategies (CAMS)
- Site Improvement Plans: London & South East (SACs, SPAs, Ramsar Sites)
- Landscape Character Assessments (LCAs)
- Designated Landscape Management Plans
- Flood Risk Management Plans 2021 to 2027
- Shoreline Management Plans
- Green Infrastructure Strategies
- South East Inshore Marine Plan (2021)
- River restoration plans for SSSI Rivers (where relevant)
- Natural capital improvement plans by Local Nature Partnerships (where relevant)
- Catchment Flood Management Plans (CFMPs) Defra and Environment Agency
- South Downs National Park Partnership Management Plan 2026-2031
- Thames Landscape Strategy, 2012, Our Guidance Document: The Thames Landscape Strategy Review 2012
- Thames Abstraction Licensing Strategy (ALS), Environment Agency 2004 (updated 2019):
- Local Development Plans
- Local Biodiversity Action Plans
- Local Flood Risk Management Strategies

The following 76 Local Authorities (LAs) have been identified to intersect our Region, each with their set of local PPPs:

- | | | |
|---------------------|-------------------------|--------------------------|
| • Swindon | • Bracknell Forest | • West Berkshire |
| • Reading | • Slough | • Windsor and Maidenhead |
| • Wokingham | • Wiltshire | • Central Bedfordshire |
| • Buckinghamshire | • West Northamptonshire | • Epping Forest |
| • Cheltenham | • Cotswolds | • Stroud |
| • Tewkesbury | • Basingstoke and Deane | • Hart |
| • Test Valley | • Broxbourne | • Dacorum |
| • Hertsmere | • Dartford | • Gravesham |
| • Sevenoaks | • Cherwell | • Oxford |
| • South Oxfordshire | • Vale of White Horse | • West Oxfordshire |
| • Elmbridge | • Epsom and Ewell | • Guildford |
| • Mole Valley | • Reigate and Banstead | • Spelthorne |
| • Tandridge | • Waverly | • Woking |
| • Stratford-on-Avon | • Chichester | • Horsham |

- Wychavon
- City of London
- Bexley
- Camden
- Enfield
- Hammersmith and Fulham
- Hounslow
- Kingston upon Thames
- Merton
- Richmond upon Thames
- Tower Hamlets
- Westminster
- Welwyn Hatfield
- Barking and Dagenham
- Brent
- Croydon
- Greenwich
- Haringey
- Islington
- Lambeth
- Newham
- Southwark
- Waltham Forest
- East Hertfordshire
- Barnet
- Bromley
- Ealing
- Hackney
- Hillingdon
- Kensington and Chelsea
- Lewisham
- Redbridge
- Sutton
- Wandsworth

A review was also undertaken of our own corporate policies:

- Thames Water's Sustainability Policy (under review)
- Thames Water Environment Policy (under review)
- Thames Water Annual Report: Transforming for a resilient future
- Thames Water Biodiversity and Heritage Policy (under review)
- Thames Water Climate Change Policy (under review)
- Thames Water Energy Policy (under review)
- Thames Water Public Value Policy (under review)
- Thames Water Sustainability Report and ESG Statement 2025/6: Sustaining Life, Shaping Tomorrow

5.2 Key themes from the Plans, Programmes and Policies Review

The review has identified a consistent set of themes, messages and objectives that are considered directly relevant to our WRMP29. These themes provide the strategic policy context against which our WRMP and its reasonable alternatives will be developed and assessed. The key themes are summarised below:

Biodiversity, flora and Fauna

The WRSE RP29 SEA Scoping Report identified the following key themes:

- Protect and enhance biodiversity, flora and fauna, and their habitats, including designated and non-designated sites, and support the delivery of nature recovery at local, catchment and regional scales.
- Conserve and wisely use wetlands and water-dependent habitats, recognising their importance for biodiversity, flood risk management, water quality and climate change adaptation.
- Protect wild birds and their habitats, particularly those afforded statutory protection.
- Halt biodiversity loss and deliver measurable environmental enhancement, including the delivery of biodiversity net gain and wider natural capital benefits where applicable.
- Create, protect and enhance green and blue infrastructure, supporting ecosystem services landscape connectivity and community wellbeing.

Our broadly review supports the themes identified above and identified further themes associated with candidate and potential sites, chalk streams, endangered and important species and habitats, nature recovery, ecological networks, habitats fragmentation and invasive non-native species as follows:

- Protect and enhance biodiversity, flora and fauna, and their habitats **in candidate and potential sites** for nature conservation.
- Protect, restore and enhance chalk streams, groundwater-dependent ecosystems and associated river habitats, ensuring sustainable abstraction, improved river flows, enhanced water quality and increased resilience to climate change and drought.
- Protection of Protected Species, Priority Species and Priority Habitats.
- Protect and enhance endangered or important species and habitats, including those considered irreplaceable such as Ancient Woodland and Ancient and Veteran trees.
- Protect, maintain and where possible enhance ecological networks, to avoid fragmentation and isolation of networks.
- Create, protect and enhance green and blue infrastructure **and access to it**, supporting ecosystem services, landscape connectivity and community wellbeing.
- Support ecosystem resilience to climate change and human-related disturbances
- Address the problem of Invasive and Non-Native Species, including eradication and prevention of spread.
- Support Local Nature Recovery Strategies

Soil

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Protect best and most versatile soils and agricultural land, supporting food security and sustainable land management.

Our review broadly supports the theme identified above and identifies further themes associated with soil protection, BMV agricultural land, brownfield sites and contaminated land as follows:

- Recognise finite nature of soil and protect best quality soils.
- Protect best and most versatile (BMV) agricultural land.
- Protect designated Geological Sites.
- Protect designated Mineral Sites.
- Prioritise development on brownfield sites.
- Seek to reclaim derelict and contaminated land.

Landscape

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Protect landscape character, landscape quality and visual amenity, including designated landscapes and locally valued character.

Our review broadly supports the theme identified above and identifies further themes associated with townscape and local distinctiveness, tranquillity, access and planning at landscape level as follows:

- Protect those areas designated or recognised for landscape value, including on a local scale.
- Protect and enhance landscape and townscape character and local distinctiveness, including those areas with a sense of wildness and remoteness.
- Protect tranquillity from noise and light pollution.
- Promote access to good quality landscapes and wellbeing infrastructures.
- Consider how landscape led planning can act in a cross-cutting fashion and provide multiple benefits e.g. ecological networks and carbon sequestration.

Cultural Heritage

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Protect and enhance cultural heritage assets, including archaeological remains, historic buildings, landscapes and their settings.

Our review broadly supports the theme identified above and identifies further themes associated with unknown heritage and access to historic assets as follows:

- Increase awareness of buried and waterlogged archaeology / unknown heritage.
- Improve access to historic assets, including buildings and landscapes of value where appropriate.

Water

The WRSE RP29 SEA Scoping Report identified the following key themes:

- Prevent deterioration of and improve water body status, supporting the achievement of 'good' ecological and chemical status or potential in accordance with retained Water Framework Directive objectives and River Basin Management Plans.
- Prevent or limit the input of pollutants to surface water and groundwater, including the protection of Drinking Water Protected Areas.
- Safeguard drinking water quality and security of supply, including monitoring and transparent reporting for consumers.
- Promote the efficient and sustainable use of water, including long-term demand reduction, leakage reduction and improved water efficiency for households, industry and other sectors.
- Reduce and manage flood risk, including fluvial, surface water, groundwater and coastal flooding, and avoid inappropriate development in areas at risk.

Our review broadly supports the themes identified above and identifies further themes associated with meeting the objectives of Shoreline Management Plans and Marine Plans and the role of rainwater harvesting and water reuse in reducing potable water demand, as follows:

- Support the achievement of objectives of Shoreline Management Plans and Marine Plans.
- Consider rainwater harvesting, water re-use and integrated multifunctional Sustainable Drainage Systems (SuDS) to reduce potable water demand and contribute to regional resilience.

Air

No Air themes were identified in the WRSE RP29 SEA Scoping Report. Our review identified the following key themes:

- Reduce emissions of air pollutants including NO₂, PM₁₀ and PM_{2.5}.
- Do not cause additional Air Quality Management Areas (AQMA) to be designated.
- Encourage use of green infrastructure to address air pollution distribution and improve local air quality.
- Reduce effects of noise (and vibration) on people and the natural environment.

Climatic factors

Greenhouse Gas (GHG) Emissions

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Reduce greenhouse gas emissions and support the transition to a low-carbon water sector, including energy efficiency and decarbonisation of water resource options.

Our review broadly supports the theme identified above and identifies further themes associated with the application of the carbon reduction hierarchy and meeting the national Net Zero target, as follows:

- Minimise/eliminate use of fossil fuels.
- Increase energy efficiency and make use of new technology.
- Maximise the use of renewable energy.
- Minimise embedded carbon emissions in development.
- Minimise operational carbon emissions in development.
- Consider residual carbon emissions removals.
- Encourage green infrastructure to help with carbon sequestration.
- Contribute to the achievement of national Net Zero Carbon target.

Adaptation

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Adapt to climate change and enhance long-term system resilience, particularly in relation to drought risk, extreme weather events and future uncertainty.

Our review supports the theme identified above and identifies further themes associated with preparedness for extreme weather events, sea level rise, floods and droughts and minimisation of flood risk in the face of climate change as follows:

- Consider how climate change may alter rainfall patterns and water availability.
- Prepare for extreme weather events and sea level rise exacerbated by climate change.
- Minimise the risk and impact of flooding and drought exacerbated by climate change.
- Help meet objectives of Flood Risk Management Plans allowing for climate change.
- Utilise Natural Flood Management using Nature-Based Solutions for climate.

Material Assets

The WRSE RP29 SEA Scoping Report identified the following key theme:

- Increase resource efficiency and minimise the use of natural resources, including reductions in waste and promotion of circular economy principles.

Our review supports the theme identified above and identifies further themes associated with circular economy and green economy as follows:

- Ensuring circular practices also support jobs, equity, and community resilience while reducing environmental harm.
- Create a green economy and promote sustainable growth.

Population and Human Health

The WRSE RP29 SEA Scoping Report identified the following key themes:

- Support sustainable economic growth and a green economy, recognising the critical role of resilient water supplies in enabling housing, infrastructure and employment growth.
- Promote sustainable, inclusive and healthy communities, including access to the natural environment and associated health and wellbeing benefits.
- Encourage social inclusion, community participation and engagement, ensuring that the needs of different groups and sectors are considered.

Our review supports the themes identified above.

Cross cutting

The review undertaken by us supports the cross cutting themes identified in the WRSE RP29 SEA Scoping Report as follows:

- Support catchment-based and nature-based approaches to water management, including making space for water and wildlife, restoring natural catchment processes, and delivering multiple environmental, social and economic benefits.
- Accelerate action to address nutrient and diffuse pollution, particularly where this supports water quality objectives, biodiversity recovery and climate resilience.
- Support the objectives of the UK Government's 25 Year Environment Plan and subsequent Environmental Improvement Plans, including:
 - Using and managing land sustainably;
 - Recovering nature and enhancing landscapes and seascapes;
 - Connecting people with the environment to improve health and wellbeing;
 - Increasing resource efficiency and reducing pollution;
 - Securing clean, productive and biologically diverse water environments; and
 - Protecting and improving the global environment through responsible resource use.

The following additional cross-cutting themes have been identified by our review:

- To support the delivery of efficient and multifunctional land use, such as through the provision of a more resilient water supply whilst protecting the water environment, contributing to the protection and recovery of biodiversity, carbon sequestration and adaptation to a changing climate.

- To give substantial weight to water development proposals that increase water supply resilience, improve security of supply, support planned growth, improve water quality and reduce water pollution.

These themes have helped inform the identification of key environmental issues, implications and opportunities for our WRMP29 in Chapter 7. They have also been used to develop the SEA Framework, including the refinement of SEA objectives, assessment questions and indicators (see Chapter 8).

Consultee question prompt: Are there any additional plans or programmes at the international, national, regional or local level which are not included in the plans policies and programmes review, which your organisation considers are relevant to the Thames Water WRMP29?

6. Environmental Baseline

The SEA Regulations require consideration of:

'the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme'

'the environmental characteristics of areas likely to be significantly affected'

SEA Regulations Schedule 2 (2) and (3).

6.1 Baseline data for SEA topics

The current environment and socio-economic baseline was reviewed for the WRSE region in the WRSE RP29 SEA Scoping Report to provide a high-level evidence base from which environmental issues or opportunities resulting from the WRSE RP29 can be predicted and assessed. The regional baseline includes the area covered by our WRMP29 but the information is not disaggregated at our level.

In order to assess the potential environmental sustainability effects of WRMP29 on the Plan Area, we have carried out a more in-depth exercise to understand the current state of the baseline and then examine the likely evolution of the environment without the implementation of WRMP29 from which to identify issues, implications and opportunities that are related to each of the SEA topics that may be affected by, or affect, the proposed plan.

Current environmental and socio-economic baseline data for the plan area have been collated from published data sources using quantitative and location-specific data where available. The baseline information is presented under the following SEA topics:

- Biodiversity, flora and fauna
- Population and Human Health
- Material assets
- Water
- Flood Risk
- Soil
- Air
- Climatic Factors
- Historic environment
- Landscape

The baseline provides important evidence base not only for the SEA itself, but also for the wider suite of environmental assessments being undertaken in support of the Plan. Baseline information on the current state of the environment, environmental sensitivities, designated sites, water bodies, ecological receptors etc and prevailing environmental trends will inform the WFD, HRA, INNS, NC and BNG assessments. The use of a common baseline across these assessments will ensure consistency in the identification and evaluation of potential effects, reduce duplication of effort and provide a robust and integrated understanding of environmental constraints, risks and opportunities associated with the Plan and its proposed measures.

Section 6.3 provides a high-level overview of the baseline conditions within the Plan Area and can be seen in full in Appendix B.

Data Collection Methodology

The most efficient way to collate relevant baseline data is using indicators. This ensures that the data collation is both focused and effective. The identification of relevant indicators has taken place alongside the assessment of relevant PPPs, the identification of environmental sustainability issues associated with our plan and the development of the SEA framework.

The baseline information in this chapter was collected from published sources, including but not limited to the following sources:

- Office for National Statistics (ONS);
- Local Authority Health Profiles (Public Health England, 2021);
- UK Climate Projections 2018 (UKCP18);
- Historic England;
- Natural England;
- Department for Environment, Food and Rural Affairs (Defra);
- Environment Agency;
- Joint Nature Conservation Committee (JNCC);
- Woodland Trust;
- RSPB;
- National Health Service (NHS) Digital;
- Public health England;
- Consumer Data Research Centre (CDRC) Mapmaker;
- Letsrecycle.com;
- Energy Network Association;
- South East Waste Planning Advisory Group (SEWPAG);
- Ministry of Housing, Communities and Local Government;
- Department for Business, Energy & Industrial Strategy;
- Local Government Association;
- United Nations Educational, Scientific and Cultural Organisation (UNESCO);
- Department for Culture, Media and Sport; and
- National Landscapes Association.

References to all relevant baseline information are provided in Appendix B.

Indicators have been selected for their ability to provide objective data that offer an insight into general trends taking place and help provide answers to the following questions:

- What is the current situation, including trends over time?
- How far is the current situation from known thresholds, objectives or targets?
- Are particularly sensitive or important elements of the environment, economy or society affected?
- Are the problems of a large or small scale, reversible or irreversible, permanent or temporary, direct or indirect?
- How difficult would it be to prevent, reduce or compensate for any negative effect over time?

- Have there been, or will there be, any significant cumulative or synergistic effects over time?

The datasets used to form environmental baseline are presented in Table 2 below.

Table 2 - Datasets used in Environmental Baseline

Topic	Environmental datasets used to from environmental baseline
Biodiversity, flora and fauna	Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar, Marine Protection Areas/Marine Conservation Zones (MCZ), Site of Special Scientific Interest (SSSI), SSSI Impact Risk Zones, National Nature Reserve (NNR), Local Nature Reserve (LNR), Ancient Woodland and Veteran Trees, Priority Habitats, Nature Improvement Areas, National Priority Focus Areas, RSPB Reserves, Priority Species, and Groundwater Dependent Terrestrial Ecosystems (GWDTE). <i>Given the strategic scale of the WRMP and the extensive geographic area covered, detailed data on features such as Local Wildlife Sites, County Wildlife Sites, Roadside Nature Reserves, Priority Species, Functionally Linked Land and Nature Recovery Networks have not been compiled comprehensively as part of our SEA baseline. Instead, where potential plan options are identified for further assessment (feasible list), up-to-date ecological information will be obtained from the relevant local authorities, local environmental records centres and other appropriate organisations. This targeted approach will ensure that option-level assessments are informed by the most relevant and current site-specific information, while maintaining a proportionate approach to baseline data collection.</i>
Population and Human Health	Population estimates, general health trends, OS Greenspace, and population projections.
Materials Assets	Water Treatment Works / Water Supply, other OS Greenspace (Sports Facility, Golf Course, Tennis Court, Bowling Green, Play Space, Playing Field, Open Green Space, Public Park Or Garden, Registered Common Land, Religious Buildings, Religious Grounds, Schools, Tennis Courts, Transport Route Major Roads, Railway tracks, Nationally designated cycle routes, National Grid Infrastructure (high voltage electricity lines and substations), Airports, Authorised and Historic Landfill sites.
Water	Source Protection Zones, WFD Lakes, Drinking Water Safeguard Zones, Drinking Water Protected Areas, Bathing Water Quality, Chalk Streams, WFD Surface Water and Groundwater status, Main Rivers, Surface Water Features, Bathing Waters, Shellfish Waters, Catchments and River Basins.
Flood Risk	Flood Zones, Flood Alert/Warning Areas, and EA Flood Defences.
Soil	Agricultural Land Classification, Geologically designated SSSIs, RIGS and EA Contaminated Land Special Sites.
Air	Air Quality Management Areas, Noise Action Planning Important Areas and Air Quality monitoring sites.
Climatic Factors	GHG sector emissions and predicted changes to temperature and weather patterns.

Historic Environment	Grade I, II, II* Listed Structures, Grade I, II, II* Registered Parks and Gardens, Protected Wrecks, Historic Battlefields, Scheduled Monuments, Conservation Areas and World Heritage Sites.
Landscape	National Landscapes, National Character Areas, Landscape Character Areas, Woodland, Urban Grade Agricultural Land, Green Belt and National Parks.

The baseline data provides an overview of the environmental characteristics of the WRMP area. This overview, together with contextual information, is presented in Appendix B. The analysis of the baseline has highlighted several key issues across the Plan Area. This has been summarised in Chapter 6.3.

Since SEA is an iterative process, subsequent stages in its preparation and assessment might identify other issues and priorities that require the sourcing of additional data and/or information and identification of monitoring strategies. This makes the SEA process flexible, adaptable and responsive to changes in the baseline conditions and enables trends to be analysed over time.

6.2. Future Baseline

The SEA Regulations require that *“the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the Plan or Programme”* is identified.

Prediction of future trends depends on a wide range of global, national and regional factors and decision making. Key trends have been identified as part of likely evolution of the baseline and summarised in Chapter 6.3.

6.3. Overview of Baseline

The following baseline data within our region has been collated and can be found in detail in Appendix B.

Biodiversity, flora and fauna

Within our region, there are a number of sites designated for nature conservation, including four SPAs (Lee Valley, South West London Waterbodies, Thursley, Hankley & Fresham Commons, and Wealden Heaths Phase II), 18 SACs, three Ramsar sites (Lee Valley, South West London Waterbodies, and Thursley & Ockley Bogs), one MCZ (Swanscombe), 329 SSSIs each associated with an SSSI Impact Risk Zone, 11 NNRs, 184 LNRs and three RSPB Reserves. There are 21 different priority habitats covering approximately 12.6% of land intersected by the our region were also identified, 26 National Priority focus Areas, two Nature Improvement Areas (Greater Thames Marlborough and Marlborough Downs), 5,600 sites of ancient woodland land i.e. those areas that have been continuously wooded since at least 1600AD, and 123 GWDTEs whose ecological functions rely on groundwater for some or all their water needs, particularly when rainfall and soil moisture is insufficient. There are also 194 different species of INNS within the Thames Water River Basin.

Likely evolution of the baseline

Habitats and species are likely to continue to be protected through European and UK legislation. Climate change will, however, likely result in decline of some habitats and species, though it may afford opportunities for other species, including invasive species. England's wildlife habitats

have also become increasingly fragmented and isolated, leading to declines in the provision of some ecosystem services, and losses to species populations.

Water

The Plan region falls within the Thames, South East, South West, Anglian and Severn River Basin District (RBD), with the Thames RBD covering the largest proportion. There are 501 surface water bodies within the Thames RBD, 282 within the South East RBD, 6941 in the South West RBD, 599 in the Anglian RBD and 475 in the Severn RBD. As with most water bodies in England, there are a range of significant water management issues manifested in these RBDs, with pollution from towns, cities and transport noted as being an issue for 19% of water bodies in the Thames RBD, 12% in the South East RBD, 6% in the South West RBD, 8% in the Anglian RBD and 11% in the Severn RBD. Regarding their surface water ecological status, the majority of the basins' surface waterbodies are rated as 'Moderate', with none identified as 'Good'. Similarly, none of the surface waterbodies chemical status was identified as 'Good'; all were identified as a 'Fail'. The chemical status of groundwaters across the RBDs, however, largely had higher proportions identified as being in 'Good' condition, except for Thames RBD and South West RBD which had higher proportions identified as 'Poor'. . Protecting groundwater sources (along with any private water supplies) will help ensure that water is safe to drink.

There are approximately 31 WFD lakes and 351 waterbodies within the Plan Area. In respect of aquifer designation (Bedrock), 'Principal aquifer' is designated across much of the area. Secondary A (Unproductive) designations are also present. There are 26 Surface Water Drinking Water Protected Areas, 15 DWSZ and 30 Groundwater DWSZ within the Plan Area. There are also a number of Source Protection Zones: 163 SPZ 1; one SPZ 1c; 105 SPZ 2; three SPZ 2c; 34 SPZ 3; and one SPZ 4. There are seven designated bathing water sites within the plan area, with conditions reported as follows: Cotswold Country Park and Beach – Excellent; Hampstead Heath (Ladies Pond) – Good; Hampstead Heath (Mens Pond) – Excellent; Hampstead Heath (Mixed Pond) – Excellent; The Serpentine - Hyde Park – Sufficient; Wallingford Beach, River Thames – Poor; and Wolvercote Mill Stream – Poor. There are also 5,799 segments of chalk streams within the Plan Area.

Likely evolution of the baseline

Surface and ground water quality is predicted to increase through legislation such as WFD, though significant challenges remain as noted in the River Basin Management Plans. The region is already water-stressed and projected economic and population growth will likely place further pressure on the region's water resources and water dependent environments.

Flood Risk

Areas of Flood Zone 2 (land likely to be affected by a major flood, with up to a 0.1% (1 in 1000) chance of occurring each year) and Flood Zone 3 (land likely to be affected by flooding from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year, or from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year) are located throughout the Plan Area. There are approximately 112 EA flood alert areas and flood warning areas, and 13,000 flood defences (including flood gates, walls, embankments, and natural and engineered high ground.) within the Plan Area.

Likely evolution of the baseline

Climate projections indicate an increased frequency and intensity of extreme rainfall events, which could lead to greater risks of fluvial, surface water and groundwater flooding, alongside more frequent coastal flooding in vulnerable locations. Whilst national and local flood risk management policies, catchment-based initiatives and flood defence programmes are expected to continue to mitigate some impacts, existing communities, infrastructure, environmental assets and water resources may remain vulnerable to increasing flood risk over time.

Soil

There are a mix of land uses across our Plan area, ranging from rural areas of open countryside or arable farmland and pasture to extensive heavily urbanised. There are also areas of suburban and urban fringe associated with the main towns and distinct pockets of 'isolated' urban development in the form of villages and small towns. Large areas in the Plan Area, particularly in the west are designated as Grade 3 land, which has the potential to be Best and Most Versatile (BMV) land. There are some small areas of Grade 1 and slightly larger areas of Grade 2 land which are also classed as BMV. Areas of Grade 4 and non-agricultural land are identified throughout the Plan Area, and urban land associated with towns and most notably the city of London. There are small areas of Grade 5 land in the western part of the Plan Area. Soils in England are already, and continue to be, degraded by human activity including intensive agriculture, historic levels of industrial pollution and urban development, making them vulnerable to erosion (by wind and water), compaction and loss of organic matter.

There are 329 SSSIs within the within the Plan Area. A number of these are designated as Geological SSSI's including Elmstead Pit and Netherside Stream Outcrops SSSI's.

The following 'Special Sites' which are designated contaminated land sites have been identified within our region as follows: Cranleigh Brick And Tile; AWE Aldermaston (Area A12Q1); RAF Brize Norton; Sterling Industrial Estate; and Oakley Wood Landfill. Many areas of land in the UK have been contaminated by past industrial and other human activities, including former factories, storage depots and landfills. Land at the full range of potentially contaminated sites could be contaminated by a wide range of harmful substances such as oils and tars, heavy metals, asbestos and chemicals. By its nature, it is often very difficult to know where land has been contaminated previously or is currently suffering ongoing contamination. As such the number of known sites of contamination is likely to be only a very small fraction of the overall number of potentially contaminated sites.

The following mineral resources have been identified within the Plan Area: Hydrocarbon wells; Active quarries; Superficial Sand and Gravel; Bedrock Sand and Gravel; Deep Coal; Coal 2m thick 200m to 1200m depth; Fuller's Earth; Limestone; Brick Clay; Chalk; Glacial limit; and Multiple mineral assessment areas.

Likely evolution of the baseline

It is likely that greenfield sites will experience increasing pressure for development in preference to the complexities of redeveloping previously developed and potentially contaminated sites. This could reduce available high quality soil resources and BMV land and fail to realise the potential of existing capacity within existing urban and previously developed areas. Remediation of contamination is likely to remain sporadic and reflective of individual site requirements.

Air

Air pollution impacts on public health, the natural environment and the economy. Air quality has improved in the UK over the last sixty years as a result of the switch from coal to gas and electricity for heating of domestic and industrial premises, stricter controls on industrial emissions, higher standards for the composition of fuel and tighter regulations on emissions from motor vehicles.

Poor air quality is generally associated with urban/industrial areas and major road infrastructure. This includes non-exhaust emissions of Particulate Matter (PM_{2.5}) from brake wear, tyre wear and the debris created by the gradual erosion of road surfaces. These emissions now exceed tailpipe emissions and have increased 19% between 1996-2024, mainly driven by rising traffic levels, including electric vehicles, and increasing trends in heavier vehicles. This is reflected in the typical location for Air Quality Management Areas (AQMA), many of which have been designated due to high Nitrogen Dioxide (NO₂) and PM₁₀ levels.

There are 77 AQMAs identified within the Plan Area, and these are largely associated with the city of London. These are predominately designated in relation to NO₂, with some also in relation to PM₁₀. There are also approximately 20 locally managed automatic monitoring sites throughout the Plan Area. Many of these are in urban background or urban traffic environments. There are 1,414 Noise Action Important Areas within the Plan Area. The source of noise in these areas is predominately roads, with the exception a small number in which the source is rail.

Likely evolution of the baseline

At the national level air quality is generally improving as industrial practices, energy sources and tighter environmental legislation have contributed to reductions in pollutants.

While air quality is generally improving at a national level, new development, economic growth and tourism may lead to increased car journeys and congestion could lead to localised air quality effects.

Climatic Factors

Greenhouse Gas Emissions

GHG emissions within the Plan Area are anticipated to be in keeping with that in the wider South East / London regional level. Total carbon dioxide (CO₂) emissions for 2024 for these regions in kilo tonnes (Kt CO₂e) were as follows: South East Region: 39,149.6 kt CO₂e; and London Region: 27,382.6 kt CO₂e. The transport sector is the largest contributor in the South East region, where as in London, it is the domestic sector.

Our net operational emissions decreased by 1.1 ktCO₂e between 2024 to 2025, dropping from 582.2ktCO₂e to 581.1 ktCO₂e. This has been achieved through increasing the amount of self-generate energy, improving energy efficiency and purchasing electricity from renewable energy sources²⁷.

Likely evolution of the baseline

²⁷ Thames Water (2024/2025) Transforming for a resilient future. Available: <https://www.thameswater.co.uk/media-library/l13degmw/thames-water-annual-report-2024-25.pdf>

Carbon and other GHG emissions will continue to be emitted, however regulations and government legislation and incentives will continue to promote the reduction in emissions through national commitments to net zero by 2050.

Recent trends illustrate that GHG emissions are primarily being reduced in the energy sector due to the change in fuel mix for electricity generation, in particular a reduction in the use of coal and gas. It is expected that this will continue over the next few years and decades in favour of more renewable and low-carbon sources. It can also be expected that GHG emissions in the transportation sector are likely to decrease with the increasing availability and feasibility of electric vehicles and business fleets.

Adaptation to a changing climate

The UK is already seeing the impact of climate change through increased severe weather events, leading to flooding, heat waves and hotter summers. Our area in the South East of England is experiencing rising temperatures, more frequent heatwaves, and increased climate risks.

The most recent 'State of the UK Climate in 2025' report highlights some key statistics on the UK's changing climate²⁸. Temperature records have shown that 2025 was the warmest year in the UK series from 1884, with the last 4 years in the top five warmest. This is the sixth time this century this record has been set. The number of days over 30°C and nights over 18°C has more than quadrupled for Greater London for the most recent decade, 2016–2025, compared to 1961–1990. Comparing the same decades, the most recent has been 0.51°C warmer than 1991–2020, and 1.33°C warmer than 1961–1990, with warming extending northwards and uphill. The number of 'icing days' (maximum temperature below 0°C) has more than halved for the UK for the most recent decade, compared to 1961–1990, and the number of hard frosts (minimum temperature below –8°C) has reduced by a factor of more than four.

The UK's climate has become steadily wetter from the 1980s, due to an increase in winter half-year rainfall. There is some evidence for increases in the frequency of very wet months and days. 2025 was a relatively dry year overall, although rainfall deficits in spring and summer partially recovered in autumn. Total annual rainfall in the most recent decade 2016–2025 has seen no change compared to 1991–2020 but has increased by 8% compared to 1961–1990. Observations suggest an increase in very wet days across the UK in recent decades, but further digitization of daily rainfall before 1961 would provide greater confidence in this result.

The large variability in the UK's weather on different timescales means that extreme weather events are an integral part of the UK's climate. Spring and summer 2025 combined saw a UK mean maximum temperature anomaly of +2.1°C and sunshine total 125% of the 1991–2020 average, by far the warmest and sunniest such period on record. Spring and summer 2025 combined saw less than 40% of 1991–2020 average rainfall in the driest areas, but for durations longer than 6 months the 1976 drought was far more severe.

Likely evolution of the baseline

²⁸ Kendon et al (2026) State of the UK Climate in 2025. Available: <https://rmets.onlinelibrary.wiley.com/doi/10.1002/joc.70470>

The projected changes in temperature and precipitation for the South East of England by the 2050s (2040-2069), under the RCP8.5 scenario (high emissions scenario) are as follows:

- Annual mean temperatures are projected to increase by 2.0°C. Summer temperatures are projected to see the largest increase by 2.6°C and winter temperatures by 1.7°C
- Annual mean precipitation is projected to decrease by 1.1%. Seasonal variability is projected with a 22.9% decrease in precipitation during summer months and an increase of 11.5% during winter months.

The climate is therefore expected to continue to change with annual average temperatures projected to increase, particularly in summer. Winters are projected to be wetter and summers drier. Climate change is projected to result in more extreme weather events, potentially causing or exacerbating periods of drought which alongside population and economic growth will impact water availability.

These general trends are also anticipated within our area.

Historic Environment

There are six World Heritage Sites within the plan area: Blenheim Palace; Tower of London; Palace of Westminster, Westminster Abbey and St. Margaret's Church; Maritime Greenwich; Stonehenge, Avebury and Associated Sites; and Royal Botanic Gardens, Kew. Alongside this, there are a wide range of other historic and cultural heritage features located across the WRMP29 area, and which span the full range of human settlement, from the prehistoric to the present. These include 1,209 Scheduled Monument Sites, 1,404 conservation areas and no protected wrecks within our region. Of the 89,597 listed buildings located within the Plan Area, the following grade proportions were noted: 45,598 Grade II*; 42,705 Grade II; and 1,294 Grade I. There are four historic battlefields within the Plan Area: Battle of Chalgrove 1643; Battle of Cropredy Bridge 1644; Battle of Newbury 1643; and Battle of Stow (-on-the-Wold) 1646. There are also 324 registered historic parks and gardens located within the Plan Area which are graded as follows: 280 Grade II*; 202 Grade II; and 44 Grade I. It is important to note that the nature of cultural heritage features means that not all are known at present; in particular, buried and waterlogged archaeological remains.

Historic England's most recent reporting in 2025 states that heritage assets at risk has overall increased over that year. 129 entries were removed for positive reasons however; 138 entries were added²⁹.

Likely evolution of the baseline

Designated heritage assets benefit from protection that will continue without the WRMP. However, there is a risk of uncoordinated and piecemeal development resulting in the successive erosion of the quantum and integrity of the region's cultural heritage resource.

Landscape

There are a range of pressures on landscape, many of which are altering landscapes in a direction which could be regarded as inconsistent with the traditional landscape vernacular of

²⁹ Historic England (2025) *Heritage at Risk: Latest Findings*. Available: <https://historicengland.org.uk/listing/heritage-at-risk/findings/>

the area. These changes reflect the fact that the landscape of the UK has changed over many years due to a range of issues such as urbanisation, changes to agriculture, reduced tranquillity, loss of habitats and forests, etc. To preserve the best landscapes a series of National Parks and National Landscapes were designated.

There is one national park located within the Plan Area: South Downs National Park. There are also five national landscapes within the Plan Area: Kent Downs; North Wessex Downs; Surrey Hills; Chilterns; and Cotswolds. Of the 73 LCAs and four seascape assessments on the landscape institutes' Landscape Character database, located within the South East and London regions, 61 LCAs and 1 seascape assessments are located within the Plan Area. There are also 22 NCAs within the Plan Area.

Within our Plan area, there are 1,404 designated Conservation Areas, the first areas designated in 1968, with the most building characters and reflecting a diverse array of architectural styles.

Urban land (within the agricultural land classification of the Plan area) makes up approximately 228,000 hectares and non-agricultural land approximately 151,000 hectares, which equates to 12.4% and 8.2% respectively. Within the Plan Area, 9.5% of land contains deciduous woodland priority habitat, equating to 74,889 ha.

Likely evolution of the baseline

Many of the region's most exceptional landscapes and townscapes benefit from protection through designations that will persist in the absence of the WRMP. In general terms, modern design / landscaping principles and interested parties expectations are promoting a renewed focus on the quality of scheme design and this trend is likely to continue, though risks from increased urbanisation and infrastructure development remain.

Population and Human Health

Our water supply area serves approximately 11 million people, with key urban areas including London, Reading and Swindon.

There are also 56 Clinical Commissioning Groups intersected by the region. When asked about their general health in the 2021 Census, people within the South East and London regions reported it to be largely 'Very Good', making up 51.7% of votes, followed by 33.0% at 'Good Health', 11.1% at 'Fair Health', 3.3% at 'Bad Health' and 1.0% at 'Very Bad Health'.

Across our region, there is a large amount of community features: 1,327 no. Allotments Or Community Growing Spaces; 5,073 no. Play Spaces; 452 no. Cemeteries; 2,563 no. Public Parks Or Gardens; 4 no. National Trails; 32 no. Country Parks; and a National Park.

Likely evolution of the baseline

Population is projected to increase in the region. As such, water demand will increase, and further pressure will be placed on water resources within the region. A range of population projections for our area is being updated as part of RP29 and WRMP29 development. As a guide, based on WRMP24, population between 2021-2050 was predicted to increase between 9.1% to 30.9%, and between 2021-2100 the increase ranged from 5.4% to 52.5%. We expect the Government's growth agenda to increase the upper end of the range.

Water available for consumptive use may also be affected by climate change whereby access to water is limited through more frequent droughts or floods.

Material Assets

Our service area covers approximately 13,000km² (5,000 square miles) in and around London. Settlements within our Plan area are diverse and range from large population centres such as London to small rural hamlets and seaside towns. We operate 100 Water Treatment Works and 350 Wastewater Treatment Works within the Plan Area. There are also 1,286 historic landfill sites and 110 permitted waste sites located within the Plan Area. According to the National Grid Network Map, the Plan Area is intersected by cables and overhead powerlines throughout, several gas pipelines and 73 substations.

A number of A and B classified roads intersect (approximately 31,200 A Roads and 11,600 B Roads), and six motorways (M40, M4, M20, M25 and M26), with the M4 intersected over half its length. London which is located within the Plan Area, is one of the most densely connected areas for trainline connections. There are a number of branch, main and high speed lines that intersect the Plan Area. There are approximately three high speed lines travelling from London in the north western, western and south eastern directions, the latter connecting to the Channel Tunnel. There are also four UK airports within the Plan Area, three of which are located within the London region: Oxford Airport; London Heathrow Airport; London City Airport; and London Biggin Hill Airport.

Other material assets identified within the area include: 2,123 no. Other Sports Facilities; 1,629 no. Religious Grounds; 1,566 no. Playing Fields; 222 no. Golf Courses; 1,257 no. Tennis Courts; 371 no. Bowling Greens; 302 no. Registered Common Land; and 2,356 no. National Cycle Network.

Likely evolution of the baseline

Regeneration and future investment and demand for infrastructure are likely to increase the number and quality of material assets such as transport infrastructure, waste facilities, and community facilities in the plan area.

Consultee question prompt: Do you have any comments or additions to the baseline information presented that you think should be considered?

7. Key Issues, Implications and Opportunities

The SEA Regulations Schedule 2 (4) requires:

“Consideration of any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of particular importance such as areas designated pursuant to Council Directive 789/409/EEC on the conservation of wild birds (a) and the Habitats Directive”

The WRSE RP29 SEA Scoping Report determined that all SEA topics were relevant to the WRSE regional plan and identified regional issues and opportunities relevant to each topic. Topics were scoped in based on the baseline situation and the potential impact of the WRSE regional plan on them. This was assessed by reviewing baseline conditions, current environmental issues for the WRSE regional plan area and an assessment of the likelihood of potential impacts occurring.

We have further developed the regional analysis to our plan area by considering the review of the local baseline data (in Chapter 6) and of the themes arising from the PPPs review (in Chapter 5). These key issues, implications and opportunities associated with our WRMP29 are summarised and discussed in Table 3. This table also provides clear links to the SEA Objectives helping understand how the key implications and opportunities have influenced the development of the SEA Framework (see Chapter 8), particularly in formulating assessment questions.

Table 3 - Key Issues, Implications and Opportunities for Thames Water WRMP29

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
Biodiversity, flora and fauna Key issues: Our region contains many rich habitat and species diversity including national and internationally designated sites such as SSSIs, SPAs, SACs, Ramsar sites, NNRs, MPAs and MCZs, locally designated sites (LNRs, RSPB Reserves).and non-designated sites. There are also Priority habitats and species present as well as 194 different species of INNS within the Thames Water River Basin, National Priority Focus Areas, Nature Improvement Areas, ancient woodland land and GWDTEs. Development of new water supply infrastructure can directly or indirectly affect designated and non-designated sites, habitats and species through loss of land, disturbance and damage. There is potential for the options within our WRMP29 to result in surface and/or groundwater pollution and introduction of invasive non-native species which could have an impact on wildlife and ecosystems. Wetland and marsh habitat and chalk streams habitats may be particularly affected by over abstraction.	WRMP29 should aim to protect and enhance all sites of biodiversity importance and should place a particular emphasis on protecting sites designated for nature conservation purposes. Consideration should be made of protected and priority species and their habitats. Opportunities for new habitat creation and enhancement associated with water resources should be explored. There should be achievement of Biodiversity Net Gain in areas not formally designated, recognising that a minimum target of 10% has been set out in the Environment Act 2021 for new development. WRMP29 should avoid the fragmentation of green infrastructure, by seeking the integration and enhancement of the green infrastructure network to contribute to protecting natural habitats and delivering biodiversity net gain through all new developments. WRMP29 should help create cohesive habitat networks to help habitats and species adapt to the consequences of climate change. In particular, consider supporting water-dependent designated sites and priority habitat/species to adapt to climate change. Considerations should include nature-based	To protect all environmental sites (including designated sites and their qualifying features, habitats and species of principal importance, and non-designated sites). To provide opportunities for habitat creation or restoration and deliver a net benefit/gain for biodiversity. To avoid and minimise the spread of, and, where required, manage invasive and non-native species (INNS).

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
The development and operation of new water supply infrastructure have the potential to further spread INNS.	solutions, habitat creation for carbon sequestration or natural flood management. WRMP29 should promote the increased accessibility to appropriately designed multi-functional green infrastructure which can play a significant role in diverting pressure away from more sensitive sites or areas. In parallel with the SEA of the WRMP29, HRA is being undertaken which will identify the internationally designated nature conservation areas, where possible establish the likelihood of impacts on the integrity of these sites and identify appropriate avoidance and mitigation measures early in the development of the WRMP29. WRMP29 should control and prevent the spread of INNS. The INNS assessment being undertaken in parallel with the SEA will in turn consider potential for INNS dispersal and assess this risk and mitigate where appropriate.	
Water Key issues: There are a range of significant water management issues associated with water bodies in our region. These include pollution from towns, cities and transport; the majority of the river basins' surface waterbodies ecological status are rated as	WRMP29 options should seek to implement and maximise opportunities to improve waterbody status through the suite of options proposed. In parallel with the SEA of the WRMP29, the WFD assessment is being undertaken which will identify if options likely deteriorate water body classification or prevent the WFD objectives from being reached and	To protect and enhance the quality and quantity of surface and groundwater resources. To reduce or manage flood risk, taking climate change into account.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
'Moderate', with none identified as 'Good', with the chemical status of groundwaters identified as being 'Good' condition, with the exception of Thames RBD and South West RBD with higher proportions identified as 'Poor'. There are Surface Water Drinking Water Protected Areas, DWSZ and Groundwater DWSZ within the Plan Area. There are also a number of Source Protection Zones and designated bathing water sites within the plan area, with conditions reported between Excellent and Poor. There are also many segments of chalk streams within the Plan Area. Development of new water supply infrastructure has the potential to have a negative impact on water quantity and quality through increased water abstraction from waterbodies. During construction pollutants may also be discharged to both surface and ground water sources, including Drinking Water Protected Areas. Areas of our region are at high risk of flooding from both surface water and rivers and the sea. There are hundreds of EA flood alert areas and flood warning areas, and thousands of flood defences (including flood gates, walls,	propose appropriate avoidance and mitigation measures early in the development of the WRMP29. Improving the water supply network and preventing leaks and bursts is a key outcome of many of the options contained within the WRMP29 and the plan should seek out areas that stand to benefit most from such interventions. Pollution prevention should also be sought during construction through robust construction management plans and pollution prevention plans. WRMP29 should improve the resilience, flexibility and sustainability of water resources in our region, ensuring sustainable abstraction to protect the water environment and meet society's needs for resilient water supply. There is a need to manage the risks associated with flooding over the water infrastructure's lifetime, without increasing the flood risk elsewhere and identifying opportunities to reduce the risk overall, including through working with nature based solutions and avoiding areas at high-risk of flooding. There are multiple benefits associated with the use of nature based solutions to reduce vulnerability such as tree planting or peat restoration. Flood risk should be considered in any design and the implementation of multi-functional green infrastructure including SuDS and other similar appropriate measures or new	To promote and enhance the sustainable and efficient use of resilient water resources.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
embankments, and natural and engineered high ground.) within the Plan Area. New water supply infrastructure could be affected by or contribute to an increased risk of flooding.	approaches should be considered and encouraged where feasible. This should include Natural Flood Management and other means of increasing flood storage capacity. WRMP29 should seek to explore the possibilities for creating blue infrastructure which can both help to manage localised flood risk and simultaneously create new habitats. WRMP29 should also seek to reduce the need for drought permits / orders through the suite of options proposed. WRMP29 should ensure that options do not impact existing flood management / defences in the wider area or contribute to exceeding their maximum protective limits i.e. contribute to increases in flooding above maximum water level limits. Where possible they should enhance protection in line with Shoreline Management Plan actions in the region.	
Soil Key issues: Large areas in the Plan Area, particularly in the west are designated as Grade 3 land, which has the potential to be Best and Most Versatile (BMV) land. There are some small areas of Grade 1 and slightly larger areas of Grade 2 land which are also classed as BMV.	WRMP29 must protect soils as they are finite in nature and essential for achieving a range of important ecosystem services and functions. WRMP29 should seek to make best use of areas that are already urbanised i.e. brownfield sites and provide an opportunity for regeneration / improvements to land quality. Where use of agricultural land is unavoidable, measures should be	To protect and enhance the functionality and quality of soils, including the protection of high-grade agricultural land, and geodiversity.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
There are a number of Geological SSSI's and 'Special Sites' (which are designated contaminated land sites) and mineral resources areas. Soil is a non-renewable resource and is vulnerable to erosion, degradation and contamination. In addition, historic land uses have contributed to contamination across large areas. Development of new water supply infrastructure have the potential to result in a loss of agricultural land through a reduction in water availability for agricultural processes. Also impacts on Geological SSIs are possible. There is also potential for soil contamination through the construction phase. Development may create competition for land between water infrastructure, agriculture, housing etc. Development may cause changes to soil quality and loss of carbon sinks and risks associated with the link between water quality and flooding associated with changes to land use.	taken to avoid those areas of the highest quality and aim to protect soil and agricultural holdings through avoidance of impacts such as erosion, contamination or severance. WRMP29 should protect designated geological sites. Dealing with the past pollution / contamination legacy is a major issue and should be addressed at all opportunities due to its ongoing environmental impact. The WRMP29 should seek to reclaim derelict and contaminated land where possible. WRMP29 should seek to avoid land that is covered by Mineral Safeguarding Area designations, to prevent the sterilisation of key mineral resources. WRMP29 should support and promote multifunctional land use in line with the Land Use Framework 2026, delivering water resource solutions that simultaneously enhance water environment quality, support biodiversity recovery and Nature Recovery Networks, increase carbon sequestration, strengthen climate resilience, and provide wider ecosystem service benefits.	

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
Air Key issues: There are a number AQMAs identified within the Plan Area, and these are largely associated with the city of London. There are Noise Action Important Areas within the Plan Area. Development of new water supply infrastructure has the potential to impact air quality and noise levels. This could include the generation of air pollutants and noise from treatment plants during operation and there is also likely to be effects from the construction phase.	WRMP29 should meet Government targets for air quality and noise and be reflective of appropriate legislation and should consider ecological receptors alongside human receptors. Options should not cause additional AQMAs to be designated. Options should be considered that encourage the use of green infrastructure to address air pollution distribution and improve local air quality. There is potential for the WRMP29 to mitigate any increases in air pollutants as a result of the options and improve air quality in the region.	To maintain and improve air quality.
Climatic Factors Greenhouse Gas Emissions Key issues: There is a need to reduce GHG emissions across sectors, including the water sector. Development of new water supply infrastructure and demand management activities and infrastructure have the potential to result in carbon emissions during the construction and operation phases which will further contribute to climate change.	WRMP29 should consider the impact of options' carbon emissions through the optioneering and design processes. WRMP29 must work to minimise water demand from households and businesses as this will result in reduced need to abstract, treat and transport water (and also less wastewater to treat) and consequently lesser carbon emissions. WRMP29 should also ensure that opportunities are taken for maximising tree planting and other carbon sequestration habitat to help promote climate resilience through nature-based solutions. Amongst other benefits, such flood protection, biodiversity enhancement and recreation, careful tree species	To reduce greenhouse gas emissions.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
Adaptation to a changing climate Key issues: Our region is projected to have hotter and drier summers, and wetter and warmer winters. Extreme weather events are also predicted to occur as a result of climate change. There is potential that this could affect water availability through increases in periods of drought. Key potential climate related pressures identified by experts that increase habitat sensitivity include sea-level rise, lack of space, temperature stress, drought, eutrophication, increased storms and invasive species.	selection can contribute to carbon sequestration by absorbing increased amounts of CO₂ from the atmosphere. A greater degree of resilience will have to be incorporated into the WRMP29 optioneering and design processes to address increased river, surface and groundwater flooding due to extreme winter rainfall events and an increase in winter mean rainfall as well as increased coastal flooding and erosion damage due to sea level rise and storms , rise and the potential risks posed by increased heatwaves, wildfires, reduced water availability and soil desiccation due to increased summer temperatures and a reduction in summer mean rainfall. There is also a need to manage risks related to periods of limited water availability. It is possible limitations of abstraction could mean water infrastructure may have to cease to operate for periods of time and abstraction could cause environmental damage, including for sites with legal habitats and water protections (e.g. SSSIs, SACs, Water Framework Directive etc.).	To adapt and improve resilience to the threats of climate change through mitigation, where required, and reducing vulnerability of built assets. To reduce or manage flood risk, taking climate change into account.
Historic Environment Key issues: There are six World Heritage Sites within the plan area. There are also a wide range of other historic and cultural heritage features including Scheduled Monument Sites, Conservation Areas. There are thousands of listed buildings and a	WRMP29 should aim to protect and preserve designated and non-designated heritage assets and their contexts and settings. Options should be sensitively designed to be sympathetic to existing character and quality and opportunities for improving settings should be	To conserve and enhance cultural and historic environment including the significance of designated and non-designated heritage assets and their settings and archaeological important sites.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
number of historic battlefields and registered historic parks and gardens located within the Plan Area. It is important to note that the nature of cultural heritage features means that not all are known at present; in particular, buried and waterlogged archaeological remains. Development of new water supply infrastructure has the potential to directly or indirect impact the historic environment through effecting the asset's fabric or setting. It is to be noted that some heritage features can be affected by changes to hydrological conditions.	examined. Where schemes would involve physical development that could affect previously undiscovered archaeological assets the design of the scheme and site selection should be informed by early investigation of the potential archaeological interest of the affected land. Options could seek to improve access to nearby historic assets, where appropriate, and increase awareness of any buried or waterlogged archaeology / unknown heritage.	
Landscape Key issues: There is one national park located within the Plan Area: South Downs National Park. There are a number of national landscapes, LCAs and NCAs located within the Plan Area. Development of new water supply infrastructure has the potential to have an impact on the landscape. This could include temporary construction effects and permanent effects associated with infrastructure which could affect visual amenity or the character of the area.	WRMP29 should seek to preserve and enhance the character of the region's landscape and seascape by ensuring that its integrity and valuable natural open space is not lost. This includes the protection of tranquillity from noise and light pollution. WRMP29 should also aim to ensure that sensitive areas are avoided and respect particular landscape settings, with consideration made of design quality in both an urban, rural or sea setting. Opportunities for landscape enhancement should be explored for the options, e.g. through sympathetic design and enhancements to existing landscape	To conserve, protect and enhance designated and undesignated landscape, seascape and townscape character and visual amenity.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
	improvement areas, new planting opportunities. Where an option would involve physical development in within a Conservation Area or a wider area for which a townscape/urban character appraisal has been undertaken, the design of the scheme should take account of relevant guidance for the Conservation Area / townscape character area. WRMP29 should consider how landscape led planning can act in a cross-cutting fashion and provide multiple benefits e.g. ecological networks and carbon sequestration.	
Population and Human Health Key issues: Thames Water serves several large urban centres, including London, where population growth is projected over the coming years. The area contains over 5,000 play spaces, over 2,500 public parks and gardens, over 1,300 allotments, 32 country parks and one national park. This growth is expected to increase demand on water resources and place additional pressure on the water environment. Ongoing economic development and climate change are also anticipated to contribute to these pressures. Development of new water supply infrastructure has the potential to result in temporary disturbance effects during the construction phase. There is also potential	There is an opportunity for WRMP29 to engage with the local community and maximise opportunities for recreation and wellbeing through enhancing access and the condition of the water environment, greenspaces or areas of the natural environment. Thus, improving the inclusivity of and connection to the local natural environment. WRMP29 also has the opportunity to ensure a resilient and reliable water supply for customers now and in the future i.e. enabling the delivery of significant housing growth, through continuing to increased awareness of water conservation in one hand and adapting to climate change in the other, so that there is enough water for a growing population and to support economic growth and a green economy, including the local economy.	To maintain and enhance the health and wellbeing of the local community, including economic and social wellbeing. To maintain and enhance the water environment for other users including recreation, tourism and navigation. To promote a sustainable economy.

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
for impacts on the water or natural environment which could have impacts on recreation and wellbeing.	WRMP29 should aim to protect public health and promote well-being. WRMP29 should ensure water supplies remain affordable especially for deprived or vulnerable communities. Whilst ensuring water supplies contribute to improvements in levels of health, particularly in urban areas and deprived areas.	
Material Assets Key issues: The plan area contains important transport links, including six motorways, four airports and a number of branch, main and high speed train lines, which could be affected during construction works. There is also significant water (100) treatment infrastructure across the area operated by us. The region also manages 1,286 historic landfill sites and 110 permitted waste sites. Development of new water supply infrastructure has the potential to increase the use of natural resources within the region and result in the generation of waste. It will also increase the use of potable water across the region. Development of new water supply infrastructure has the potential to impact	WRMP29 should consider the efficiency in the use of resources within option development and reduce the use of energy, materials and prevent waste generation. This can be achieved through the promotion of low/zero carbon energy, use of recycled or secondary materials and furthering concepts of circular economy. WRMP29 should align with our Environment Policy, which highlights the continues maintenance of networks and treatment works as a core outcome. WRMP29 should prioritise asset optimisation by exploring opportunities to upgrade, expand, or recommission existing water and wastewater infrastructure before developing new assets.	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste. To avoid negative effects on built assets and infrastructure (including green infrastructure).

Key issues	Implications/Opportunities for the WRMP29	SEA Objective
transport, energy and other infrastructure and assets, in particular during the construction phase.		

Consultee question prompt: Do you have any comments on the key issues, implications and opportunities identified?

8. SEA Framework

8.1. SEA objectives and assessment criteria

A key element of the SEA Scoping process is the development of the SEA Framework reflecting the environmental sustainability objectives our plan should be aiming to achieve and the areas that our plan is expected to impact upon or have an influence on. The SEA Framework is comprised of environmental objectives and related assessment guide questions. The expectation is that even though some objectives/assessment questions may not be within our plan's direct remit, it should be able to influence the direction of change through setting out clear policies and approaches which could inform the work of our partners and other stakeholders. The SEA Framework therefore forms the basis of predicting and assessing the effects of implementing our WRMP29, and will be used to assess our options, Best Value Plan and alternative plans.

An overarching SEA Framework has been developed by WRSE for RP29 and this has been used as the starting point to inform the development of our WRMP29 SEA framework. The regional framework has been informed by the review of international, national and regional PPP's and their key requirements; the regional baseline conditions; and likely future trends of the regional plan area. Through carrying out this WRMP29 SEA scoping exercise, we have reviewed the suitability of the regional SEA Framework in addressing more localised issues pertaining to our region, both in terms of SEA Objectives and assessment questions within each objective.

The review has deemed that the regional SEA objectives are suitable, proportionate and sufficiently broad to capture most of the key themes, issues, implications and opportunities for the assessment of our WRMP29. It is noted that retaining the overarching objectives from the regional SEA framework will ensure consistency with the wider strategic assessment approach and maintain alignment with regional environmental priorities.

The proposed SEA Framework is presented in Table 4. Alongside the SEA Objectives, Table 4 presents the Assessment Questions that will guide the assessment and provide a useful starting point and a transparent structure to help demonstrate how the assessment of the effects arising from the implementation of our plan will be undertaken. As the SEA progresses, they will also help in the development of a set of indicators to be included in the monitoring programme at a later stage of the assessment process.

Following the review of relevant PPPs, the assessment of the local environmental, social and economic baseline and the identification of issues, implications and opportunities in the previous chapters, we have incorporated additional Assessment Questions within the SEA Framework. These supplementary questions do not alter the intent or scope of the overarching SEA objectives nor assessment questions set out by WRSE; rather they provide a more locally relevant means of assessing potential effects, reflecting the specific characteristics, sensitivities and opportunities within the study area and capturing and evidencing them within the assessment process. Changes to the WRSE Assessment Questions and new Assessment Questions derived have been bolded in the table for transparency.

It is noted that there is a certain degree of cross-over of Assessment Questions within the SEA Framework i.e. the same question may be asked across a number of Objectives. The rationale

for this is that while the question may be the same, it is considered from a differing viewpoint and within a different context.

Our SEA Framework will be supported by the Assessment Scoring Criteria developed by WRSE which is shown in Appendix D. This details how each SEA topic will be assessed to produce environmental assessments and metrics and determine the scale of effect, including the criteria and datasets which will be used in the SEA assessments. We will overlay local considerations to the WRSE scoring criteria once the WRMP29 SEA Framework is finalised.

WRSE has proposed that the results of other technical assessments will be factored into the scoring for SEA objectives as follows:

- HRA – SEA objective 1.1
- BNG – SEA objective 1.2
- INNS – SEA objective 1.3
- WFD – SEA objective 2.3

Table 4 - Proposed WRMP29 SEA Framework

SEA topic	SEA Objective Number	Proposed SEA Objectives	Assessment questions <i>Will the option or plan likely...</i>
Biodiversity, Flora and Fauna	1.1	To protect all environmental sites (including designated sites and their qualifying features, habitats and species of principal importance, and non-designated sites).	Affect the conservation status of any National Site Network, Ramsar sites and MCZ, undermine or prevent restoration of SSSI condition (including those of potential or candidate designation) or affect the condition of locally designated sites such as Local Wildlife Sites and Local Nature Reserves?
			Enable or reduce the potential of water dependent habitats and species to adapt to climate change?
			Affect habitats or species of principal importance, including blanket bogs/peat, ancient woodland, and chalk streams?
			Impact on a current or future Nature Recovery Network and Local Nature Recovery Strategies?
			Support delivery of the Environmental Improvement Plan targets?
			Protect and enhance priority habitats, and the habitat of priority species?
			Protect and enhance aquatic habitats including wetlands, chalk streams and freshwater species/fisheries?
			Affect marine habitats (including Marine Conservation Zones and Marine Protected Areas) and marine species?
			Avoid habitat fragmentation?
			Reduce or avoid impacts to habitats with important roles in carbon sequestration, such as wetlands?
	1.2	To provide opportunities for habitat creation or restoration and deliver a net benefit/gain for biodiversity.	Provide any opportunities for habitat creation or restoration?
			Provide any opportunities to improve habitat connectivity?
			Help deliver the Nature Recovery Network and support the delivery of Local Nature Recovery Strategies?
	1.3	To avoid and minimise the spread of, and, where required, manage invasive and non-native species (INNS).	Prevent or facilitate the spread / introduction of INNS?
			Create an opportunity to improve biodiversity value through removal of INNS?

SEA topic	SEA Objective Number	Proposed SEA Objectives	Assessment questions <i>Will the option or plan likely...</i>
Water	2.1	To promote and enhance the sustainable and efficient use of resilient water resources.	Affect the resilience of water resources, now and into the future?
			Provide a reliable and sustainable water supply which meets changing demand?
			Lead to reduced leakage from the supply network?
			Reduce potable water consumption?
			Promote rainwater harvesting, including in sustainable drainage systems, for non-potable water uses such as irrigation?
			Support greywater recycling in new development?
	2.2	To reduce and manage flood risk, taking climate change into account.	Contribute to, or reduce the risk of flooding and coastal erosion?
			Address vulnerability to flood risk?
	2.3	To protect and enhance the quality and quantity of surface and groundwater resources.	Affect surface water quality or quantity (such as water levels and flow) <i>including in chalk rivers and streams?</i>
			Affect ground water quality or quantity (such as water levels and flow)?
			Affect Bathing Waters?
			Affect the presence of contaminants in waterbodies?
			Contribute to or conflict with the achievement of WFD objectives?
			Support achievement of environmental objectives set out in River Basin Management Plans, Shoreline Management Plans and Marine Plans?
			Affect the temperature of waterbodies?
Soil	3.1	To protect and enhance the functionality and quality of soils, including the protection of high-grade agricultural land, and geodiversity.	Prevent soil erosion and retain soil stocks as a natural resource?
			Protect, maintain and enhance soil function and health, including minimising land contamination?
			Promote the sustainable and efficient use of land, including the use of brownfield/greenfield land?
			Prevent mineral sterilisation?
			Affect high grade agricultural land?
			Prevent nutrient loading?

SEA topic	SEA Objective Number	Proposed SEA Objectives	Assessment questions <i>Will the option or plan likely...</i>
			Protect and enhance protected sites designated for their geological interest and wider geodiversity?
Air	4.1	To maintain and improve air quality.	Affect an air quality management area (AQMA)? Affect local air quality?
Climatic Factors	5.1	To reduce greenhouse gas emissions.	Affect greenhouse gas emissions? Support reduction of embodied and operational greenhouse gas emissions, including carbon dioxide? Contribute to the national targets to achieve net zero by 2050? Support use of low carbon/renewable energy or supply of energy from low carbon/renewable energy sources? Support the use of carbon offsets/removals to net-off residual emissions? Support creation of new carbon sinks/removals through natural sequestration (Nature Based Solutions) including that by natural habitats, blue-green infrastructure and soils?
	5.2	To adapt and improve resilience to the threats of climate change through mitigation, where required, and reducing vulnerability of built assets.	Address vulnerability to climate effects? Create catchment resilience to drought? Future proof against the effects and risks of climate change (e.g. flooding, sea level rise, coastal erosion) and extreme weather events (freezing, heat waves, intense storms)? Encourage the use of Nature Based Solutions to aid with climate adaptation?
Cultural Heritage (and Historic Environment)	6.1	To conserve and enhance cultural and historic environment including the significance of designated and non-designated heritage assets and their settings and archaeological important sites.	Affect conservation areas or historic landscape/townscape areas? Affect public access to, or enjoyment of, features of cultural heritage (including language)? Conserve or enhance the historic environment, including heritage assets such as historic buildings, conservation areas, features, places and spaces, and their settings? Alter hydrological setting of water-dependent assets, such as important wetland areas with potential for paleo-environmental deposits? Affect the archaeologically important sites?

SEA topic	SEA Objective Number	Proposed SEA Objectives	Assessment questions
			<i>Will the option or plan likely...</i>
			Affect heritage assets at risk?
Landscape (and Visual Amenity)	7.1	To conserve, protect and enhance designated and undesignated landscape, seascape and townscape character and visual amenity.	Influence the character of the seascape, landscape, or townscape including tranquillity and views?
			Affect visual amenity?
			Protect and enhance designated landscape and features, and their setting?
			Affect access to existing landscape features?
			Create or improve built and green infrastructure which contributes to access to existing landscape features?
Population and Human Health	8.1	To maintain and enhance the wellbeing of the local community, including social, physical, and mental wellbeing.	Provide the opportunity to educate or inform the public about the natural environment, water resource, and water sustainability?
			Improve opportunities for social interaction and community cohesion?
			Affect local noise and light levels?
			Affect opportunities for recreation and physical activity?
			Affect Public Rights of Way (PRoWs)?
	8.2	To maintain and enhance the water environment for other users including recreation, tourism and navigation.	Secure resilient water supplies for the health and wellbeing of customers?
			Improve access to the natural environment for recreation, including those living within deprived areas?
			Maintain or enhance tourism?
	8.3	To promote a sustainable economy.	Affect fisheries for recreational purposes?
			Contribute to sustaining and growing the local and regional economy?
			Provide employment opportunities and economic diversity?
Material Assets	9.1	To avoid negative effects on built assets and infrastructure (including green infrastructure).	Affect fisheries or commercial purposes?
			Protect and enhance existing infrastructure?
			Protect and enhance existing green infrastructure?
	9.2	To reduce, and make more efficient, the consumption of	Affect the surrounding transport network?
			Promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill?

SEA topic	SEA Objective Number	Proposed SEA Objectives	Assessment questions
			<i>Will the option or plan likely...</i>
		resources, and minimise the generation of waste.	Use existing water assets and infrastructure?
			Encourage the use of sustainable design and materials, including the incorporation of circular economy principles in the design?

Consultee question prompt: Do you have any comments on the proposed SEA Objectives and Assessment Questions?

Consultee question prompt: Do you have any comments on the SEA Objectives scoring criteria which will be used to complete the assessment?

9. Development of Reasonable Alternatives

The SEA Regulations requires:

‘The Environmental Report must (in line with Schedule 2 & Regulation 12 (2) and (3)) identify the likely significant effects on the environment of implementing the plan and reasonable alternatives’

Schedule 2 Regulation 12 (2) and (3)

9.1. The approach to identifying and assessing WRMP options

We, along with the other water companies in the region, produced a long list of options which will be progressively refined through a structured sequence of decision-making points by WRSE. This process begins with a broad, unconstrained set of potential interventions and will narrow the list to the preferred options that inform the programme of development.

The preferred options will be identified following selection by the WRSE regional investment model and detailed environmental assessment and programme optimisation.

WRSE will utilise the digital environmental assessment tool, which has been created to support water supply companies in producing consistent assessment of options (see also Chapters 10.2 and 10.3), in the identification of preferred options.

9.2. Development of alternative WRMP programmes

The Regional Plan will produce three alternative programmes to be assessed by us in our WRMP29 SEA:

- Best Value Plan (BVP)
- Least Cost Plan (LCP); and
- Best Environmental and Societal Plan (BESP).

The alternative programmes generated will be fed back into the environmental assessment process and the cumulative effects of the alternative programmes assessed using the SEA Framework (see Chapter 10.4).

10. Proposed Environmental Assessment Methodology

10.1. Overall assessment approach

To determine the environmental effects of the options and alternatives programmes, WRSE has proposed the following staged assessment process which we support:

- A high-level environmental screening assessment;
- Detailed options-level assessment (including SEA, HRA, WFD, Natural Capital, BNG, and INNS assessments); and
- Programme Appraisal – including cumulative and in-combination effects for SEA, HRA, WFD, natural capital, BNG, and INNS.

This chapter sets out a summary of the proposed assessment methodology in relation to the SEA as we understand it at the time of writing this report. We note that the methodology is still being refined by WRSE and water companies and that a final Method Statement will be published by WRSE in due course.

Figure 2 presents a diagram of the overarching environmental assessment approach. It shows the key interactions between the environmental assessment and the options decision-making and plan development as part of an integrated and iterative process. The final WRSE RP29 (the Best Value Plan) will be a framework for member water companies WRMP29.

10.2. Digital assessment tool

The options appraisal process for the Regional Plan, which is used to inform our WRMP29, will be supported by the WRSE digitally enabled generation of environmental assessments, which provide a consistent semi-automated approach to producing assessment outputs. Using standardised datasets and criteria, the digital tool enables the systematic assessment of options against SEA, HRA, WFD, INNS, BNG and NC requirements. This is an iterative process using agreed datasets and receptors, as set out within the SEA framework in Chapter 8.

The tool is comprised of a suite of semi-automated process codes, which produce environmental assessment outputs, that will be used to assess water resource options provided by us and the other water companies. The tool has been developed using professional judgement and considers source, receptor and pathways, with each SEA objective or technical assessment having its own criteria and thresholds for each option type. The environmental assessment outputs will meet the statutory requirements of SEA, HRA Level 1, WFD Level 1, INNS Screening, strategic BNG Assessment and NC Assessments. These are the so-called L1 assessments.

This digital approach ensures that a coordinated and transparent evidence base is available for both regional and sub-regional assessments, allowing us to draw on a common set of inputs when refining options or selecting them for the plan, and developing our WRMP29 appraisals.

As part of the environmental appraisal process for the Regional Plan, the SEA and associated Level 1 assessments will be undertaken on the feasible list of options provided by us and the five other water companies in the region. The tool will be used to produce the Level 1 assessment outputs, and will identify the options requiring Level 2 assessments, as well as

sensitive receptors potentially impacted by each option, identifying additional benefits and disbenefits associated with different option types, among other enhancements.

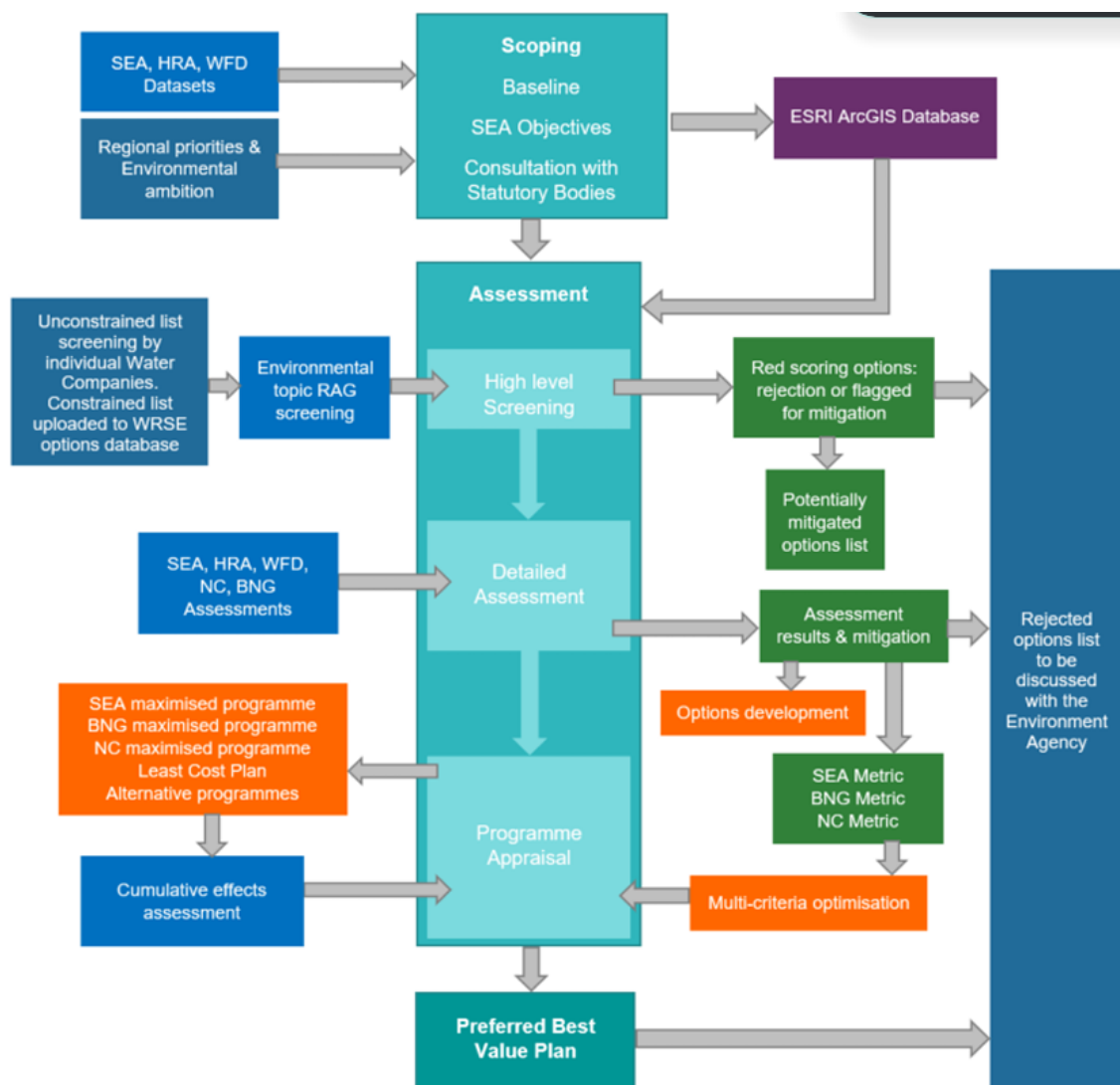


Figure 2 – WRSE overarching environmental assessment approach

The SEA and Level 1 technical assessment outputs from WRSE will then be issued to us and the other WRSE water supply companies, in spreadsheets for detailed interrogation of the results. The digitally enabled approach will allow option performance also to be explored in a visualisation tool, enabling early and iterative consideration of option design improvements and, where changes to options may be identified, the modified option can be reassessed using the tool.

The assessment outputs will then be used by us and the other regional water companies to complete full SEAs for the feasible option list where required for their WRMPs. Alongside the environmental assessment outputs, the digital assessment tool will also provide environmental metrics that will feed into the IVM and inform programme development and decision-making.

10.3. Options Assessments

Our WRMP29 options will undergo multiple stages of assessment according to the following process:

1. **Primary screening of the unconstrained options**, this is undertaken by us to identify the technically feasible options that can progress to further assessment.
2. **Feasible options are passed to WRSE** and uploaded with associated option metadata to the WRSE data landing platform.
3. **WRSE undertakes the SEA and associated Level 1 assessments on all of the feasible options** using the digital assessment tool. The assessment will clearly identify sensitive receptors for each option, providing transparency on how assessment outcomes have been derived. This process produces consistent outputs for SEA, WFD, HRA, INNS, BNG and NC, which are then issued to us for review.
4. **We review the feasible option performance** and consider whether there is a need or opportunity to modify the option, for example if minor re-routing of a pipeline would avoid an environmental constraint that could then avoid the need for a Level 2 assessment, or not, meaning the current design information and assessment results remain settled. If modification is chosen, the option can be submitted for re-assessment as a new option variant. This presents an opportunity for iterative re-design and optimisation of underperforming options.
5. **We complete Level 2 assessments on the feasible options that trigger Level 2 assessments**, including WFD Level 2, HRA Appropriate Assessments and INNS Level 2 Risk Assessment (where required), alongside updates to the NC and BNG assessments to inform refinement and programme development within our WRMP29 process. It is expected that the findings from Level 2 assessments will be uploaded to the WRSE Data Landing Platform (DLP) in an agreed format.
6. **WRSE updates the digital assessments and metrics** with the inclusion of Level 2 results where available, as part of an iterative process. This enables integration of the information within the option's final metric outputs, prior to consideration in the regional investment model. At this stage, for poorly performing options, there may also be an opportunity to use the data to start comparing performance with possible alternatives or combinations of alternatives, and begin building evidence that may later be needed to demonstrate why an option might justify consent through derogation or similar.
7. **We refine the feasible list** to the constrained list of options and provide updates in projected costs for environmental mitigation.
8. **WRSE runs the regional investment model**, identifying the preferred list of options based on a series of model parameters and best value planning metrics, including the environmental metrics for SEA, associated Level 1 assessments and Level 2 assessments for HRA, WFD, INNS and any updates to the NC, BNG and SEA outputs required after Level 2 assessment. Running the model will enable identification of:
 - Programmes (combinations of options) based on environmental parameters in line with WRPG requirements for BVP, LCP and BESP
 - Environmental effects of alternative programmes selected

10.4. Cumulative and transboundary effects assessments

Intra cumulative effects

WRSE will complete intra-plan cumulative effects assessment for the BVP, LCP and BESP against the SEA objectives. This will help to identify potential constraints for the BVP and

alternative programmes early in the planning process. The BVP assessment will include cumulative assessments of the SEA and associated environmental assessments of HRA, WFD, BNG, INNS and NC.

The approach will build on the geospatial analysis that will be used for the digital assessment tool, including SEA objectives and associated Level 1 and Level 2 assessments, to undertake a receptor-based approach to the cumulative intra-plan effects assessment. The approach is subject to further development and agreement, but it will likely focus on the transboundary effects of multiple options acting upon the same receptor both near the borders between water companies and all selected options that interact.

A regional approach to cumulative effects assessment is likely to include at least four main steps:

- Step 1 – Scope: Identification of the types of receptors to be included in the assessment, such as ecological habitats, species, heritage assets and community receptors. Agree the Zone of Influence, for example, 500m and associated potential pathways to a Ramsar site.
- Step 2 – Spatial Analysis: A spatial analysis will be conducted to identify instances where two or more individual options may have a direct or indirect impact on the same receptor based on their geographical location. Direct impacts occur when the footprints of the options intersect with the footprints of the receptors. Indirect impacts occur when the footprint of the options do not directly intersect with the receptors but are located within the Zone of Influence.
- Step 3 – Temporal Analysis: Consideration of the temporal aspects of individual options, such as construction and operation start dates, to screen out cumulative intra-plan effects when the timescales do not overlap will be undertaken. This temporal analysis will be undertaken for each programme ‘future’, or scenario, developed as part of the adaptive planning process. These conclusions are relevant only to the construction stage of the assessment and may not be available before programme appraisal.
- Step 4 – Operational Analysis: The operational nature of options impacting the same receptor, and the likely cumulative intra-plan effects during the plan's operation, will be evaluated. Due to the uncertainty regarding the operational lifetime of individual options, it will be assumed that all options will eventually operate simultaneously, regardless of their construction and operation start dates. Therefore, temporal analysis cannot provide conclusions about operational cumulative intra-plan effects, and the nature of the options must be considered when making conclusions on operational cumulative intra-plan effects.

We will, however, undertake an additional review and assessment considering additional local receptors within the WRMP29.

Inter cumulative effects

WRSE will complete inter cumulative effects at a strategic level to identify any key links to other regional frameworks, programmes, plans and strategies. This assessment will be qualitative in nature using the spatial data to identify any potential risks or opportunities associated with the identified linkages.

We will, however, undertake an additional review and assessment against local development plans, programmes or projects within the WRMP29.

10.5. Integration with other environmental assessments

The SEA is being undertaken as part of an integrated environmental assessment process, alongside HRA, WFD, BNG, NC and INNS assessments which are informed by and inform the SEA. Each assessment process is described below. Further details about the methodologies for these assessments are available in the WRSE RP29 SEA Scoping Report June 2026. It is noted that they are still in the process of being refined by WRSE and the water companies.

Habitats Regulations

We must ensure WRMP29 complies with the requirements of the Habitats Directive (Council Directive 92/43/EEC) as retained in UK law and implemented through the Conservation Habitats and Species Regulations 2017 (as amended). The Habitats Regulations 2017 require that a HRA is carried out. Under these Regulations any plan or project which falls within a potential zone of influence of a Habitats site must be subject to an HRA. Habitats sites include Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). The Government also expects potential SPAs (pSPAs), candidate SACs (cSACs), and any confirmed HRA compensatory habitat and Ramsar (an international rather than European designation) sites to be considered in the same way³⁰. If the plan or project is likely to have a significant effect on a Habitats site (either alone or in-combination with other plans or projects) and is not directly connected with, or necessary for the management of the site, it must be subject to an Appropriate Assessment (AA) to determine the implications for the site in view of its conservation objectives. Both the 'Strategic Environmental Assessment and Habitat Regulations Assessment - Guidance for Water Resources Management Plans and Drought Plans' and WRPG (2026)³¹ recommend that all WRMPs should be subject to the first stage of HRA, i.e. screening, for likely significant effects (LSE).

The HRA is undertaken in three stages:

1. Screening to identify likely significant effects
2. Appropriate Assessment to determine whether adverse effect on site integrity can be ruled out
3. Where necessary, derogation tests, including Imperative Reasons of Overriding Public Interest (IROPI) to determine whether a plan may proceed despite adverse effects, subject to strict conditions.

In line with WRPG (2026), the HRA also takes account of potential effects associated with existing abstractions. Within the WRMP, these are considered through the Environmental Destination scenarios, which identify changes to abstraction licences that may be required to ensure compliance with environmental legislation, including HRA.

³⁰ Ministry of Housing, Communities and Local Government (2024) National Planning Policy Framework (NPPF). Paragraph 194. Available: <https://www.gov.uk/guidance/national-planning-policy-framework>

³¹ Environment Agency. 2026. Water resources planning guideline guidance. Available at: <https://www.gov.uk/government/publications/water-resources-planning-guideline/water-resources-planning-guideline>

Level 1

WRSE will undertake a HRA Level 1 'screening' for each of the options on the feasible list of options and the aim of the Screening Stage is to identify if there are any Likely Significant Effects (LSE) on European Sites without including consideration of any mitigation. Where LSE on a European site are identified or cannot be ruled out, an Appropriate Assessment (Level 2) will be carried out.

Level 2

Where screening of an option concludes a Likely Significant Effect (LSE), We will undertake a Level 2 'Appropriate Assessment'. The assessment will consider the potential effects of the option on the designated features of European sites SACs, SPAs, candidate and proposed SACs and SPAs), and Ramsar sites, which are afforded equivalent protection under government policy.

The results of the Appropriate Assessment will be fed back to WRSE to inform the SEA metric for that option within the Regional Model.

We shall adopt an option only after having ascertained that it is unlikely that it will adversely affect the integrity of a Habitats site.

The findings of these assessments will be reported in the SEA.

Water Framework Directive

The WFD establishes a framework to improve and integrate the management of water bodies across river basin districts. The WFD was introduced into European Union law in 2003, and since the United Kingdom's exit from the European Union, the regulations have been set out in The Water Environment (Water Framework Directive) (England and Wales) regulations 2017 – also known as the 'Water Environment Regulations' (WER), but most commonly known as the 'WFD Regulations', including within WRMP29 documentation. The WFD regulations have the associated environmental objectives outlined below.

For surface water bodies:

- a) Prevent deterioration of the status of each body of surface water;
- b) Protect, enhance and restore each body of surface water (other than an artificial or heavily modified water body) with the aim of achieving good ecological status and good surface water chemical status, if not already achieved, by 22nd December 2021;
- c) Protect and enhance each artificial or heavily modified water body with the aim of achieving good ecological potential and good surface water chemical status, if not already achieved, by 22nd December 2021;
- d) Aim progressively to reduce pollution from priority substances and aim to cease or phase out emissions, discharges and losses of priority hazardous substances.

For groundwater bodies:

- a) Prevent deterioration of the status of each body of groundwater;
- b) Prevent or limit the input of pollutants into groundwater;

- c) Protect, enhance and restore each body of groundwater, and ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater chemical status and good groundwater quantitative status, if not already achieved, by 22nd December 2021;
- d) Reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce pollution of groundwater.

River basin management plans (RBMPs) set out how organisations, stakeholders and communities will work together to improve the water environment and are updated for each six-year river basin planning cycle leading up to 2033. They outline the actions required to enable natural water bodies to achieve good status. Artificial and Heavily Modified Water Bodies (A/HMWB) may be prevented from reaching GES due to the modifications necessary to maintain their function, or 'human use'. They are, however, required to achieve Good Ecological Potential (GEP). The objectives set for individual water bodies within the RBMPs and the measures identified to achieve them, for example actions to address reasons for failure, the catchment-based approach (CaBA) or requirements in related plans such as abstraction licensing strategies (ALS) are of key relevance for our WRMP29.

These objectives will need to be considered in the planning of all new activities in the water environment. Existing activities in operation are covered within the WFD assessment process as part of the existing baseline (potentially including significant water management issues). As such, they are under regular review with respect to WFD objectives and therefore need to be considered as part of the context for WFD compliance assessment for any new proposals, especially if they are identified as a reason for failing WFD objectives in individual water bodies. Therefore, the Environment Agency (the competent authority in England responsible for delivering the Water Framework Directive) has recommended that decisions setting policy, including large-scale plans such as WRMPs, take account of the requirements of the WFD. This is reiterated in the WRPG, any new activities should be assessed against the latest RBMP measures and objectives for each water body, meet any obligations to avoid future deterioration in status while considering the environmental objectives of the WFD regulations.

Level 1

WRSE will undertake a WFD Level 1 'screening' for each of the options on the feasible list. This assessment should include and consider any mitigation measures that would be put in place to protect a water body status.

Level 2

Where screening of an option concludes a potential WFD impact, we will complete a Level 2 detailed impact assessment. The assessment involves the consideration of the likely impacts of both construction and operation of each option element on WFD requirements, in particular consideration of whether there is a risk of deterioration of water body status between status class of any WFD element. We shall adopt an option only after having ascertained that it is unlikely that such risk will occur.

The findings of these assessments will be reported in the SEA.

Invasive and Non-Native Species

The WRP (2026) states water companies should review whether current operations and future solutions risk spreading INNS or create pathways which increase the risk of spreading INNS. Where there is increased risk, measures must be proposed to manage this. The Environment Agency may need to be contacted about these issues on a case-by case basis.

The INNS investigation would be completed in accordance with the Environment Agency SRO Aquatic INNS Risk Assessment Tool (SAI-RAT) which has been developed based on working principles within the well-established Wessex Water and Northumbrian Water tools.

INNS dispersal can occur through a range of recreational and operational (water company) 'pathways', which may include water or land-based recreation and sports, and water company operations, such as ground maintenance and the operation of raw water transfers (RWTs).

For cross-catchment RWTs in England, the Environment Agency's position statement (the "position statement") regarding managing the risk of spread of INNS through RWTs should be referred to. The position statement is supported by a document which states which catchments are considered isolated.

The WRP states that the Environment Agency will decide whether mitigation will be necessary for schemes on a case-by-case basis to ensure they do not significantly increase the risk of INNS transfers; and that the Environment Agency has developed an INNS risk assessment tool which provides a consistent approach to assessing INNS risks across water supply options.

As suggested by the position statement, key legislation relating to INNS spread via water transfers includes:

- The Invasive Alien Species (Enforcement and Permitting) Order 2019³² – describes offences relating to the importing, keeping, breeding, and release of Species of Special Concern³³.
- Wildlife and Countryside Act 1981 Section 14³⁴ – describes offences relating to the release or spread animals and plants listed in Schedule 9³⁵, or other species not normally found in Great Britain in a wild state.

Further legislation relating to INNS is listed by the GB Non-Native Species Secretariat (GB NNSS)³⁶.

Level 1

The Level 1 INNS screening is based on the concept of INNS transfer risk as the product of:

³² UK Government (2019) The Invasive Alien Species (Enforcement and Permitting) Order 2019. Available: <https://www.legislation.gov.uk/uksi/2019/527>

³³ Non-Native Species Secretariat (no date) Species of Special Concern. Available: <https://www.nonnativespecies.org/legislation/species-of-special-concern>

³⁴ UK Government (1981) Wildlife and Countryside Act 1981. Available: <https://www.legislation.gov.uk/ukpga/1981/69/section/14>

³⁵ UK Government (1981) Wildlife and Countryside Act 1981. Available: <https://www.legislation.gov.uk/ukpga/1981/69/section/14>

³⁶ Non-Native Species Secretariat (no date) Legislation / England and Wales. Available: <https://www.nonnativespecies.org/legislation/england-and-wales>

- Severity of impact – representing the potential for the operation of a water resource option to result in the spread of INNS, based on factors such as the level of water treatment, and changes to surface water connectivity.
- Frequency of impact – representing the relative frequency that the operation of a water resource option would alter the potential for INNS spread.

Within this methodology, water resource options are assigned a Severity of Impact rating and Frequency of impact rating, both on a scale of None/ Very low/ Low/ Medium/ High. These are combined in a matrix to give an overall Risk Magnitude rating of None/ Very low/ Low/ Moderate/ High. The INNS screening uses a conservative approach in that it triggers more detailed Level 2 assessment for in-catchment and cross catchment transfers.

Level 2

Following the Level 1 INNS screening, the Level 2 INNS assessment will be carried out by us for all options screened in. In essence, this includes any scheme which would involve a new reservoir, or the movement of raw water during operation.

The Level 2 assessment will use the Environment Agency's SRO Aquatic INNS Risk Assessment Tool (SAI-RAT) v2.01, which is the latest iteration of the INNS risk assessment tool referred to in the WRP.

For those options presenting a potential increased risk or speed of INNS transfer, a mitigation options appraisal will be conducted. This will involve reviewing known mitigation options and determining their effectiveness with regard to species type, transfer pathway and feasibility. Where existing INNS assessments have been undertaken by water companies, these findings will be drawn upon as part of this process.

The findings of these assessments will be reported in the SEA.

Biodiversity Net Gain

Biodiversity Net Gain (BNG) is an approach that aims to leave the natural environment in a measurably better state than beforehand. Natural England have produced a Biodiversity Metric that provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change.

In England, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as amended by the Environment Act 2021), requiring development proposals to deliver a minimum of 10% BNG.

BNG will be considered at both the option level (and the plan level by WRSE) to ensure that opportunities to enhance biodiversity are embedded throughout the plan-making process. At the option level, individual options will be assessed for their potential to deliver biodiversity gains, including through habitat creation, restoration, and enhancement, alongside avoidance and minimisation of adverse effects. Options should seek to maximise opportunities for BNG proportionate to their scale, location, and environmental context, including the use of nature-based solutions where feasible.

At the Regional Plan level, the cumulative contribution of selected options to BNG will be considered to ensure that the Regional Plan supports a strategic, coherent approach to biodiversity enhancement, consistent with local nature recovery priorities. This includes consideration of opportunities to contribute to local nature recovery strategies (LNRS), strengthen ecological networks, and deliver wider environmental benefits.

The application of BNG within WRMP29 (undertaken by WRSE) will remain proportionate and strategic, recognising that detailed quantification of biodiversity units and formal compliance with statutory BNG requirements will be undertaken at the project or planning application stage, where applicable. However, early integration of BNG principles at the plan-making stage ensures that biodiversity enhancement is embedded in option selection, design, and appraisal, helping to avoid later constraints and supporting alignment with environmental policy objectives³⁷.

Where appropriate, we will consider the regional BNG assessment results to further refine the contribution of selected options.

The findings of these assessments will be reported in the SEA.

Natural Capital

The WRPG (2026) states that water companies must consider the wider environment and society when developing WRMPs, recommending that natural capital assessment should be used to inform decision-making where applicable. A natural capital assessment entails assessing the potential impact on an option on the extent and condition of natural assets (usually habitats) and the resulting change in ecosystem service flows (environmental benefits provided to people, the environment and the economy). Where possible and applicable, the impact to ecosystem service flows should be monetised. The guidance specifically states that a natural capital assessment should be undertaken and presented for supply and transfer options.

The natural capital approach is similarly supported by the Government's ambition to deliver environmental net gain, as set out in the 25 Year Environment Plan and Department for Environment Food and Rural Affairs (DEFRA) Guiding Principles. WRSE will be completing Natural Capital assessments on all our feasible options. The Regional Plan should therefore provide a reliable natural capital assessment that aligns with the Guidelines, provides a framework to be built upon within our WRMP29, and is suitable for the WRSE Regional Plan.

Where appropriate, we will consider the regional NC assessment results to further refine the contribution of selected options.

The findings of these assessments will therefore be reported in the SEA.

³⁷ HM Government (2024), Biodiversity net gain: planning practice guidance, available at: <https://www.gov.uk/guidance/biodiversity-net-gain>; and Town and Country Planning Act 1990 (as amended), Schedule 7A (inserted by the Environment Act 2021), available at: <https://www.legislation.gov.uk/ukpga/1990/8/schedule/7A>

Consultee question prompt: Do you have any feedback on the proposed assessment approach and the format of the Level 1 and Level 2 assessments?

11. Next Stages in the SEA and the WRMP processes

Following the SEA Scoping consultation, the assessment will progress to SEA Stage B, as described in Chapter 2.3. The options within our WRMP29 and the cumulative effects of alternative programmes will be assessed against the SEA Framework, including the SEA objectives, and other environmental assessments in line with the methodologies presented in Chapters 9 and 10. The results will be presented in the SEA Environmental Report. The proposed structure and content of the report is set out in Table 5.

Table 5 - SEA Environmental Report - proposed structure and content

Structure of the Environmental Report	Information to include
Non-technical summary	Summary of the SEA process Summary of the likely significant effects of the Water Resource Management Plan Statement on the difference the process has made to date How to comment on the report
Background	Purpose of the SEA Objectives and context of the Water Resources Management Plan
Methodology	Approach adopted in the SEA Review of interlinkages with other environmental assessments Who was consulted and when Difficulties encountered in compiling information and carrying out the assessment
SEA Objectives, Baseline and Context	Summary of the scoping stage: Plans, policies and programmes review and implications for WRMP29 and SEA Description of the baseline characteristics and the predicted future baseline Environmental issues and opportunities Limitations of the data and assumptions made SEA Framework
Thames Water WRMP29 Options Assessment	Description of options Assessment of environmental effects Proposed mitigation measures and enhancement opportunities
Thames Water WRMP29 Plan Assessment	Assessment of alternative programmes and cumulative effects Uncertainties and risks
Implementation	Links to other tiers of plans and programmes and the project level Proposals for monitoring
Appendices	Results of other environmental assessments

The SEA Environmental Report will be issued for public consultation alongside the draft WRMP29.

Comments received on the SEA Environmental Report will be recorded in a log and addressed in the final SEA Environmental Report. Any significant alterations to the WRMP29 as a result of the consultation will be assessed in terms of their environmental implications and influence on the revision of the WRMP29. The final SEA Environmental Report will be amended as necessary to reflect any changes.

Following adoption of the WRMP29, a Post-Adoption Statement will be produced which outlines how the SEA process has influenced the development of the WRMP29, how consultation comments were taken into consideration and how the WRMP29 will be monitored. This summary will provide enough information to make it clear how our WRMP was influenced as a result of the SEA process and consultation. Stage E 'Monitoring implementation of the plan' of the SEA process will be carried out by us. It is likely that monitoring of the WRMP will be incorporated with the annual monitoring process. Monitoring proposals will be developed as part of the SEA process, presented in the SEA Environmental Report and confirmed in the Post-Adoption Statement.

An indicative programme for the preparation/consultation on SEA alongside wider plan making activities is presented in Table 6.

Table 6 - Indicative WRMP29 and SEA development programme

Date	Action
Jun/Jul 2026	Consultation on WRSE RP29 SEA Scoping Report
Sept/Oct 2026	Consultation on Thames Water WRMP29 SEA Scoping Report
Spring 2026 onwards	Informal consultation with SEA regulators and other stakeholders as part of wider activities for development of WRSE RP29 and Thames Water WRMP29
10 May 2027	Publication of Thames Water Resource Position Statement (informed by SEA and other environmental assessments)
1 February 2028	Draft WRMP29 and Draft SEA Environmental Report submission to the Secretary of State
March – May 2028	Public consultation on Draft WRMP29 and Draft SEA Environmental Report
Summer 2028	Further informal consultation to inform Thames Water Statement of Response including SEA regulators and other stakeholders
September 2028	Statement of Response published for public consultation
Autumn 2028	Statement of Response, revised WRMP29 and revised SEA Environmental Report submission to Secretary of State
Winter/Spring 2029	Final WRMP29 published accompanied by Final SEA Environmental Report and SEA Post-Adoption Statement
Summer 2029 onwards –	Final WRSE RP29 published

Consultee question prompt: Do you have any other comments on the scoping report?

