YORKSHIRE WATER
WATER RESOURCES MANAGEMENT PLAN 2024

Strategic Environmental Assessment: Post Adoption Statement

Report for: Yorkshire Water

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1. INTRODUCTION

1.1 BACKGROUND TO THE WRMP

Every five years water companies in England and Wales are required to produce a Water Resources Management Plan (WRMP). The WRMP sets out how water companies aim to balance the supply and demand for water over the next 25 years in a cost-effective manner, managing future demand for water and ensuring resilient and sustainable water supplies. It consists of several elements, including:

- A 25-year demand forecast describing how much water customers will need in the future, considering factors such as changing behaviours and population growth;
- A 25-year supply forecast describing how much water is available for use now and how this may change in the future, considering the impacts of climate change and potential sustainability reductions;
- An assessment of the options to manage the demand for water, including installing water meters at customers' properties, helping customers to be more water-efficient, and reducing leakage;
- An assessment of the options for providing additional reliable supplies of water, including water abstraction, water transfers and desalination.

The Yorkshire Water draft Water Resources Management Plan (dWRMP) was published for consultation in November 2022, accompanied by the Strategic Environmental Assessment (SEA) Environmental Report. Comments relating to the Environmental Report and the SEA process, and the actions taken by Yorkshire Water in response to the consultation, were recorded in the Statement of Response, published in September 2023, accessible at https://www.yorkshirewater.com/about-us/resources/water-resources-management-plan/. Following this, a revised draft Water Resources Management Plan (rdWRMP), including an updated Environmental Report, was submitted to the regulators on 31 October 2023 for further feedback. In February 2024, Yorkshire Water received a request for further information from Defra which has been addressed in an Annex to the Statement of Response[1] published in April 2024.

Yorkshire Water have since made further changes to the WRMP24 as a result of these issues raised including updating the SEA Environmental Report to:

- Outline how the SEA has informed option development and selection of the preferred plan;
- Ensure all alternative options are considered in the revised plan assessment;
- Improve the scope of the SEA relating to the Tees transfer option and ensure accountability and responsibility of assessment between Yorkshire Water and Northumbrian Water is defined.

The Final WRMP24, alongside the Final SEA Environmental Report was published in January 2025, following receipt of approval from the Secretary of State.

1.1.1 The SEA Process

The review of all available guidance including: A Practical Guide to the Strategic Environmental Assessment (ODPM, 2005), Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (UKWIR, 2021), the updated Final Water Resources Planning Guideline 'WRPG' (Environment Agency, 2021) and supplementary guidelines on Best Value Planning and Environment and Social Decision Making (Environment Agency, 2021, concluded that the WRMP falls under the SEA. The WRMP has been subject to SEA in compliance with the SEA Regulations. This SEA Post Adoption Statement is produced in accordance with the provisions of Regulation 16 of the SEA Regulations.

The SEA process for Yorkshire Water's WRMP started in 2021 and ran in parallel with the development of the WRMP. An SEA Environmental Report was produced with the dWRMP and was further updated to accompany the rdWRMP. Habitats Regulations Assessment (HRA) screening of the WRMP was also undertaken and helped to inform the SEA process. Following Defra's review of the rdWRMP, some further amendments were made to the WRMP prior to final publication in January 2025. The SEA informed the finalisation of the preferred programme of measures in the WRMP.

[1] Yorkshire Water (2024) Annex to Yorkshire Water Statement of Response for WRMP24. Available at: https://www.yorkshirewater.com/media/y3nf1heh/wrmp24_annex_to_sor_web.pdf [Accessed September 2024]

1.1.2 Purpose of the SEA Post Adoption Statement

This SEA Post Adoption Statement is produced in accordance with the provisions of Part 4 of the SEA Regulations (see **Appendix A**). In accordance with Regulation 16 of the SEA Regulations, this SEA Post Adoption Statement describes:

- How environmental considerations have been integrated into the Final WRMP (Section 2)
- How the Environmental Report has been taken into account when finalising the preferred plan (Section **Error! Reference source not found.**)
- How responses to consultation have been taken into account (Section 4)
- Reasons for choosing the Final WRMP as adopted, and why other reasonable alternatives were rejected (Section 5)
- The measures that are to be taken to monitor the significant environmental effects of implementation of the Final WRMP (Section 6).

2. HOW ENVIRONMENTAL CONSIDERATIONS HAVE BEEN INTEGRATED INTO THE WRMP

WRMPs are developed to ensure a reliable, secure water supply over a minimum 25-year planning period and that the measures proposed to maintain the balance between supply and demand for water provide value for money to Yorkshire Water's customers, whilst taking account of environmental and social effects. Environmental requirements are considered in the calculation of available water supply, including incorporation of climate change scenario predictions.

Environmental considerations were incorporated into the development of Yorkshire Water's WRMP from the outset. The initial 'unconstrained' option list was screened against a range of criteria including environmental impact and options identified as unfeasible were constrained out, resulting in a 'constrained' or 'feasible' list of options. The process is explained in more detail in the WRMP.

Those options that were deemed 'feasible' underwent further appraisal to determine the costs and impacts of each option. This included quantifying the capital, operational, carbon, environmental and social costs to produce Six Capitals data. These options were also subject to assessment against the SEA objectives (supported by Water Framework Directive (WFD) and HRA assessments) and incorporation of appropriate mitigation, for example, by routing pipelines to avoid sensitive habitats.

In developing the least cost solution, Yorkshire Water's WRMP24 used an EBSD (Economics of Balancing Supply and Demand) approach extended to include multi-criteria analysis (MCA). The traditional EBSD approach creates a single least cost plan to close the deficit, whereas the MCA approach creates several alternative programmes for closing the deficit which are compared using metrics in addition to cost. The environmental and social related metrics include natural capital, biodiversity, and social and human wellbeing. These data were derived from the SEA, BNG and Yorkshire Water's Six Capitals approach.

The Environment Agency (EA) guidelines require consideration of a best plan for society and environment. The programme costs and benefits to society and the environment are complex and can be represented in several different ways. Within Yorkshire Water's decision-making, social and environmental factors have been considered through:

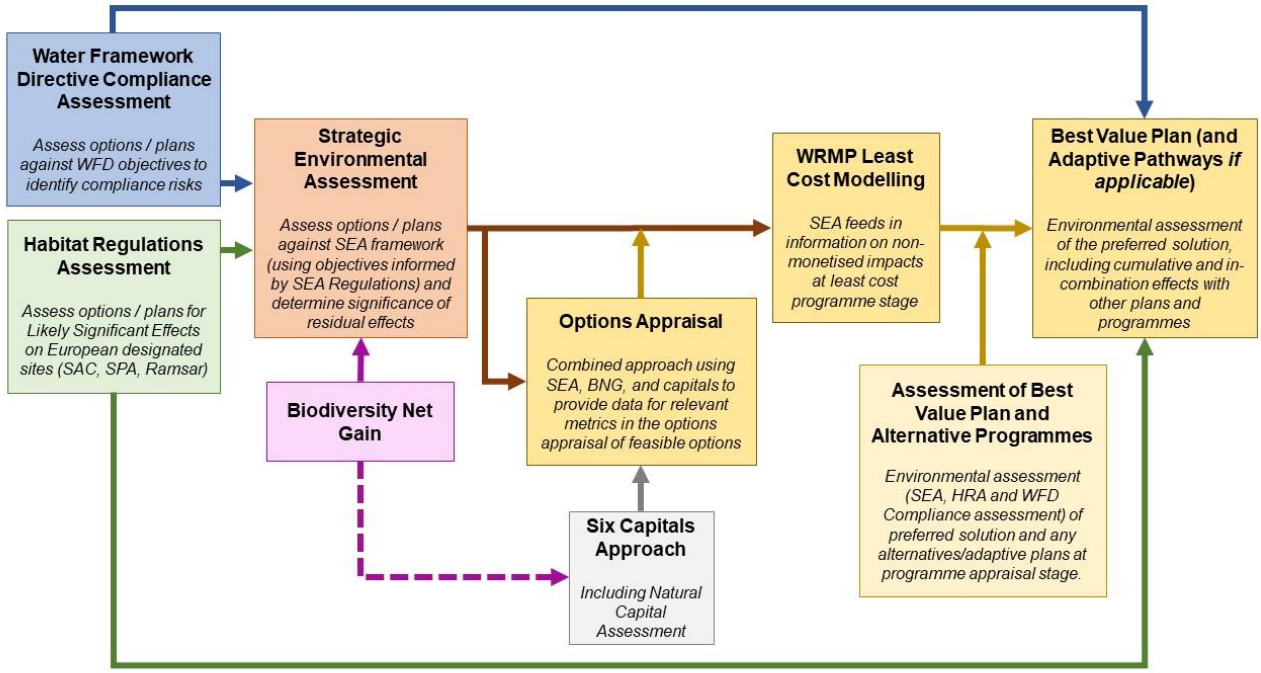
- **Metrics** – the MCA approach includes environmental and social related metrics
- **Optimisation** – As part of our sensitivity testing, Yorkshire Water created a solution programme to meet the most likely supply-demand balance scenario optimised to maximise benefits of the natural and social capital values.
- **Scenarios** – the high (enhanced) ED includes a greater level of abstraction reduction than the most likely pathway, which is based on the BAU+ ED. The environment destination objective benefits to the environment of this scenario are greater than the most likely scenario as the environment could potentially benefit from a more naturalised flow regime.

As the three approaches are addressing social and environmental factors differently, there are some conflicts. The high ED scenario results in a better outcome for the water environment which has an associated social benefit. However, it leads to a greater deficit and more supply options selected; there are positive and negative environmental and social impacts of this. Yorkshire Water have, therefore, optimised both the best for natural and social capital values and high ED solution programmes as candidate solutions when considering the best value plan. These can be compared to the least cost benchmark solution programme and the metrics are used to support the final decision making and consider the trade-offs.

The combined approach to including SEA, BNG and the Six Capitals will provide data for relevant metrics in the optional appraisal system (i.e., environment performance metric and the human and social wellbeing metric). The natural, social, and human capitals overlap with the SEA objectives which creates a risk of double counting any costs and benefits. At the end of the option appraisal process, an assessment was made of the environmental and social impacts of the best value plan to identify if any double counting could be a factor.

Figure 2-1 illustrates how the SEA, HRA and WFD Assessment of the WRMP contributed to the development of Yorkshire Water's WRMP least cost modelling (along with the inclusion of Environmental and Social Costs) and through iteration, led to the identification of the Preferred Programme of measures to balance supply and demand.

Figure 2-1: Integration of SEA, HRA and WFD into the development of the Yorkshire Water WRMP Preferred Plan[2]. Source: YW WRMP2024, Figure 8.5



The SEA can add value to the options appraisal process by identifying a wider range of impacts that cannot be monetised. It considers both adverse and beneficial potential environmental and social effects of feasible options and identifies the cumulative effects of a supply-demand solution. Biodiversity Net Gain (BNG) has also been incorporated into the SEA framework through the inclusion of a specific SEA objective.

A cumulative, or in-combination, assessment has been undertaken on the preferred plan. This involved examining the potential impacts of each of the water resources management options in combination with each other, as well as in combination with the implementation of other relevant plans and programmes. The overall findings of the SEA describe the extent to which objectives for eight environmental topics are met by each of the WRMP options.

HRA Screening was undertaken in parallel with, and informed, the SEA. The screening assessment considered the potential for any likely significant effects (LSEs) on the integrity of European sites arising from schemes included in the feasible options list in the WRMP24. The HRA found that there were unlikely to be any LSEs on European sites from the options within the WRMP, either alone or in combination with other plans or projects. Although WINEP investigations are required during AMP8, no additional abstractions (to include no use of existing licenced headroom) from the River Derwent are planned to be required as part of the Preferred Programme options and Yorkshire Water has no plan to service future growth in demand through increases in abstraction from or likely to affect the River Derwent SAC. Natural England and the EA were extensively consulted as part of the HRA. Additionally, effects on SSSIs arising from potential schemes were assessed in consultation with Natural England.

[2] Yorkshire Water (2024) Final Water Resource management Plan 2024.

3. HOW FINDINGS OF THE ENVIRONMENTAL REPORT HAVE BEEN TAKEN INTO ACCOUNT

3.1 OVERVIEW

Table 3.1 details the key stages of the SEA and its relationship with the development of the WRMP.

Table 3.1 Key stages in the development of the Environmental Report and its relationship with the WRMP

Strategic Environmental Assessment	WRMP	Relationship
Scoping		
During the scoping stage of the SEA, relevant plans, programs, and environmental protection objectives that could influence or be influenced by the WRMP were identified. This stage also outlined the key aspects of the current environmental conditions and their potential changes in the absence of the WRMP.	The WRMP used the plans and programmes identified to ensure that it was fully in compliance with local, national and international policy and legislation. Baseline information supported early optioneering.	The relationships between other relevant plans, programmes, policies, and strategies related to the WRMP and its Environmental Report were detailed. This encompassed various international, European, and national plans and programmes. Information on environmental issues helped identify constraints on the feasibility of specific options. The SEA objectives ensured that all social, economic, and environmental factors were taken into account during the development of the WRMP.
Assessment		
Testing the plan or programme objectives against the SEA objectives	The Environmental Report was developed in tandem with the WRMP.	The Environmental Report was used alongside the options appraisal process to determine the WRMP.
	The WRMP considered unconstrained water management options within the Grid SWZ identified as being in deficit. The technical, environmental, carbon and social attributes of the unconstrained options were reviewed at a high level.	The SEA objectives were used to help inform and refine option screening criteria. High level environmental constraints were identified.
The SEA assessed feasible options comprising 23 customer management options, 9 leakage reduction options, 1 combined leakage and smart metering glidepath option and 54 resource management options.	All feasible demand and supply-side options were subject to a full assessment against the SEA framework which was also informed by option-level HRA Stage 1 screening, WFD compliance and BNG assessment. The findings of the SEA were used to inform three best value metrics (flood risk management, multi-abstractor benefit and human and social well-being) used by Yorkshire Water to determine the best value plan. The metric performance of candidate solution programmes (developed through the WRMP24 optimiser model) were compared to assess the impacts of moving away from the	The SEA was used to assess the feasible options and helped inform the decision making for the preferred plan.

Strategic Environmental Assessment	WRMP	Relationship
	least cost solution and identify where metric trade-offs may be required. Although not all SEA objectives are represented in the metrics, these are fully considered and incorporated into the final decision making and preferred plan delivery (e.g. identification of mitigation measures).	
The SEA included a high level assessment of five adaptive pathways and a detailed assessment of the options comprising the Preferred Plan and the Least Cost solution.	The preferred plan solution, along with any alternative plans were assessed against the SEA framework. A cumulative assessment of the potential impacts of the preferred plan in-combination with each other (intra-plan) as well as with other relevant plans and programmes (inter-plan) was also undertaken. Where significant effects have been identified, the SEA has highlighted potential mitigation measures that may be required and indicated monitoring proposals. At this stage in the process, these will be determined at a high-level and will be further refined during the more detailed design stages of the schemes as they progress forward for implementation. Consultation was undertaken on the WRMP to incorporate the opinions of stakeholders and customers on economic, customer and financial aspects of the WRMP. The long and short term risks of each option were also taken into account.	The SEA influenced the selection of the best value plan by providing an option level assessment for each objective that we use to assess the supply-side options included in a solution programme. The environmental impacts of the individual options and the combined impacts of the whole programme were assessed. Options could have been removed from a programme to avoid any major adverse impacts, however, in order to close the deficit it was not always possible to avoid adverse impacts entirely and mitigation measures where incorporated into the WRMP24.
Reporting		
The key findings of the Environmental Report are presented along with how they have been integrated to Yorkshire Water's WRMP24 in **Table 3-2** below. The extent to which the findings informed the Final WRMP24 is detailed in Section 3.2 of this Post Adoption Statement.		
Consultation		
in Section 4.2. The extent to which the consultation has informed the final WRMP is detailed in Section 4 of this Post Adoption Statement, which also includes responses to consultation on the Environmental Report, along with Yorkshire Water's responses.		
Monitoring		
Proposals for monitoring identified in Section 6 of this Post Adoption Statement will be implemented by Yorkshire Water, where applicable.		

3.2 KEY FINDINGS OF THE SEA

As demonstrated in **Table 3.1** above, the SEA process has played an important role in the development of the WRMP. The inclusion of environmental considerations into decision making has aided the identification of poor performing options. As a result, certain options may have been removed from contention for the preferred plan or, if there is an overriding need for the option, potential mitigation measures have been suggested.

Table 3.2 provides examples of this in addition to the main findings and outputs of the Environmental Report which informed the development of the WRMP.

Table 3.2: Findings of Environmental Report and their considerations in the WRMP

Finding/Output	Integration into the WRMP
Schemes and Programme Impacts	
Individual scheme assessments were undertaken. Potential cumulative scheme effects and mutually exclusive schemes were also identified. On the basis of these assessments, informed decisions were made as to which schemes should be considered for inclusion in programmes or excluded.	SEA outputs were integrated into the WRMP as follows: Schemes in the programme selected by least cost modelling were examined to determine whether they had significant environmental and social effects that had not already been taken into account as monetised impacts. Where schemes were found to have greater impacts, they were removed from the scheme pool (feasible list) and the programmes re-modelled (e.g. Scheme R8f). The least cost solution for the WRMP was refined taking into consideration the non-monetised environmental effects and other factors, such as customer and stakeholder views and wider risks to scheme development and promotion. The SEA examined the Preferred Plan including consideration of cumulative effects that could arise between the schemes in the Preferred Plan, and between the WRMP and other plans. Specific scheme related recommendations are identified below.
R8f Sherwood Sandstone and Magnesian Limestone Boreholes option 6. The scheme identified major adverse impacts on biodiversity.	The scheme was initially selected in the preferred plan but subsequently replaced with an alternative option R8g Sherwood Sandstone Boreholes support to North Yorkshire as this option provided additional resilience for the Dales area whilst having no major or moderate adverse impacts.
DV7a(vi) – Tees to York Pipeline - NWL import 140 Ml/d, DV8B New York WTW and Dual Main South Yorkshire Pipeline, R3 Increased River Ouse pumping capacity , R13 East Yorkshire Groundwater Option 2, R31a Additional bankside storage at York WTW and R37b (ii) River Aire Abstraction option 4 were found to have residual adverse impacts across a number of SEA objectives, including biodiversity.	The SEA results have been reviewed by Yorkshire Water and they have considered the actions that can be undertaken to mitigate any environmental and social impacts. However, it is not always practical to constrain out all schemes where there are potential adverse effects, as the remaining schemes may not be sufficient to meet the deficit and costs could be disproportionately high. These options have been included in the preferred plan despite adverse impacts. Option DV8B was mandated into the WRMP as the only scheme with potential to provide the required yield to offset the loss of the STW import by 2035. An agreed set of monitoring and mitigation measures was identified in the SEA for each objective. The SEA and WRMP set out the timescales for carrying out this monitoring and mitigation prior to scheme implementation. DV8B and DV7a(vi) are being progressed as part of existing strategic resource options (SROs) for AMP8 and would be subject to further environmental assessment during this process.

Finding/Output	Integration into the WRMP
Mitigation of the WRMP	
Effects on population and human health: many of the schemes could result in minor temporary adverse effects including reduced access and enjoyment of amenity sites and associated recreational pursuits, noise, vibration and dust, and traffic disruption during construction of supply schemes or delivery of leakage and demand management solutions.	Mitigation measures, such as communication of the period of works, careful timing of works and temporary provision of alternative access routes and sites for recreation and access, would help minimise the adverse effects over the construction/delivery period and ensure they do not extend beyond it.
Effects on water and biodiversity, flora and fauna: A number of schemes could lead to minor adverse effects on groundwater and/or surface water flows either as a result of direct abstraction or flow augmentation. Schemes R13 and R8g (which are included in the Preferred Plan) could have moderate or minor adverse effects depending on final design, location and timing of the abstractions.	Effects on river flows, groundwater levels, water quality and ecology will need to be considered in more detail during the detailed planning phase to inform potential mitigation requirements. This is pertinent to Schemes R13 and R8g. Mitigation may involve careful siting of new boreholes, identification of optimal pumping regimes relative to groundwater levels or river flows, and careful routing of new pipelines.
Effects on archaeology and cultural heritage effects: Any adverse effects would need to be investigated in close cooperation with Historic England, county archaeological services and other interested stakeholders.	Mitigation through careful design and pipeline routing plus a watching brief to oversee construction works and ensure appropriate precautions are taken to protect buried assets. Mitigation may include preserving in-situ, and where impracticable, opportunities to preserve assets ex-situ should be investigated.
Material assets and resource use: Minor adverse effects are associated with the requirement of materials and minor to moderate beneficial effects are provided through reduced water demand.	Mitigation measures including sustainable procurement policies and energy conservation measures, plus efficient use of materials during construction.
Soils, geology and land use: all schemes in the preferred plan were assessed as having negligible effects on soil, geology and land use.	Mitigation measures principally comprise soil erosion control precautions during construction and best practice land re-instatement techniques following construction.
Effects on air quality and greenhouse gas emissions: many of the schemes were identified as resulting in minor adverse effects associated with construction works, operational vehicle movements and operational energy use.	Where adverse effects are associated with air quality and emissions to sensitive areas (e.g. AQMA designations), mitigation measures such as vehicle emission control, effective logistical organisation and selection of appropriate vehicle routes to minimise the potential effects can be implemented. Green energy procurement and green transport fleet activities can also mitigate the adverse effects.

4. CONSULTATION AND UPDATES

4.1 CONSULTATION ON THE SEA

The SEA process comprised several consultation stages, as follows:

- An SEA Scoping Report was issued on 23 April 2021 to statutory consultees and opinions were sought on the proposed scope and level of detail proposed for the SEA until 28 May 2021.
- The SEA Environmental Report and non-technical summary was published with the dWRMP on Yorkshire Water's website on 18 November 2022 for a period of 14 weeks for both statutory and public consultation. A draft HRA Screening Report and WFD Compliance Assessment was also submitted to the regulators.
- A Statement of Response (SoR), including responses to comments on the SEA Environmental Report and the HRA Screening Report, was published on Yorkshire Water's website in September 2023.
- The SEA Environmental Report was updated in response to the comments made in the consultation period and published along with the rdWRMP on Yorkshire Water's website in November 2023.
- Following the publication of the SoR, Yorkshire Water received a request from Defra for further information in support of the plan, in a letter dated 6 February 2024. In response, Yorkshire Water published an Annex to the SoR and provided an updated Environmental Report, updated HRA report and updated WFD report to accompany the updated rdWRMP to regulators for review.
- The SEA Environmental Report and this SEA Post Adoption Statement were published with the Final WRMP on Yorkshire Water's website in January 2025.

Changes to the WRMP made as a result of consultation are described in the SoR and changes to the SEA made as a result of consultation are summarised in **Section 4.2**.

4.2 CONSULTATION RESPONSES

Table 4.1 and **Table 4.2** list a summary of the representations that relate to the SEA and the resulting changes as set out in the SoR and subsequent revision of the SEA Environmental Report in October 2023.

Table 4.1 Environment Agency representations relating to SEA (adapted from Yorkshire Water's SoR)

Area of response	Area of issue	Issue and evidence	Implications	Information or changes required	Yorkshire Water response in SoR
Moderate Improvement 4.	Issue 36 Impact of SEA on development of dWRMP	The draft plan does not explain how its development has evolved in response to the outcomes of the SEA.	There is no evidence of the SEA influencing the company's decision-making.	Explain how the outcomes of the SEA have influenced the company's decision-making and the development of its dWRMP.	Section 8.5 of the draft WRMP24 technical document outlines the process for integrating the SEA, HRA and WFD into the options appraisal. Section 9.4 of the draft WRMP24 technical document discusses the SEA impacts of the best value plan options portfolio. Sections 9.5.1 and 9.5.2 discuss the SEA in relation to the candidate solution programmes. We will expand on these sections in the rdWRMP24. We will also include additional narrative in the best value plan section of the rdWRMP to explain how the SEA informed the process between the least cost plan and formulation of the best value plan.
Moderate Improvement 4.	Issue 37 Assessment of alternatives options	Alternative options appear to have been assessed but as this is not explicitly stated, there is an element of uncertainty on this. Similarly, plan level alternatives have been assessed but this doesn't cover an assessment of the best for society and environment plan approach.	It is not clear how the preferred plan or the preferred options have been decided.	Explain how the preferred plan and the preferred options have been decided.	Detail on how the preferred plan was selected is available in Section 7.1 of the Environmental Report. Section 7.2 of the Environmental Report will be expanded to provide further detail on the assessment of Alternative Plans. (As above) We will also include additional narrative in the best value plan section of the rdWRMP to explain how the SEA informed the process between the least cost plan and formulation of the best value plan.
Moderate Improvement 4.	Issue 38 Assessment methodology	The assessment methodology is well devised but with evident limitations, such as including definitions for some of the characteristics of effects.	This is particularly confusing for the scale of effect as small medium large could refer to the population size or the geographical scale. How these have been differentiated in the	Update the assessment to demonstrate how these have been differentiated.	The assessment methodology was presented to consultees at the SEA scoping stage and a Scoping Report was issued for consultation in 2021, where statutory consultees were given opportunity to provide input into the overall approach to the SEA of the WRMP. It would be at this stage in the SEA process where any issues would be flagged regarding the methodology, including the thresholds used throughout the assessment.

Area of response	Area of issue	Issue and evidence	Implications	Information or changes required	Yorkshire Water response in SoR
			assessment is unclear. This is pertinent as large geographical scale could indicate transboundary effects.		We would not look to change the approach at this stage in the WRMP process however we will add further explanation to Section 5.2.1.1 to improve clarity on the scales of effect used in the assessment. We note the concerns regarding transboundary effects however these would also be covered by the updated cumulative assessment with other plans and programmes from neighbouring water companies and regional groups.
Moderate Improvement 4.	Issue 39 Transboundary effects	Transboundary effects have not been identified. This is particularly relevant in the context of the option from Northumbrian Water. The SEA is expected to cover this option and will require alignment in assessment and components. Work with Northumbrian Water to ensure	This is a clear omission from the assessment and could mean that there are significant effects that haven't been identified.	Identify and explain cross-boundary issues and the potential impacts on other water companies.	The spatial extent of the SEA study area included a 10km wide "corridor" of the Tyne and Tees to cover the potential development of pipeline schemes to transfer water from NWL to YW region (see Section 4.2). Further cross-boundary issues are covered in the programme-level cumulative effects assessment (Section 7.4). This section will be revised following publication of the draft WRMPs and Regional Plans from neighbouring companies/regions and any potential cross-boundary issues would be highlighted here.
Moderate Improvement 4.	Issue 40 Embedded mitigation measures	All reported effects are residual effects which have applied embedded mitigation. While identified mitigation measures are good, there is a lack of clarity on embedded mitigation measures that have been applied to the assessment.	This means that the SEA isn't fully transparent and some significant effects may not have been fully identified.	Include further clarity within the assumptions and limitations of the methodology section.	Section 8.2 of the Environment Report sets out the assumptions made in the option assessments, which include 1) where suitable mitigation is known this has been taken into account in the assessment and the resultant residual impact is reported and 2) implementation of reasonable standard best practice mitigation (in line with UKWIR SEA Guidance). Significant effects have therefore been identified where these have not been satisfied and Section 8.3 reports examples of possible mitigation that could be implemented to address these. This approach should be considered a starting point with mitigation and more detailed mitigation would be implemented as options are developed and through monitoring.

Area of response	Area of issue	Issue and evidence	Implications	Information or changes required	Yorkshire Water response in SoR
					We recognise that more clarity is required in the methodology section therefore Section 5.3 will be updated to include text around the assumptions. and limitations concerning mitigation measures.
Moderate Improvement 4.	Issue 41 Monitoring measures	Monitoring measures are weak as they currently don't provide any proposals for monitoring rather just some potential indicators.	There is no clear plan for monitoring measures. The proposals do not address the need for triggers and thresholds for remedial action	Set out a clear plan for monitoring measures (who, how, what, when). Set out the triggers and thresholds for remedial action	Bespoke monitoring arrangements are not usually prompted by SEA and instead the Environmental Report focusses on how the identified significant effects can be monitored. Indicators are a useful way to measure the likely significant effects of the plan and identify whether mitigation has been effective. The SEA Post-Adoption Statement will be produced and, when the final WRMP has been given permission to be published, this will be uploaded on to the Yorkshire Water website. This will set out a more detailed monitoring plan for the adopted WRMP.

Table 4.2: Other stakeholder representations made relating to SEA (adapted from Yorkshire Water's Statement of Response)

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
Historic England	We support the approach to planning that identifies the 'best value' option, whereby decisions are made based not on cost alone but with consideration of other factors such as benefits to customers, the environment and society. However, we observe generally a lack of suitable references to the historic environment in the draft WRMP24. Our letter on the Pre-consultation Briefing Note explained why the historic environment is important in relation to water resource plans. In the final draft of the Plan we would recommend the addition of some contextual text relating to the interaction between the water and the historic environment and the implications of this for the Plan.	Heritage assets, their settings, and the historic environment, are all considered within the SEA which feeds the development of the WRMP. The SEA establishes a baseline against which the Plan's options are assessed and provides a framework for assessing the likely significant effects which this plan might have upon the historic environment. Within the WRMP we highlight the historic environment and its importance in relation to water resources in both Table 8.8 SEA topics and objectives and Table 9.1 WRMP24 decision making metrics.
Historic England	R37b(ii) River Aire Abstraction Option 4 - Without knowing the exact location of this scheme it is difficult to comment on potential impact on significance. However, the information provided in Appendix E – Option assessment matrices of the SEA Appendices identifies that there are four Grade II listed Buildings nearby where the setting may be impacted. The asset may also be a non-designated heritage asset. We note that this project is expected to have a residual minor adverse effect on archaeology and cultural heritage.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
		process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	DV3 Magnesium Limestone new GW supply - No map has been provided for this site. However, the Appendices Appendix E identifies that the pipeline will be in close proximity to the Roman Ridge Scheduled Monument and that construction work has the potential to disturb unknown buried assets. Without further detail it is difficult to assess the impact of this project, the appropriate level of investigation, evaluation and mitigation required and the necessary timing of this work (i.e. in advance or during construction).	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	R8b Sherwood Sandstone and Magnesium Limestone Boreholes Option 2 - We are not aware of the exact siting for this project. The SEA Appendices Appendix E identifies that there are a 'number' of Grade II Listed Buildings within 2km of the proposed construction which are anticipated to experience a reduction in the quality of their setting. We would need further detail to be able to assess the impact of this project. We note that this project is expected to have a residual minor adverse effect on archaeology and cultural heritage	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	R8g Sherwood Sandstone Boreholes support to North Yorkshire - Again, we do not have detail over the exact siting of this project. However, the SEA Appendices Appendix E identifies that the pipeline route is within 1km of three Scheduled Monuments, as well as 120 listed buildings (three of which are Grade I listed) and that all of these assets are anticipated to experience reductions in the quality of their setting. We would need further details for us to assess the impact of this project. We note that this project is expected to have a residual minor adverse effect on archaeology and cultural heritage.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	DV8 (v) New WTW (York) supplied by the River Ouse new treatment stream adjacent to existing site - We do not have detail over the extent and design specifications of this proposal. The SEA Appendices Appendix E states there are two scheduled monuments and 11 listed buildings within 1 km of the scheme construction, one of which (Grade II* listed building) is in close proximity to the land adjacent to the south of the existing WTW site. We would	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
	need confirmation of the location of the project to confirm this. We would need further details for us to assess the impact of this project. We note that this project is expected to have a residual minor adverse effect on archaeology and cultural heritage.	that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	DV8 (iv) New north to south internal transfer connection -50Ml/d capacity 0 Ml/d benefit - We do not have details at this stage over the siting of this proposal. However, the SEA Appendices Appendix E states there are three registered park and gardens, 20 scheduled monuments and numerous listed buildings within 1 km of the scheme construction, of which four scheduled monuments and 10 listed buildings (Grade II) are located in close proximity (~100m) to the scheme construction. We would need further details for us to assess the impact of this project. We note that this project is expected to have a residual moderate adverse effect on archaeology and cultural heritage.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	DV7a(vi) Tees to York Pipeline - NWL import - transfer from Northumbrian Water supported by Kielder Water - We do not have details at this stage in relation to the siting of this project. However, the SEA Appendices Appendix E states there are 15 scheduled monuments and numerous listed buildings within 1km of the scheme construction, of which two listed buildings are located in close proximity (~100m) to the scheme construction. We would need further details for us to assess the impact of this project. The SEA matrix for this proposal currently identifies potential residual effect on sensitive receptors (assuming good practice construction methods)' refers to a 'watching brief' as mitigation for (currently) unknown archaeology. This should be modified to make clear that mitigation might involve set-piece excavation through to monitoring and recording, and that a staged approach is taken to assess the presence and importance of unknown archaeology, including borehole surveys / deposit modelling, geophysical survey and trial excavation (trenching). We note that this project is expected to have a residual moderate adverse effect on archaeology and cultural heritage.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	R31a Additional bankside storage at York WTW - we do not have details over the siting of this proposal it is therefore difficult to make an assessment on significance of the historic environment. We could not locate an assessment of this scheme under SEA Appendices Appendix E.	Thank you for your comment and we apologise for the omission for R31a in Appendix E which we will provide as part of the rdWRMP submission. However, the SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
		Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	R85 Rebuild Kirklees WTW – new WTW - we do not have details on the scale, siting etc. of this proposal it is therefore difficult to make an assessment of significance. However, the SEA Appendices Appendix E identifies that the WTW is within 1km of two Grade II Listed Buildings which may experience some small reduction in the quality of their setting as a result of the construction.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	Comments on the Strategic Environmental Assessment (SEA) We welcome that the need to conserve or enhance sites of archaeological importance and cultural heritage interest, particularly those which are sensitive to the water environment, has been identified as a key sustainability issue from the review of baseline conditions and is identified as a SEA Objective. We also welcome the recognition given to the protection and enhancement of designated and undesignated landscapes, townscapes and the countryside. Overall, we support the method that has been adopted regarding the identification of SEA objectives and the assessment approach outlined in Table 5.1 for archaeology and cultural heritage.	Noted
Historic England	As referenced above, we note that a number of the preferred plan solutions could result in potential for minor/moderate adverse effects on the historic environment. As such, where appropriate, careful and early planning in close liaison with Historic England will be required to avoid, minimise and mitigate any harm to potentially impacted heritage assets.	The SEA is intended to be a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	We would also encourage you to work with local conservation officers, archaeology officers and local heritage community groups when bringing forward the preferred plan solution. They are best placed to advise on; local historic environment issues and priorities, including access to data held in the Historic Environment Record (HER); how the policy or proposal can be tailored	At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult further with the Conservation Sections and archaeological staff of the various planning authorities, as part of a much wider consultation

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
	to minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.	process. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
Historic England	In terms of the proposed SEA monitoring parameters set out in Table 9.1 – whilst we welcome the third proposed strategic indicator requiring consultation with relevant stakeholders, we would request a change to this indicator to acknowledge that the aim should always be to avoid impacts in the first instance, then minimise where this is not possible, subject to appropriate justification. This point also needs to be reflected in the second bullet point under 'Archaeology and Cultural Heritage' on page 87 of the SEA report regarding additional mitigation measures.	We recognise the concerns raised by Historic England regarding the proposed monitoring and believe that impacts should always be avoided in the first instance. The rdWRMP Environmental Report will include updated text in Table 9.1 and Section 8.3 to acknowledge this.
National Trust	The Trust supports spatial planning and environmental management that takes a holistic and plan-led approach. This includes planning for the long-term, looking at the landscape or catchment scale, and considering the implications for climate change, landscape, heritage and nature.	Noted
National Trust	Affected National Trust property On review of the Yorkshire Water dWRMP, it is clear that a twin track approach is proposed including both supply and demand reduction options. Whilst there is some high-level detail included on the supply proposals, the consultation does not include any specific detail on the exact proposals including detailed locations or plans. Nevertheless, the National Trust has a number of properties / areas of land within the plan area that may have the potential to be relevant to the consultation and could be affected by the proposals. However, we are unable to comment on these specifically until further details are provided. National Trust land and property holdings within the area include (but not limited to) Fountains Abbey, Yorkshire Dales including Malham Tarn, North York Moors including Bransdale, York area properties including Beningbrough Hall and Nunnington, Marsden Moor, Hardcastle Crags, East Riddlesden Hall, Nostell Priory and Wentworth Castle Gardens.	The SEA provides a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult, and be able to provide more information to, stakeholders including of course the National Trust as appropriate. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.
National Trust	We have identified that the following proposals may have the potential to impact upon National Trust land. We would like to request further information when available as it may be possible to discount any direct impacts at an early stage. – DV7a(vi) - Tees to York Pipeline – transfer from Northumbrian Water supported by Kielder Water – DV8(iv) – New north to south internal transfer connection (York to South Yorkshire Pipeline)	The SEA provides a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult, and be able to provide more information to, stakeholders including of course the National Trust as appropriate. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
	– DV8(v) – New WTW (York) supplied by the River Ouse new treatment stream (adjacent to existing site) (if this is at either Acomb or Naburn then direct impacts on NT land considered unlikely) – R3a – River Ouse licence transfer – R8g – Sherwood Sandstone Boreholes to support North Yorkshire – R13 – East Yorkshire Groundwater Option 2 – new groundwater supply and WTW – R37b(ii) - River Aire Abstraction Option 4 – R85 – Rebuild Kirklees WTW	
National Trust	The dWRMP recognises that major adverse impacts for options DV7a (vi) York Pipeline Option 1 and DV8 (iv) York to South Yorkshire Pipeline are anticipated in relation to biodiversity, materials assets and resource use, protection and enhancement of geology/soil quality, and minimisation of greenhouse gas emissions. With regard to cumulative impacts, the dWRMP recognises that the geographical extent of the pipeline routes in both schemes are large and until detailed construction plans are developed, it is not possible to confirm the likelihood of any effects. Consequently, we reserve the right to comment further on these proposals once further details have been confirmed.	We note the Trust's comment and during the delivery of our supply schemes we shall comply with all planning regulations and prior to any applications we will commence discussions with key stakeholders and interested parties.
National Trust	It is important that for any new development of physical assets the need and justification is clearly set out, in comparison to other options or alternatives. In addition, the likely adverse impacts on cultural heritage, landscape, nature and in respect of climate change should be fully assessed, and minimised and/or mitigated as appropriate. We would also expect proposed developments to maximise the potential benefits for people and nature.	Our WRMP has identified a need for supply schemes and proposes a solution and further work is required as we move from the WRMP to planning applications then delivery. This will include full impact assessments and identifying appropriate mitigation measures where applicable. We note the Trust's comment and prior to any planning applications we shall gather the necessary data and evidence to support our proposals
National Trust	Where there are areas of National Trust land potentially affected by any stage of the overarching dWRMP options that we have not been specifically identified above, due to the absence of specific asset details and locations in the dWRMP, and/or due to the necessary optionality that such a long- term plan necessitates, the Trust would welcome further engagement on Yorkshire Water's draft WRMP24 prior to its finalisation.	The SEA provides a high-level assessment aimed at highlighting potential environmental concerns, associated with plans and programmes at a strategic level. At a later stage, during the implementation of WRMP options, any major schemes would be subject to a more detailed Environmental Impact Assessment at a project level prior to implementation. It would be at this stage that we would consult, and be able to provide more information to, stakeholders including of course the National Trust as appropriate. However, should you wish to discuss any specific concerns prior to this we would be more than happy to oblige.

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
Natural England	Natural England consider Yorkshire Water's dWRMP has insufficient information to determine impacts on designated sites concerning the Humber Estuary Special Area of Conservation (SAC) and Ramsar site, River Derwent SAC and Lower Derwent Valley Special Protection Area (SPA). Natural England requires further information in order to determine the significance of these impacts and the scope for mitigation, if any.	A meeting was held between YW and NE on 25/04/23 where we discussed our proposed approach to revising the dWRMP24 based on the comments raised during consultation. It was agreed we would revise our assessments to include as much information as possible regarding potential impacts and scope for mitigation. It was also agreed a proportionate approach could be applied to options outside of the preferred plan as these options tend to have more uncertainty and it is just the preferred plan which is subject to Reg 63 tests. See responses for specific comments pertinent to this below.
Natural England	Monitoring. Clarity is needed in relation to monitoring for options in regard to the HRA outcomes. This is pertinent to schemes which require mitigation. Yorkshire Water should note how the measures would be monitored, how long for, and how success/ failure would be determined using the monitoring outputs.	Specific monitoring requirements are not usually provided in the HRA. HRA outcomes feed into the SEA and any monitoring that may be recommended is picked up in this process. The SEA details, within Section 9, monitoring for options identified in the preferred plan. It should be noted that these monitoring recommendations are based on the current understanding of the scheme design. As options are brought forward for development, further monitoring requirements may be set out. This will be discussed with relevant key regulatory bodies and stakeholders to agree the appropriate scale and duration of such scheme-specific monitoring activities proportionate to the assessed environmental risks
Natural England	Natural England welcome the inclusion of combination and cumulative assessments in the report. However, Yorkshire Water need to consider inter-cumulative assessment. Natural England encourage Yorkshire Water to provide additional information to determine whether Yorkshire Water will be able to address the evidence gaps as necessary, to identify and remove uncertainty where impacts are expected in short-medium term.	We are aware of the limitations of the inter-cumulative assessment at the dWRMP stage. When submitting the dWRMP we did not have visibility of the plans from neighbouring water companies or regional groups. Section 7.4 of the SEA will be updated following a review of the now-published Draft WRMPs and Regional Plans. We will address any evidence gaps where we can and put proposals in place where this may not be possible in the timeframe for this plan.
Natural England	The Environmental Destination as defined in the Regional Plan modelling that has been relied upon by Yorkshire Water may not go far enough, fast enough nor it is prioritised in the correct locations to meet the nature recovery obligations set out in Annex 2. In addition, the company has timed the obligations it does include within its plan towards the end of the 2050 period. This may be considered too late to meet many of the nature recovery obligations set out in Annex 2	For our revised draft WRMP we have reviewed the profile and pace of our proposed environmental destination. We are in active discussion with EA and NE on this issue, the need for AMP8 WINEP investigation(s) and the practicalities of moving at greater pace (should investigations support reductions in abstraction). Following a review of the comments on the draft plan, we propose to bring forward the Decision date to 2027 and the Trigger date to 2040. We will update section 3.8 of the plan (Sustainable Abstraction and Environmental Destination) to reflect this position and provide more context on the decision.

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
Natural England	Annex 1 Detailed comments - With regard to particular options as set out in the Habitat Regulation Assessment and Plan: R31a Additional bankside storage on the River Ouse at Elvington. Although identified in the preferred plan but not until 2066. No mitigation measures identified for habitat loss and the effects on loss of functionally linked feeding and roosting habitat. Additional surveys will need to be considered for future implementation to ensure no adverse effects on the Lower Derwent Valley SPA and Lower Derwent Valley Ramsar.	We will revise the Stage 2 AA(s) in relation to this option and include the comments provided by NE. Where possible, we will identify a mechanism for mitigation against habitat loss, noting we are assessing at a strategic-level without site survey information and project-level scheme detail.
Natural England	R3a Acomb Landing to Moor Monkton licence transfer – preferred plan 2027 The monitoring data that supports the no adverse effect on the population abundance of sea lamprey in the River Ouse is outdated (2014). Natural England suggest updated monitoring to rule out adverse effects on population abundance associated with the Humber Estuary SAC and Ramsar site. The potential for mitigation measures should be implemented if sea lamprey population has increased. Consideration is needed that adverse effects on integrity have not been avoided or mitigated to remove adverse effects with sufficient certainty within this option.	We are currently undertaking a WINEP investigation on the River Ouse assessing the effects of using the full licence capacity at Acomb Landing. To date this appears to show there would be no/limited hydrological impact over and above the current conditions. The Stage 2 AA for the Humber Estuary SAC/Ramsar will be updated to include latest information from this WINEP investigation. [Note we are still waiting to discuss final outputs of the WINEP with the EA] This was discussed at a meeting with Natural England on 25/04/23 who agreed with this approach. We can share the results from the WINEP investigation with Natural England once this has been reviewed and approved by the EA.
Natural England	R29 Reservoir de-silting –Potential adverse effects on North Pennine Moors SAC and SPA, South Pennine Moors SAC, Peak District Moors SPA, South Pennine Moore Phase 2 SPA. Desilting reservoirs were not subject to an Appropriate Assessment because of lack of site-specific information. Natural England have concerns with regard to this option as it has potential for detrimental impact on protected sites. Natural England would request to be involved with the exploration of this option to ensure mitigation is acceptable to avoid adverse effects.	It should be noted this option is not included in our preferred plan or the adaptive pathways. It was selected c.2080 in the least cost scenario, which is used as a benchmark for the best value plan. It is not a proposed solution to meet the deficit. Stage 2 Appropriate Assessments will be completed for all designated sites potentially affected by the reservoirs included in this option, albeit at a high level using best available information. In-combination effects of reservoir de-silting will also be reviewed and assessed where appropriate. The reservoir sites are spread across the supply area therefore it is unlikely designated sites would be impacted by the de-silting of multiple reservoirs. The de-silting would also be staggered should the option be taken forward in future WRMPs.
Natural England	R78 Tidal Abstraction Reservoir – Potential adverse effects on Humber Estuary SAC, SPA and Ramsar Site. There is potential direct loss of qualifying habitats. Natural England have major concerns surrounding this option and would request engagement during the development of this option due to the adverse	We recognise the complexity around options concerning the Humber designated sites. A Stage 2 Appropriate Assessment has been completed for this option and potential mitigation will continue to be explored. Due to the

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
	effects on the Humber Estuary SAC, SPA and Ramsar Site if this option is to move forward. Natural England have concerns with regard to this option as it has potential for detrimental impact on protected sites. Natural England would request to be involved with the exploration of this option to ensure mitigation is acceptable to avoid adverse effects.	option implementation of 2068, we recognise there will be sufficient time for engagement with NE as the option progresses.
Natural England	DV8(iv) Elvington WTW to South Yorkshire pipeline –50 Ml/d – DV8(v) Elvington WTW capacity increase. preferred plan 2029 . Yorkshire Water have stated that this option is 0.11km from Lower Derwent Valley SAC, SPA and Ramsar and 0.18km from the River Derwent SAC – Further clarity and information relating to whether this is the pipeline route or the end of construction zone is needed. Natural England suggests that a four year construction is not labelled as 'short term' and the effects of construction on the European Sites should be assessed with a longer term view. Further consideration and information will be needed in relation to reinstating and provision of supporting habitat loss. Natural England encourages Yorkshire Water to undertake Phase 1 or UK Habitat Classification Surveys and wintering bird surveys to support the option. There is also a concern and needs further consideration that under option DV7a vi and DV8(iv) these may have adverse effects on River Derwent SAC and Lower Derwent Valley SAC during construction.	We realise the need for further information on the assessment of these options. The HRA for the designated sites will be reviewed and updated to include the suggestions outlined by NE with regards to mitigation and monitoring.
Natural England	In combination assessment: In relation to River Derwent SAC and Lower Derwent Valley SAC in relation to construction of four schemes in preferred plan. • R31a Additional bankside storage on the River • Ouse at Elvington • DV7a(vi) Tees to Elvington Pipeline –NWL import – • 140 Ml/d • DV8(iv) -Elvington WTW to South Yorkshire -50 Ml/d capacity 0 Ml/d benefit • DV8(v) Elvington WTW capacity Increase . Yorkshire Water need to consider inter-cumulative assessment. Natural England encourage Yorkshire Water to provide additional information to determine whether it will be able to address the evidence gaps as necessary, to identify and remove uncertainty where impacts are expected in short-medium term.	Section 5.3 of the dWRMP states that the construction periods for these options do not overlap however we will need to consider the potential for effects as a result of successive construction. A Stage 2 Appropriate Assessment will be completed to cover the construction only impacts from implementation of the options. No operational issues have been identified. Where possible, we will provide additional information in the plan-level cumulative assessment to address any evidence gaps and remove uncertainty.

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
Natural England	Further consideration and clarity is needed regarding possible cumulative effects on the downstream Humber Estuary in combination with schemes in Severn Trent Water draft WRMP which may affect flow in the River Derwent and River Trent. This could affect freshwater flows and could potentially affect qualifying interests for which the Humber Estuary designated features.	We are engaging with the other water companies/regional groups to agree a way forward in regard to assessing in- combination effects on the Humber Estuary. However, this is a complex issue, and the lack of available hydrological models and data mean this issue is unlikely to be solved before submission of the final WRMP. We will review the timing of the option implementation along with flow series data for the Humber Estuary to determine risk from the Yorkshire Water options. We will review this against the now-published Draft WRMPs and Regional Plans to determine potential for in-combination effects. However, as noted above there are likely to be actions to continue after submission of the final WRMP with the other water companies/regional groups, and we will put proposals in place where this may not be possible in the timeframe for this plan. This approach was agreed through further consultation with NE.
Natural England	Specific designation site River Hull Headwaters SSSI. Information is needed as to whether there is potential impact on this specifically around issues of low flow associated with existing extraction from West beck (section of R Hull Headwaters).	Yorkshire Water is licensed to abstract water from two locations on the river Hull. We are currently undertaking an AMP7 WINEP investigation to assess the sustainability of abstraction from one of these locations (the West Beck raw water intake, located at the downstream extent of the Hull Headwaters SSSI). Based on historic concerns around the impact of abstraction on the SSSI, Yorkshire Water does not routinely use this intake and the investigation seeks to establish whether water can be abstracted without adversely impacting designated features. The outcome from the investigation, due to be completed in 2024, is unlikely to have a bearing on the WRMP supply-demand balance (the supply- forecast does not assume or account for any abstraction specifically from the West Beck intake). We will continue to engage with Natural England, the Environment Agency, and other stakeholders throughout the investigation.
Natural England	Groundwater Options The potential impacts of groundwater options (R6, R6b, R6c, R6d)(R8g) (R13) are anticipated to result in significant adverse effects, leading to moderate impacts on water due to potential impacts on ground water balance and surface water flows, with potential major adverse effects on biodiversity due to construction (SSSI impacts). Natural England welcomes further investigation on the potential impacts and would request to be involved with the exploration of this option to ensure mitigation is acceptable to avoid adverse effects.	It is important to highlight that not all options have been selected in the preferred plan or the adaptive pathways. However, it is noted in our assessment matrices for these options that consultation with Natural England (and other stakeholders) regarding detailed design and mitigation would be required during the project planning stage if any of these options were to be taken forward. At this stage, we would welcome NE's involvement in exploring these options further and agreeing appropriate mitigation.

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
Natural England	R61 East Yorkshire coast desalination and Tidal Abstraction Reservoir (R78) options have the potential for major adverse effects on biodiversity as it may impact on the Humber Estuary SAC/SPA/Ramsar. Natural England welcomes any further investigation on the potential impacts and would request to be involved where necessary, to address the evidence gaps, to identify and remove uncertainty where impacts are expected.	The R61 East Yorkshire coastal desalination is not within the Preferred Plan, and is selected in an adaptive pathway c.2065. The Tidal Abstraction Reservoir (R78) is an alternative to this option. Acknowledging Natural England's concerns about these schemes, it was agreed during the meeting with NE on 25/04/23 that it is only the Preferred Plan which is subject to the Reg 63 tests and as such a degree of proportionality could be applied to these assessments where there is likely to be more uncertainty. It was agreed that high-level Stage 2 AAs will be completed, however these will be limited to best available information on both the extent of the qualifying features, and likely components of the schemes at a strategic-level i.e., dispersion plume modelling of any hypersaline waste-stream from the desalination plant has not been completed, therefore the Stage 2 AA can only make inferences around the potential for Adverse Effects on site Integrity. As option R78 is an alternative to R61 there are no in- combination effects with these options. Given the position of these options within the adaptive pathway and post-2060, there is sufficient time to engage with Natural England ahead of the next WRMP cycle.
Peak District NP	In relation to the Yorkshire Water Draft Water Resources Management Plan 2024 Consultation, the National Park Authority's prime concern is in relation to the effect of actions resulting from the Plan on the Peak District National Park. This relates to the reservoirs themselves, the methods used to distribute water around the area and beyond, and any effects on the landscape, cultural heritage and wildlife of the National Park.	Thank you for your comments which have been noted.
Peak District NP	The Peak District National Park Authority has specific concerns in relation to two proposed schemes within the Water Resources North Draft Regional Plan Consultation that would affect land within the National Park. These are: The Upper Derwent Valley reservoir expansion (UDVRE) The Upper Derwent Valley is located towards the north of the National Park and is surrounded by land that falls under high level environmental designations (Site of Special Scientific Interest, Special Protection Area, Special Area of Conservation). Whilst the proposals might not directly affect the designated areas, any potential for indirect effects would need to be assessed. The delivery of a the UDVRE proposals would constitute major development within the National Park. There is an underlying National Presumption against major	We note the points raised by PDNPA in relation to UDVRE SRO. With our SRO partners, Severn Trent Water, we are engaging directly with PDNPA and other stakeholders around the development of the SRO scheme and we are committed to continuing with that engagement. This also includes reviewing back-fill options which are now more likely alternatives to the UDVRE expansion. The original DV8(iv) route had a short (~800m length) proposed pipeline that intersected the Peak District National Park to the west of Sheffield. Construction of the pipeline could have caused temporary adverse effects on the National

Stakeholder	Stakeholder comment	Yorkshire Water response to comment in SoR
	development within a National Park. Such development should only take place where strict criteria have been met, as set out within the National Planning Policy Framework (2021). The delivery of such a scheme would be dependent on the developer demonstrating that the scheme: - i. Was in the National Interest ii. Could not be delivered elsewhere (outside of the National Park) Showing consideration of the negative effects of the scheme on the National Park and ways in which these could be mitigated. The measures suggested range from the raising of existing dam walls to increase capacity, through to the creation of a new reservoir. In all cases, there will be an extremely large negative impact on the Special Qualities of the National Park. 2. DV8(iv) New York WTW to South Yorkshire treated water transfer It is unclear what the route of this proposed scheme will be. However, Table 9.5 of the Yorkshire Water Draft Water Resources Management Plan in relation to the proposed scheme states that: - "Mitigation measures will need to be identified and agreed with Natural England. Detailed scheme design will need to consider risks which have been identified in relation to permitted waste sites and historic landfills, air quality impacts on local populations, heritage assets and the Peak District National Park." It is unclear what part of the National Park could be affected, however, there is a large part of the northern area of the National Park within South Yorkshire that is covered by the same high-level environmental designations (Site of Special Scientific Interest, Special Protection Area, Special Area of Conservation) as the Upper Derwent Valley. Reference to Natural England, would suggest that there is an expected impact on land covered by the aforementioned designations either within or without the Peak District National Park. We note that the delivery of this scheme may be interlinked with delivery (or not) of the Upper Derwent Valley reservoir expansion (UDVRE) scheme. The DV8(iv) proposal seeks to address any shortfall in supply should the transfer of water from Severn Trent Water cease. Given the potential impact of the pipeline on the National Park, we would welcome early engagement in relation to this scheme as the design progresses.	Park. If this option were to be selected there would be further consultation with the PDNP regarding detailed design and mitigation for impacts on the site. However, YW has also undertaken further route development and are including a new option, DV8(iv)A that avoids the National Park area. Details of this will be provided in the rdWRMP. We are committed to engaging with the National Park on the 'backfill' schemes that we would have to implement should the existing transfer from STW cease and will engage as we develop firmer details of the likely nature of the scheme (including pipeline route).

Following publication of the SoR, rdWRMP in September 2023, and subsequent revision of the SEA Environmental Report, Yorkshire Water received further comments from Defra in a letter dated February 2024. This letter contained a request for further updates to the SEA in order to meet compliance, further details are provided below in **Table 4.3**.

Table 4.3 Extracted from letter from Defra (dated February 2024) and a response from Yorkshire Water's Annex to SoR (April 2024)

Defra Comment	YW Response
Yorkshire Water's SEA does not assess all alternative plan options or alternative adaptive pathway options. The SEA is an important statutory document, and the final plan should not be published without this document. Yorkshire Water need to resolve SEA issues by: • outlining how the SEA has informed option development; the Environment Agency recommend the SEA should include information on how the SEA has been used to inform and influence plan development. We also recommend this is included in the SEA Post Adoption Statement. • providing assurance that all alternative options considered in the revised plan for adaptive planning have been assessed in the SEA. There is also very limited information in the SEA (chapter 7) as to why the preferred plan has been chosen over alternative plan options (given the level of impacts envisaged). Please provide further detail • Improving the scope of SEA relating to Tees transfer option. As this option is required by Yorkshire Water, there are assumptions being made about the accountability of assessment of the option within the Yorkshire and Northumbrian WRMPs. The scope of the SEA should ensure that the accountability and responsibility for the assessment is clearly defined and demonstrates that the SEA scope fully addresses the company's responsibilities with regards the option. This poses a risk to the environment and to legal non-compliances with the SEA Regulations. The SEA should be submitted to regulators and a review allowed before the final WRMP and SEA are allowed to be published. Options contained within the WRMP also need to be assessed in combination with the options within the regional and WRMPs that impact on the same features e.g., River Humber.	The SEA influences the selection of the best value plan by providing an option level assessment for each objective that we use to assess the supply-side options included in a solution programme. We assess the environmental impacts of the individual options and the combined impacts of the whole programme. If there is potential to avoid any adverse or major adverse impacts, we may remove an option from the programme and select a less adverse option instead. However, for the programme to close the deficit it is not always possible to avoid adverse impacts completely and we must identify mitigation measures instead. A section will be added to the SEA Environmental Report (Section 7.5) to provide more detail on the overall influence of the SEA process, and broader environmental assessment components (e.g., WFD and HRA). This can be categorised into three key areas: 1. Feasible option assessment – all feasible demand and supply-side options were subject to a full assessment against the SEA framework which was also informed by option-level HRA Stage 1 screening, WFD compliance and BNG assessment. 2. WRMP24 decision making metrics – the findings of the SEA were used to inform three of the best value metrics (flood risk management, multiabstractor benefit, and human and social well-being) used by Yorkshire Water to determine the best value plan. The metric performance of candidate solution programmes (developed through the WRMP24 optimiser model) are compared to assess the impacts of moving away from the least cost solution and identify where metric trade-offs may be required. Although not all SEA objectives are represented in the metrics, these are fully considered and incorporated into the final decision making and preferred plan delivery (e.g., identification of mitigation measures). 3. Plan appraisal – the preferred plan solution, along with all the alternative plans (in response to bullet point 2 above) have been assessed against the SEA framework. A cumulative assessment of the potential impacts of the preferred plan in-combination with each other (intra-plan) as well as with other relevant plans and programmes (inter-plan) has also been undertaken. Where significant effects have been identified, the SEA will highlight potential mitigation measures that may be required and indicate monitoring proposals. At this stage in the process, these will be determined at a high-level and will be further refined during the more detailed design stages of the schemes as they progress forward for implementation. Our rdWRMP considered the following plans/adaptive plans: Least Cost, Best Value Plan, Core Pathway and Enhanced Environmental Destination. For our updated rdWRMP Section 7.2 of the SEA will be updated to include all adaptive plans (including Low Environmental Destination, Low Demand and Half Demand Benefit). Section 7.5 will be updated to include text to justify why the preferred plan has been chosen over other alternatives (as detailed in the paragraphs above). The scope of the SEA includes the Tyne and Tees corridor to cover the potential development of any schemes in this area. This area is included in the environmental baseline review and has informed the overall assessment framework for SEA. Yorkshire Water has undertaken the assessments for the Tees

Defra Comment	YW Response
	transfer option and shared the outputs of these with Northumbrian Water to ensure consistency. Yorkshire Water has since undertaken further engagement with Northumbrian Water to ensure the plans are aligned. Further text will be added to Section 4 to outline the company's responsibility with regards to assessing the Tees transfer options. The WFD compliance assessment will be updated to reflect further information now available on the operation of the Tees Transfer options, noting that available operational and environmental data is still limited at this point in time. WFD Regulations Compliance Assessment Report will reflect these updated assessments at both the option level (Section 3), programme level (Section 4) and preferred plan level (Section 5 and Section 6). Any updates will also be reflected in the SEA and HRA, where appropriate. Section 7.3 and 7.4 of the SEA Environmental Report already contain the cumulative assessment of options within our own WRMP and with neighbouring water companies' WRMPs. This section was revised following draft submission to include a cumulative assessment of the Humber Estuary. This concluded that the effects on freshwater inputs to the Humber Estuary from implementation of Yorkshire Water's Preferred Plan on the Humber are not discernible. A similar conclusion was made by Severn Trent Water (STW) and therefore in-combination effects are considered unlikely. The impacts on the Humber are also already contained within the HRA, where in-combination impacts between options within our own WRMP are discussed in Section 6.1.2.2 and also the potential in-combination effects with other plans and projects (namely STW's WRMP) are considered in Section 6.2.2. By providing the information above, and updating the WFD, HRA and SEA documents, we believe this resolves the issues raised and ensures we are compliant with our legal obligations relating to the SEA. We will share the revised SEA, HRA and WFD documents as soon as possible, and no later than four weeks after submitting this response to Defra.

5. RATIONALE FOR SELECTION OF THE WATER RESOURCES MANAGEMENT PLAN

5.1 SCHEME LEVEL ALTERNATIVES

All the options in the Feasible List, including both demand and supply options, were subject to assessment against the developed SEA framework. In this way, viable alternatives were assessed at the scheme level. This assessment informed the assessment of alternative programmes, and the assessment of potential cumulative effects between schemes.

5.2 PROGRAMME LEVEL ALTERNATIVES

Programme appraisal commenced with the generation of a least cost solution to address the forecast supply-demand deficit over the 60-year planning horizon using an optimisation model. The traditional EBSD approach as extended to include multi-criteria analysis (MCA). This creates several alternative programmes for closing the deficit in addition to the least cost solution which were compared using metrics in addition to costs e.g. capital costs (capex) and operating costs (opex).

Programme appraisal is the process by which the least cost solution is refined to create the preferred plan. The process takes account of the environmental and social effects of each scheme identified by the SEA, as well as other factors, such as government policy, customer preferences, stakeholder considerations and wider risk factors.

The EBSD approach was expanded to include monetised costs for a limited number of carbon and social environmental impacts. Environmental impacts were monetised using an ecosystem services approach that focused on recreation and tourism. Monetised social impacts considered traffic related costs due to the construction work of WRMP options. A qualitative environmental and social impacts assessment was also used in determining the solution. Although, this expanded the traditional least cost approach for identifying solutions to the deficit, the approach is still classed as “baseline” in the Decision-Making Process guidance. More information is available in the WRMP.

Yorkshire Water used the WRMP optimiser model to produce solution programmes to meet a range of plausible alternative futures using the EBSD methodology. Across the range of scenarios, Yorkshire Water set optimisation constraints to ensure demand policy requirements and the loss of the STW transfer would be met. The outputs of the optimised scenarios provided candidate solution programmes for meeting the baseline deficit. The solution programmes were compared using the MCA approach to assess the trade-offs before selecting our preferred plan to closing the baseline deficit.

Table 5.1 provides a summary of the SEA outputs relating to the least cost solution relating to the final revised supply-demand forecast. The majority of impacts associated with the selected schemes were assessed as negligible, but there were a number of moderate and minor adverse impacts, and there were two schemes assessed as potentially leading to major adverse impacts across several SEA objectives (outside of the Drought Options included in the plan which have been assessed through the Drought Plan) - these are DV7a (vi) - Tees to York Pipeline - NWL import 140 Ml/d and DV8B - New York WTW and Dual Main South Yorkshire Pipeline.

In selecting its preferred solution for the WRMP, Yorkshire Water sought to provide a solution that minimised environmental and social risks, met customer and regulatory preferences and was flexible and sustainable in an uncertain future. Yorkshire Water’s preferred (or most likely) plan for WRMP24 is a twin track approach, which invests in both supply and demand reduction options. It aims to achieve multiple benefits (see Table 10-5 of the WRMP).

The solution has been selected through Yorkshire Water’s decision-making approach and stress tested against alternative futures including the Ofwat common reference scenarios. The stress tests are based on known risks that create significant future uncertainties. The final step in formulating the preferred plan is to identify the options needed if Yorkshire Water deviate to an alternative pathway and the decision and trigger points that ensure they can adapt to the alternative pathways.

The resulting preferred solution has been created to provide a twin track approach to meeting the deficit. The demand reduction options meet Yorkshire Water's customers' aspirations and business objectives to reduce leakage by 50% by 2050 (compared with 2017/18 levels), achieve an average PCC of 110 l/h/d by 2050 (the success of this is dependent on the government's water labelling initiative) and achieve the non-household demand reduction targets of 9% reduction by 2037/38 and 15% reduction by 2050. The additional supply side solutions are required to offset the loss of the STW transfer and potential to offset the environmental destination losses. The supply options also increase resilience in the Grid SWZ, including at localised growth hotspots.

The main difference between the least cost and preferred solution (**Table 5.2**) is the resilience provided through additional resource management options in the event that the demand reduction is not achieved and if an adverse pathway is triggered within the first five years of the planning period. Four new resource schemes are included that will be delivered in AMP8. This provides flexibility to alternative futures, which is not achieved through following the least cost plan. It does require trade-offs on other metrics but overall performs better than other adaptive pathways (e.g. high ED) by not committing to the higher deficit, whilst ensuring the possibility to deviate to this pathway in the future.

Table 5.1 SEA of the Yorkshire Water WRMP2024 Least Cost Solution

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
C1d Domestic customer audits and retrofit	Adverse		None		None		None						None				None	None
	Beneficial				None		None						None				None	None
C4 Metering on change of occupancy	Adverse		None		None		None						None				None	None
	Beneficial				None		None						None				None	None
C6a Commercial water user audits and retrofit	Adverse				None								None				None	None
	Beneficial				None								None				None	None
C6a(ii) Commercial water user audits and retrofit	Adverse				None								None				None	None
	Beneficial				None								None				None	None
C12a3 - Rainwater Harvesting for Commercial Customers	Adverse		None		None		None						None				None	None
	Beneficial				None		None						None				None	None

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
C13c Tariffs/ Special Fees	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C15d Household Flow Regulator - Internal	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C23b1 Retrofits of rainwater harvesting for agriculture (at cost)	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C27d School Visits	Adverse		None	None	None		None						None				None	None
	Beneficial			None	None		None						None				None	None
C30a Water Labelling Conservative (half artesia)	Adverse			None	None								None				None	None
	Beneficial			None	None								None				None	None

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
C32c Household Rainwater Harvesting - New development	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C34a Non Household Media Campaign	Adverse	None			None		None						None	None	None		None	None
	Beneficial				None		None						None	None	None		None	None
C35c Water Retailer Incentives	Adverse			None	None								None				None	None
	Beneficial			None	None								None				None	None
LSM Leakage reduction and smart metering glidepath (50%)	Adverse				None													
	Beneficial				None													
DV3 South Yorkshire GW	Adverse				None							None						
	Beneficial											None						

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
DV7a(vi) NWL to York Pipeline Option 1	Adverse				None							None						
	Beneficial											None						
DV8B New York WTW and Dual Main	Adverse											None						
	Beneficial										None							
R37b(ii) River Aire Abstraction option 4	Adverse											None						
	Beneficial											None						
DO03 Drought Supply Rivers Drought Permits - Dry Year Annual Average until 2038*	Adverse		None		None	None		None			None	None	None	None	Negligible adverse	None	None	
	Beneficial	None	None	None	None				None	None		None	None	None	None		None	None
DO13 WRMP Demand Reduction Dry Year Annual Average - 2038 Year Benefits Ends*	Adverse		None	None	None			None		None	None	None						
	Beneficial		None	None	None		None						None	None				
DO08 WRMP Drought Supply Reservoir Compensation Drought Permits Dry Year	Adverse		None	None	None	None		None			None	None		None	None	None	None	

Option	Impact	SEA Objective																
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
Annual Average 2038 Yr Benefit Ends*																		
	Beneficial	None	None	None	None		None		None	None		None	None	None	None		None	None

Table 5.2 SEA of the Yorkshire Water WRMP2024 Preferred Plan

Option	Impact	SEA Objective																
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
C1d Household customer audits and water efficiency retrofits	Adverse		None		None		None						None				None	None
	Beneficial				None		None						None				None	None
C6a Non-household customer audits and water efficiency retrofits (schools, leisure centres and hospitality)	Adverse				None								None				None	None
	Beneficial				None								None				None	None
C6a(ii) Non-household customer audits and water efficiency retrofits (general domestic use only)	Adverse				None								None				None	None
	Beneficial				None								None				None	None
C12a3 Rainwater harvesting for commercial customers	Adverse		None		None		None						None				None	None

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
	Beneficial				None		None						None				None	None
C13c Household tariffs	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C15d Installation of internal household flow regulators	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C23b1 Rainwater harvesting for agriculture	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C27d School Visits	Adverse		None	None	None		None						None				None	None
	Beneficial			None	None		None						None				None	None
C28e Household water efficiency media campaign	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None

Option	Impact	SEA Objective																
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
C30a Water labelling- baseline	Adverse			None	None								None				None	None
	Beneficial			None	None								None				None	None
C32c Rainwater harvesting for households- new developments	Adverse				None		None						None				None	None
	Beneficial				None		None						None				None	None
C34a Non-household water efficiency media campaign	Adverse	None			None		None						None	None	None		None	None
	Beneficial				None		None						None	None	None		None	None
C35c Non-household water efficiency incentive scheme	Adverse			None	None								None				None	None
	Beneficial			None	None								None				None	None
LSM Leakage reduction and smart metering glidepath (50%)	Adverse				None													
	Beneficial				None													

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
DV7a(vi) NWL import - York Pipeline Option 1	Adverse				None							None						
	Beneficial											None						
DV8B New York WTW and Dual Main	Adverse											None						
	Beneficial										None							
R3 Increased River Ouse pump storage capacity	Adverse				None							None						
	Beneficial											None						
R3a Increased River Ouse pump storage capacity	Adverse					None											None	
	Beneficial					None											None	
R8g (Wensleydale/Richmondshire) Sherwood Sandstone Abstraction support to North Yorkshire	Adverse				None							None						
	Beneficial											None						

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
R13 East Yorkshire Groundwater Option 2	Adverse				None							None						
	Beneficial											None						
R31a Additional bankside storage on the River Ouse	Adverse				None							None						
	Beneficial											None						
R37b(ii) River Aire Abstraction option 4	Adverse											None						
	Beneficial											None						
R91 New internal transfer to North Yorkshire WTW	Adverse											None						
	Beneficial											None						
DO16 Drought Supply Rivers Drought Permits - Dry Year Annual Average until 2028*	Adverse		None		None	None		None			None	None	None	None	Negligible adverse	None	None	
	Beneficial	None	None	None	None				None	None		None	None	None	None		None	None
DO17 WRMP Demand Reduction Dry	Adverse		None	None	None			None		None	None	None						

Option	Impact	SEA Objective															
		1.1	1.2	1.3	1.4	2.1	2.2	3.1	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1
Year Annual Average - 2028 Year Benefits Ends*	Beneficial		None	None	None		None						None	None				
DO18 WRMP Drought Supply Reservoir Compensation Drought Permits Dry Year Annual Average 2028 Yr Benefit Ends*	Adverse		None	None	None	None		None			None	None		None	None	None	None	
	Beneficial	None	None	None	None		None		None	None		None	None	None	None		None	None

Key	
None	No effect
	Negligible adverse
	Minor adverse
	Moderate adverse
	Major adverse
	Negligible beneficial
	Minor beneficial
	Moderate beneficial
	Major beneficial

DV7a(vi) was selected to offset the surface water loss through licence reduction on the River Derwent by 2040 to meet environmental targets. However, there is significant further work to do to understand both the scale of the loss and the true cost of the option. This option is being progressed as part a proposed strategic resource option by WReN for AMP8 which would accelerate the development and understanding of the option.

DV8B was constrained into the plan to offset the loss of the import from STW in 2035 and ensure Yorkshire Water can maintain supplies. During WRMP development, this option was the only option with potential to provide the required yield by 2035. Yorkshire Water are working with RAPID to progress this option through the SRO process, which also includes further option identification. Yorkshire Water already hold a licence to abstract the volume and would not need to apply to the EA for a new licence. The River Ouse licence is currently subject to a WINEP investigation, which creates a risk to the success of the scheme, however, for WRMP24, it is assumed in Yorkshire Water's preferred plan that the licence will be retained. The risk to this licence is covered in Section 10.1.2 of the WRMP.

Options R3 R3a, R13 and R91 provide resilience in the near future (AMP8) and have been selected based on their shorter lead in times. This ensures that the benefits are realised sooner and the solutions can help close the near-term deficit. R3 and R91 require small-scale construction and utilise exiting licence permissions. R3a would require the EA to grant an abstraction permit variation and include discussions with the CRT, however, there is no construction required. The R13 groundwater scheme requires a variation to an existing licence, effectively meaning no change to the permitted abstraction from the aquifer. In the longer term, Yorkshire Water will invest in the R8g Sherwood Sandstone Boreholes support to North Yorkshire to a further provide 15Ml/d by 2035.

R37b(ii) River Aire Abstraction option 4 is not required until later in the plan, to close the longer-term deficit. This is linked to the R86 Aire and Calder WTW option which could be needed to enable an adaptive pathway. Further work is required and the AMP8 investigations would focus on water availability in the rivers Aire and Calder.

6. MITIGATION AND MONITORING OF THE WRMP

6.1 OVERVIEW

Consideration of mitigation measures and monitoring of potential effects has been an integral part of the SEA process. Key stages of the SEA process include Task B5: Mitigating adverse effects, Task B6: Proposing measures to monitor the environmental effects of plan or programme implementation and Stage E: Monitoring the significant effects of the plan or programme on the environment). The SEA Regulations also requires the significant environmental effects of implementing a plan to be monitored. The sections below describe:

- how these tasks have been addressed;
- how Yorkshire Water intends to ensure that the mitigation measures and monitoring plans are implemented for any adverse effects that are identified; and
- the means by which the environmental performance of the WRMP can be assessed.

6.2 MITIGATION MEASURES

Mitigation may be defined as a measure to limit the effect of an identified significant impact or, through the most successful application, avoid the adverse impact altogether, the latter being the preferred option.

Consideration of mitigation measures has been an integral part of the SEA process. The SEA appraisals have been based on residual impacts, i.e. those impacts likely to remain after the implementation of reasonable mitigation. Certain assumptions have been made regarding this:

- Where suitable mitigation measures are known and identified within the WRMP, these have been taken into account, such that the resultant residual impact has been determined.
- In line with recommendations made in the UKWIR SEA Guidance[3], the SEA appraisals have assumed the implementation of reasonable mitigation, such as the use of good construction practice.

Where appropriate, the SEA has identified additional mitigation measures that may be required, either during the construction phase or operational phase of the resource options in the preferred solution. These mitigation measures will be further defined during the more detailed design stages of the schemes as they come forward for implementation. Mitigation measures will also be discussed with the environmental regulators including the EA, Natural England, Historic England and planning authorities, as appropriate during individual scheme development.

During implementation of a specific WRMP scheme, appropriate monitoring will be undertaken to track any potential environmental effects which will, in turn, trigger deployment of suitable and practicable mitigation measures.

6.3 MONITORING REQUIREMENTS

Monitoring is required to track the environmental effects to show whether they are as predicted, to help identify any adverse impacts and trigger deployment of mitigation measures.

Appropriate monitoring has been identified in the SEA to track any potential environmental effects during implementation of the options, which will in turn trigger deployment of suitable and practicable mitigation measures. Prior to implementation, the specific requirements for environmental monitoring will be reviewed in consultation with the EA, Natural England and Historic England, as appropriate.

Key monitoring parameters are those relating to the abstraction of water and the effects this may have on waterbodies, their WFD waterbody status, and their functions as habitats. Changes to water levels can also affect archaeological and heritage assets. The WRMP may also cause more direct potential impacts on people living in urban areas, due for example to construction works and associated disturbance.

The effectiveness of the WRMP will be monitored and reported to the EA through the annual review process. The SEA focussed on impacts of individual schemes and programmes of schemes, as well as cumulative impacts of the WRMP with other plans. It is important to recognise that these monitoring recommendations

[3] UKWIR (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans. Report Ref 21/WR/02/15.

are based on the current understanding of the scheme design. As options are brought forward for development, further monitoring requirements may be set out in Environmental Impact Assessment (EIA) related Environmental Monitoring Plans, borehole drilling and pump test consents, abstraction licences and other environmental permissions, or in Yorkshire Water's voluntary best-practice monitoring plans accompanying scheme development. These will be discussed with relevant key regulatory bodies and stakeholders. In practice, close dialogue should occur between Yorkshire Water, EA, Natural England and any affected third parties to agree the appropriate scale and duration of such scheme-specific monitoring activities proportionate to the assessed environmental risks.

Higher level potential effects such as those on water resources, groundwater and river levels, as well as aquatic habitats, are monitored and reported routinely by the EA, in particular, as part of the WFD monitoring programme. Many company level effects, such as carbon dioxide emissions, are monitored and reported annually by Yorkshire Water.

Table 6.1 identifies indicators for potentially significant effects which the WRMP could have on different receptors. Key monitoring parameters at the strategic WRMP level will be those relating to the abstraction of water and the effects that this may have on waterbodies and their functions as habitats. There are also direct potential impacts on humans, the built environment, terrestrial habitats, the atmosphere, landscape and heritage assets, which may arise from construction activities and/or scheme operation. Extensive primary data collection is neither feasible nor appropriate for this programme level of monitoring, and use should be made where possible of existing datasets and monitoring regimes.

Table 6.1 SEA Monitoring Parameters

Impacted receptor /topic	Indicators	Indicative timescale	Commentary
Biodiversity	Species and habitats surveys, biological monitoring (e.g. macroinvertebrates, macrophytes, fisheries, bird surveys), INNS presence No deterioration in Condition Assessments for relevant designated sites and SSSIs that may be affected by WRMP schemes.	During and post-construction	Yorkshire Water will be responsible for collecting data and will engage with EA and Natural England to ensure most up-to-date information is being utilised which will help identify any potential issues.
Water resources, water quality	River flows, river levels, lake and reservoir levels. Groundwater levels. Surface and ground water quality (including proportion of surface water and groundwater bodies at 'Good; WFD status) No deterioration to WFD status of surface waters and groundwater waterbodies that may be affected by WRMP schemes.	Annual (subject to data availability)	Yorkshire Water to undertake WFD assessments for all relevant projects pre and during construction. Monitor status of water bodies (relevant to projects) using publicly available information. Previous studies e.g. WINEP investigations may be used to inform monitoring and assessment.
Flood risk	Number of properties that experience internal flooding from public sewers.	During construction	Yorkshire Water presently collect and report this data.
Soils, geology and land use	Area of previously undeveloped land used during construction Area of agricultural land (by grade) lost to WRMP schemes	During construction	Yorkshire Water should report the area of land (by type) that is used for development of WRMP schemes.
Climate Factors	Net greenhouse gas emissions per million litres (Ml) of treated water (kg CO_2 equivalent emissions per Ml) for Yorkshire Water supply area Energy use used in the operation of options. Renewable energy generated or purchased by Yorkshire Water.	Annually	Yorkshire Water already collect this information as part of their carbon reduction strategy and journey towards net zero.

Impacted receptor /topic	Indicators	Indicative timescale	Commentary
Transport	Transport fleet fuel consumption, emissions and business mileage, as monitored by Yorkshire Water	During construction	Yorkshire Water to record vehicle movements during the construction period of any schemes.
Human health and well-being/ Nuisance/ Community/Local Economy	Scheme level community disruption of capital works would be monitored through an Environmental Monitoring Plan if required. Number of nuisance-related complaints (e.g. noise, dust) logged with Yorkshire Water and Local Authority EHOs. Pollution and flooding incidents Responses gauged through Yorkshire Water customer satisfaction surveys. Community investment, employee volunteering and match funding by Yorkshire Water.	During and post-construction	Yorkshire Water to collect information regarding complaints received during construction at project level.
Recreation and Tourism	Number of recreation or tourism assets created	Post-construction	Yorkshire Water could also collect data on visitor numbers to existing recreational facilities.
Waste and resource use	Leakage Water saved through demand management / water efficiency measures. Amount of recycled / re-used materials. Proportion of waste sent to landfill. Chemical usage in water treatment.	Annually / During construction	Yorkshire Water to collect data on material and waste arisings during construction of schemes
Air Quality	Scheme related issues of capital works would be monitored through an Environmental Monitoring plan if required. Changes in air quality are monitored by the Automatic Urban and Rural Network[4] and these data would be available if required to inform a baseline. Ricardo maintains the Defra air quality monitoring network[5] in order to assess the Government's legal compliance through detailed ambient air quality modelling, these data could also inform the baseline.	During construction	Yorkshire Water may undertake project level air quality assessments to identify sensitive receptors where monitoring may be required.
Cultural Heritage	Loss / damage or discovery / protection of cultural, historic and industrial heritage features. Condition of buried archaeology would be monitored during construction e.g. through appropriate archaeological investigations and watching briefs as required and informed by Historic Environment Records. Consultation with relevant stakeholders to ensure impacts are minimised, e.g. to water level dependent assets, where they cannot be avoided in the first instance. Historic England monitor parameters such	During and post-construction	Yorkshire Water could record information at a project level on heritage assets in the area. Historic England records can be accessed to provide detail on the condition of heritage assets. Yorkshire Water should record any actions undertaken to avoid historic assets or enhancements made. Yorkshire Water could monitor the condition of assets under its ownership.

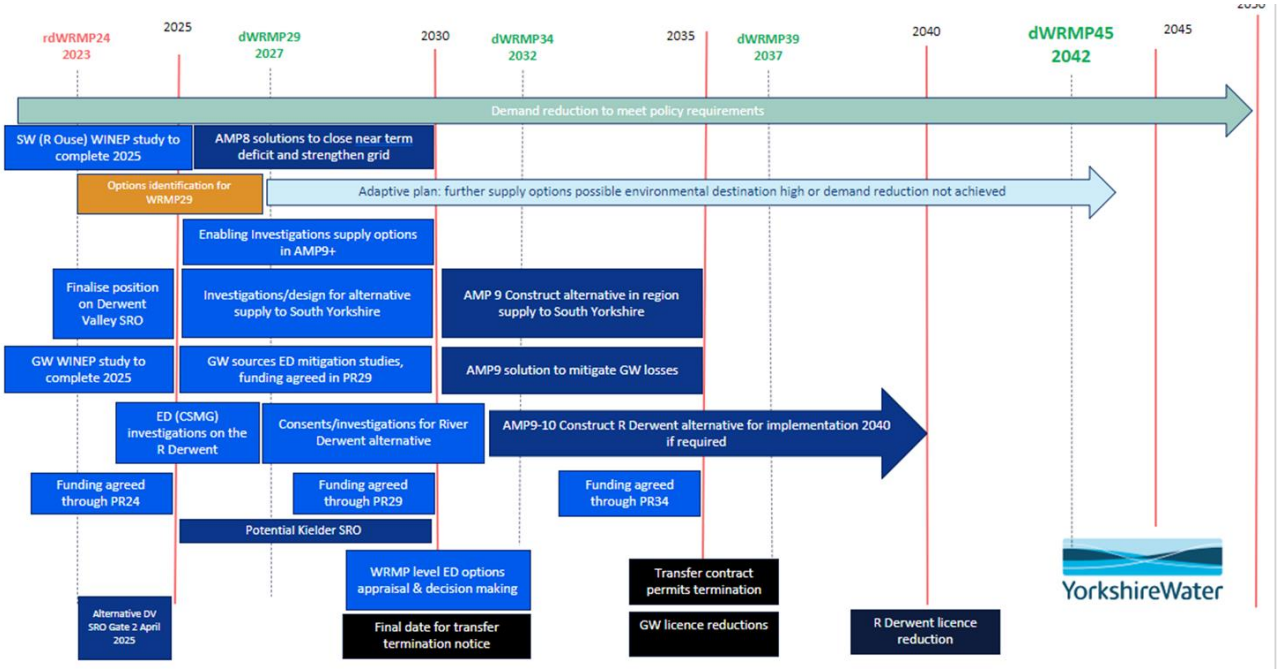
[4] https://uk-air.defra.gov.uk/networks/network-info?view=aurn
[5] https://uk-air.defra.gov.uk/

Impacted receptor /topic	Indicators	Indicative timescale	Commentary
	as Listed Buildings and Scheduled Monuments, in order to maintain a 'Heritage at risk' register.		
Landscape	Loss or damage to landscape character and features of designated sites.	Post-construction	Yorkshire Water could record the number and size of infrastructure built within designated landscape areas, amount of landscaping provided or number of complaints received

The SEA Regulations state that monitoring must enable appropriate remedial action. For the monitoring programme to be effective, there must, therefore, be a mechanism in place to detect trends and to ensure that action is taken where trends are progressively adverse. Monitoring identified will require further consideration, iteration and agreement with the EA and Natural England as preferred options are developed in the future. At the scheme level, EIA-led EMPs (or similar EMPs relating to other statutory permissions and approvals) will facilitate monitoring and trigger mitigation if required, particularly during and immediately after capital works. At a more regional level and during operation of schemes, monitoring of key environmental parameters, such as groundwater levels and emissions, will inform development of the next WRMP, both directly and through the SEA process.

Scheme-specific monitoring has been identified for the resource options included in the preferred solution. **Figure 6-1** gives a timeline of the implementation of the resource options. This includes a period of monitoring and assessment to show when the investigations of the environmental effects would be carried out.

Figure 6-1: WRMP24 key dates and actions (from main WRMP document)



Results of the proposed monitoring, and any mitigation measures taken, will be included within the SEA for the subsequent WRMP 2029 development. Where appropriate, the data and findings will be reported in the annual WRMP update to the EA, particularly where this may lead to any changes to the plan or improved understanding of the impact of any scheme.

Five yearly assessments of the environmental baseline will be undertaken in preparation for the SEA of the subsequent WRMP. This will incorporate consideration of the parameters identified in **Table 6.1**.

7. AVAILABILITY OF DOCUMENTS

The adopted WRMP and accompanying SEA documentation is available on the Yorkshire Water website at:
https://www.yorkshirewater.com/about-us/resources/water-resources-management-plan/
The documents can also be requested by contacting the following email address:
waterresources@yorkshirewater.co.uk

The documents are also available for inspection at:

Manager of Water Resource Strategy
Yorkshire Water
Western House
Halifax Road
Bradford
BD6 2SZ

APPENDICES

APPENDIX A SEA POST ADOPTION PROCEDURES

Part 4 of The Environmental Assessment of Plans and Programmes Regulations 2004 (referred to as the “SEA Regulations”) requires Yorkshire Water, 'as soon as is reasonably practicable' after the adoption of the WRMP, to:

1. Make a copy of the WRMP and Environmental Report available at its principal office for inspection by the public at all reasonable times and free of charge;
2. Notify the public and potentially affected parties of their availability;
3. Inform the statutory consultees and other parties who responded;
4. Issue a statement containing:
    - How environmental considerations have been integrated into the WRMP;
    - How the environmental report has been taken into account;
    - How consultation responses have been taken into account;
    - The reasons for choosing the WRMP as adopted;
    - Measures to monitor the significant environmental effects of the WRMP.

Requirements 1 to 3 have been fulfilled by the publication of the WRMP and SEA documents on Yorkshire Water website and informing all consultees of the publication. In addition, with respect to 1, a hardcopy will be available for inspection on request.

The publication of this SEA Post Adoption Statement fulfils Requirement 4.

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