Thames Water Draft Water Resources Management Plan 2024

Statement of Response

Appendix G1:

Response to representations from organisations

August 2023

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Section 1

Introduction

1.1 Appendix G contains the representations received from stakeholder organisations, along with our consideration of these representations and changes to the draft plan in response, or if no changes have been made we set out the reasons for this.

1.2 Appendix G comprises two parts – G1 and G2.

1.3 Appendix G1 includes the majority of representations received from stakeholder organisations

1.4 Appendix G2 includes representations from stakeholder organisations that were longer and/or included detailed technical content. The following organisational representations are included in Appendix G2 – Chalk Streams First, Greater London Authority, Group Against Reservoir Development, Oxfordshire County Council, Vale of White Horse District Council

1.5 The following table includes all the representations received from stakeholder organisations. The table sets out: response ID, organisation name, stakeholder response, Thames Water's consideration of the response, changes made to the draft plan and, if no changes, the reasons why not. We have extracted the specific points from every representation and provided a response. Any introductory and overview text is not included.

1.6 If you have any questions on the responses, please email info@thames-wrmp.co.uk

Section 2

Table of issues raised and our consideration

Response ID	Organisation name	Stakeholder response	TW consideration of the stakeholder response	Changes made to the plan/ If no changes, why not
2555	Stroud Valleys Canal Company	SVCC are firmly of the opinion that the multitude of benefits associated with the STT canal transfer option, when expressed in monetary value terms, have been grossly underestimated and that this option yields the "best value plan" (BVP) of greatest merit. It also carries with it the shortest lead time and least risk to delivery timescales for a major new source of water for Thames Water and the southeast region. - The Supplementary Reports written by consultants provide the best cost information but they are stand alone and only relate to a partial set of SRO's. However, again there appears to be no tabulation to show a direct comparison of the costs for all the SRO's from Gate 1 and Gate 2 to support the claim that the preferred selection forms the BVP. Although the Severn – Thames Transfer (STT) Canal option was considered at Stage 1, it did not go forward to the detailed evaluations undertaken for certain SRO's at Stage 2 and reported in the draft WRMP 24. At present, the entire STT option is "on the backburner" with the pipeline transfer option preferred to the Canal. During the previous assessments, the canal option appeared to fail to satisfy a number of qualitative tests. Some of the failures were the result of subjective views rather than objective evidence. A large number of rejections related to beneficial effects such as environmental improvement, biodiversity gain and health and wellbeing factors. This appears totally counterintuitive. But the most serious error was the extremely low monetary value ascribed to the beneficial effect of the	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We have selected the Oxford Canal (Dukes Cut) raw water transfer scheme in 2040 for the revised draft WRMP. We look forward to working with CRT on the development and investigation of the option.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer. We have included the Oxford Canal option in 2040 for our revised draft WRMP

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		canal restoration from tourism, recreation, and health and wellbeing aspects. In the assessments carried out to date, an NPC of just over £80 million has been used for the canal option. However, based on analysis of very recent data reported by the Inland Waterways Association (IWA) and by the Canal and River Trust (C&RT) it is concluded that the "tourism benefits" alone have been underestimated by an order of magnitude (see attached Appendix 1). The latest evaluation produces a value with an NPC of £800 million, but even -this value is dwarfed by the -"health and wellbeing benefits" that are a factor of three higher -at £2.2 billion -(see Appendix 2 attached) making the total around £3 billion. The NPC for the SRO of fully restoring the Cotswold canals both for navigation and water transfer is quoted by Mott MacDonald as £1628 million [Report Ref. STTG2S3302 (C) September 2022]. This incorporates a benefit offset of £81 million. Using a more accurate value of £3 billion means that the canal option yields a positive net benefit of £1372 million after the construction and operating cost have been taken into account. No other SRO comes anywhere near to this! The preferred SESRO option (150 Mm3) is estimated to cost around £1400 million in NPC terms. It is not clear whether or not this figure includes an offset from the monetised benefits that will be produced by the public's use of the SESRO facility for pleasure and the associated health benefits. It appears that these benefits may have been calculated at around £300 million in NPC terms. However, even if the £300 million benefit has not already been applied to the £1400 million cost, the resulting total is only reduced to around £1100 million net. From a purely financial viewpoint, the SRO based on the use of the STT using a fully restored - - -Cotswold Canals, offers by far the best BVP. It yields an overall set of benefits of the order of £3billion in NPC terms.	For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	

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		This outweighs by far the capital and operating cost investment of just over £1.6 billion in NPC terms. No other SRO comes anywhere this outcome. Regardless of the financial aspect, restoration of the entire 36 miles of the Cotswold Canals, whether or not for water transfer, carries with it the opportunity for Thames Water to show that it is acting positively in its care of the environment. A piece of much needed positive publicity in the current climate. The restoration of a limited section of the Cotswold Canals through the urban environment of Stroud has already resulted in the appearance of water voles (considered a rare species) and otters plus other aquatic based wildlife. Adverse public reaction to any SRO carries with it the risk of delay to the project timetable and a consequent increase in costs. To date, the SESRO option has met strong opposition from GARD and has been rejected for approval after a public inquiry. This opposition persists. On the other hand, the alternative SRO based on restoring and using the Cotswold Canals for the transfer of large quantities of water from the plentiful west to the impoverished east -has met with a great deal of public support. It is believed that out of approximately 1100 responses to the previous consultation, well over 300 supported the STT Canal transfer option. At present the SESRO option is preferred despite it having the longest lead time and potentially the most difficult regulatory and planning hurdles which would be exacerbated by strong public opposition. On the other hand, the STTCanal option has a much shorter lead time and would meet with much public approval and support. The preferred timing of these two options, SESRO early, STT much later, carries with it considerable but avoidable risk to the crucial early delivery of secure water supplies in the short term. Based on the benefits associated with		

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		the STT Canal option, but not enjoyed by the currently preferred, pipeline alternative, a radical alteration to the composition and timing of the preferred SRO's in the -BVP appears justified and necessary. SVCC understands that Thames Water perceives there to be a risk with the STT Canal transfer option in that it relies heavily on the canal owner and operator being able to ensure full transfer availability when it is needed. However, similar to the shareholding risk, this could be mitigated by binding contractual arrangements. Such arrangements already exist for water transfer by canal in other parts of England and Wales. Indeed, Thames Water is relying on the use of the Oxford Canal as a preferred option in its draft WRMP 24. In addition, it is understood that WRSE's earliest preferred option relies on the use of the Grand Union canal which is managed by the Canal and Rivers Trust. The monetisation of benefits associated with each option is poorly documented. In particular, the monetary benefit associated with the STTCanal option has been massively underestimated. This has grossly distorted the relative value of the SESRO and STTCanal options for a new major water supply. The STTCanal option out values all others and produces an overall net present gain. It would be very advantageous both financially and in publicity terms to restore the Cotswold Canals to the earliest timescale even if only for navigation. This could provide a biodiversity net gain well in excess of that required from the STTpipeline option. It would also contribute to offsetting the net gains required from other major options such as SESRO. In terms of risk management, the preferred SESRO option carries with it the greatest risk of failure to deliver to time and to cost. In terms of supply security, Thames Water could be a minority shareholder, reliant		

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		on commercial agreements when supplies are needed at times of extreme demand. The STTCanal option has the shortest lead time, shortest construction timetable and attracts large public support. It provides by far the least risk option of delivery to time and to cost. Transfer availability at times of extreme demand can be covered by commercial arrangements such as those that already exist elsewhere in England and Wales. Reliance on canal transfer using the Oxford Canal is part of the draft WRMP 24. WRSE have canal transfer using the Grand Union Canal as a preferred option.		
2555	Stroud Valleys Canal Company	I think that using the Cotswold canals as a transfer means would give the best value to the community. As I understand from your document, you intend to build the Abingdon reservoir in 2025, then build a waste water recycling plant, followed by building a Severn to Thames transfer in the 2040. The canal project could be completed much faster than constructing the reservoir. Your WRMP plan is supposed to include full environmental and social benefits, take carbon into account and not to only have the least overall cost. The maximum environmental and social benefits are derived by using the Severn to Thames transfer using the Cotswold canals. There are no environmental benefits to be derived from schemes like using wastewater desalination plants or buried pipelines. I would also question why you've only valued the Cotswold canals at £80 million over 80 years. Many national studies estimated that it should be more like £800 million -enough to make using the canal the best value.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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			no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
2555	Stroud Valleys Canal Company	The objective of all this work is to define the Best Value Plan (BVP) for securing a resilient water supply over next 50 years for Thames Water's customers. In almost everybody's language, the word "value" carries with it a monetary measure. In the Summary section only two pieces of financial information are given. An investment of £13 billion over the next 25 years. A projected increase in the average annual household bill from £14 in 2030, rising to £100 in 2050. A footnote says that this predicted bill impact is for investment in water resources only. Investment in other services such as wastewater may also affect your bills. The only other source of financial (cost) information in the main consultation documents appears to be almost hidden in the Data Tables that are referenced at the end of the Technical Appendices. These tables are shown on an Excel spreadsheet. The cost data appears without any explanatory text in the second sheet labelled Tables 5a5c Cost Profiles. It comprises over 4000 lines of data, much of which relates to a range of variants for each SRO. There are no cost comparison tables for the competing SRO's, so no evidence that the preferred options result in the BVP.	The BVP process, which was developed and is applied at regional level, identifies objectives, criteria and a range of metrics that are used to help identify an overall best value plan. These metrics are a mix of quantitative and qualitative measures. Not all impacts are monetised or are monetisable. The methods used in developing the regional plan (and thus company WRMPs) were consulted on and are used to ensure consistent comparison. We are happy to engage with stakeholders where they consider our values (monetised or otherwise) can be improved. We have been in regular contact with groups promoting the Severn-Thames transfer via a canal interconnector. This Strategic Regional Option is progressing through the Gated investment process being overseen by the regulatory alliance (RAPID).	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.

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		In deriving the BVP, the financial impact of the benefits associated with each of the schemes must be quantified in monetary terms. The main benefits can be categorized in relation to recreation, tourism, volunteering and land value: carbon sequestration; natural hazard regulation; biodiversity and agriculture. In past work, the regulators have requested a lot more attention be given to quantifying these benefit in monetary terms (see STT001 Query, et seq). It is accepted that this is not an easy task. However, the attempts made to date and used in the BVP assessment appear to fall far short of presenting fair and proper values.		
2555	Stroud Valleys Canal Company	The Environment Act 2021 requires most development schemes in England to deliver a biodiversity net gain of at least 10% and for this to be maintained for at least 30 years. It also advises local authorities and developers to consider local waterways, whether navigable or restoration projects, as offsite locations for biodiversity credits where a developer cannot achieve the target on their own site. Mott MacDonald estimate that the cost of purely restoring the Cotswold Canals for navigation has an NPC value of £130 m. The associated total benefit to be gained is estimated at an NPC of £3 bn (see Appendix 2). It only requires the biodiversity component of the total benefit to contribute less than 0.01% in order to secure the 10% net biodiversity gain for the alternative STTpipeline option. So, even if the Canal is not used for water transfer, its restoration for navigation would massively offset the required 10% net gain required for the currently preferred STTpipeline option. It would also act to offset the gains required from other SRO's.	The Interconnector Options Appraisal carried out as part of the development and appraisal work for the Severn to Thames Transfer SRO concluded that, subject to further stakeholder engagement, feedback and back-checking, a canal for navigation would be best delivered separately to a water transfer. The impact of constructing the canal e.g. its embankments for the canal pounds, would impact on biodiversity and therefore the opportunity to provide wider biodiversity net gain beyond its own scheme would be limited.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.
2555	Stroud Valleys Canal Company	The main consultation documentation comprises a 31 page Summary; a Technical Report -of 653 pages and 1490 pages of Technical Appendices. A total of over 2000 pages. A large amount of the text deals with theory and methodology, much of which is repetitious. In addition, the main documentation is supported by a thousand or more pages of Supplementary Reports. These have been produced by consultants and provide detailed engineering and financial information,	As you set out, we have produced a suite of documentation including an easy to read summary through to detailed technical appendices to ensure information is accessible to all interested individuals and organisations and they can choose the level of information that they would like to read. Throughout the consultation period we also offered an email address if consultees had queries, held stakeholder meetings and in conjunction with WRSE held an online question and answer	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		but only for some of the Strategic Resource Options (SRO's) selected. - The overall impression "never mind the quality, just feel the width" springs to mind. The main consultation documents are far too voluminous; contain much information on theory and on methodology but fail to present vital financial information to support the claim that the preferred options constitute the BVP.	session, as such we consider we provided sufficient information and support to help consultees participate in the consultation.	
2555	Stroud Valleys Canal Company	It would appear that the total £13 billion investment is made up from the various costs of individual schemes. This total is the Net Present Cost (NPC) of annual expenditure over the next 80 years, presumably using the Treasury Green Book guidance with a 3.5% p.a. discount rate. This type of analysis is used for investment appraisal purposes. It cannot be used directly for financial policy and planning purposes and it does not provide a proper indication of billing levels into the future. This is driven by factors such as P&L account, balance sheet, cashflow, dividend payments, etc. To present the £13 billion investment in terms of future increases in bill prices is extremely disingenuous. At present the "water industry" in the UK is suffering a great deal of adverse publicity. Securing the support and trust of the public, particularly those most affected by the implementation of any SRO is of paramount importance. However, currently the public do not hold the industry in high regard and probably have little trust that improvements will be achieved in the short term. The recent announcement by Thames Water that it plans, in the immediate future, to invest £1 billion in sewage and waste water treatment, is an ameliorating response. It is not known whether or not this investment was included in the £13 billion quoted in the Summary document. The financial (cost) information given in Tables 5a5c Cost Profiles indicates that in the SESRO option Thames Water will have a 41%	It is correct that the investment highlighted in the WRMP is made up from the costs (capital investment, fixed operational costs, and variable operational costs) of new, individual schemes. We do not agree, however, that the presentation of the plan's overall costs is disingenuous. The cost of the plan to customers was accurately stated, and in the plan summary and Section 11 of the plan, we presented indicative bill impacts. These bill impacts are calculated by considering the investment which is needed (and when), and using financial modelling to determine the bill increases which would apply under the current regulatory regime. The £1.6bn figure was not included into the £13bn figure. The £13bn cost is associated with investment required in water resources schemes only. Our Drainage and Wastewater Management Plan sets out our long-term investment plan for the wastewater side of the business. The 41% figure is correctly identified as the anticipated share of water which was, in the draft plan, anticipated to be made available for Thames Water's customers' use. In the revised draft plan, this figure has been revisited as a result of the revised programme appraisal that has been undertaken and is now 55%. It is not true that either figure would represent the Thames Water "shareholding" in the reservoir. It is most likely that the reservoir would be owned and operated by an	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		shareholding. This implies that Thames Water could be the minority shareholder in this option. At times of extreme demand, securing access for Thames Water's customers to a vital supply of reservoir water will have to be subject to commercial arrangements with the other shareholder(s). Thames Water will not be entirely the master of its own destiny. This is a risk. In the Summary document, the apparent use of NPC values to provide a guide to future charges on customer's bills is extremely disingenuous.	independent organisation, appointed through the Specified Infrastructure Project Regulations (SIPR), a delivery model similar to the Thames Tideway Tunnel project. It is true that commercial arrangements will need to be made between SESRO partners and the SIPR appointee, but we do not agree that this represents a risk to our plan. Both SESRO and the STT would involve contractual arrangements between multiple parties, and our consideration is that the SESRO scheme would be significantly less complex from a commercial standpoint.	
2555	Stroud Valleys Canal Company	The BVP assumes success in achieving an immediate reduction in consumption by fixing leaks and the use of metering. This policy has been in practice now for the past few years with only partial success. This has been achieved in "harvesting the low hanging fruit"; it will get progressively harder in the future. This poses a risk to the overall resilience of the BVP and points up the desirability of having at the earliest opportunity, a new water supply option of substantial size. Only two options, SESRO or STT can satisfy this requirement for Thames Water. Reliance on early, large scale improvements in leakage management and the beneficial effect of metering appear to be overestimated based on past experience. The risk of failure to achieve these targets can be mitigated by an immediate commitment to the STTCanal option.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Water source and storage options We have assessed a number of new water sources and storage solutions for our current WRMP. We have put forward what we consider to be the best plan based on a best value balance of cost, environment and resilience. We have used adaptive planning to make sure that the plan we have selected is sufficient for a wide range of futures. We will continue to monitor the situation and will react to changes in our forecasts to ensure supply. Leakage targeting, and it's relationship to household demand Reducing leakage is a priority for us. Right now, around 24% of the water we treat / put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is	

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			already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel.	
2557	Ardington and Lockinge Parish Council	Need: the proposed reservoir is not needed (the population and water shortage are exaggerated). Better Solutions: water transfers, recycling and desalination these are drought resilient and cost effective. In particular, Severn Thames Transfer is the key: start it now! Further more, filling the reservoir with heavily polluted water from the Thames will result in a "GREAT STINK", as experienced in London during the Victorian era.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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			policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
2557	Ardington and Lockinge Parish Council	Transparency: the details of the plan are not clear and nor are the costs. Without transparency it is impossible to compare options (e.g. Severn Thames Transfer/reservoir).	We have tried to stucture the WRMP to meet the needs of a range of audiences. From a non-technical summary, through the Main Report, Appendices (including Tables) and supporting information, there is a lot of information available. Comparative assessment is possible at option and programme level.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
2557	Ardington and Lockinge Parish Council	Risk: flooding has not been assessed, nor has the risk of catastrophic inundation/dam breach.	The proposals for SESRO are an early stage in the process. The design process will look at many risk factors including flooding in more detail as the scheme progresses. Depending on the response to the WRMP, if SESRO progresses to the next development stage, we will fully consult with regulators, councils and the Oxford Flood Alliance. Thames Water takes all aspects of reservoir safety very seriously. The design will comply with all of the relevant legislation.	We have not made changes to our WRMP following this response. Detailed flood impact studies associated with the SESRO proposal will be carried out through the EIA process.

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2557	Ardington and Lockinge Parish Council	Environment: it will cause massive environmental destruction and damage both during and after construction in respect of carbon footprint and loss of diversity.	Thank you for your response. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft and revised draft WRMP24 and also within our Gate 2 submission to RAPID (section 6), available online. This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. Detailed information on the landscape impacts, environmental impacts including biodiversity and carbon impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID (available to view online), and agreed with the Environment Agency.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.
2557	Ardington and Lockinge Parish Council	Financial and Commercial facts: The Thames valley customers pay. Thames Water's shareholders benefit. The water is not for Thames Valley/Oxfordshire at all but is to be sold to Southern Water after sending some to London.	In line with government guidance we have been working in collaboration with the six water companies across the South East, through Water Resources South East, exploring how we can make the best use of our existing water resources and new ways to increase water supply including desalination plants, water recycling systems, new reservoirs, and transfers of water to ensure we can provide a secure and sustainable water supply for customers over the next 50 years. We need to plan ahead now to ensure we can adapt to our changing climate and protect the environment. A number of the new water resources proposed are collaborative, shared resources and would therefore provide water to several water companies. These new water resources schemes, and the investment required, is likely to follow the success of Thames Tideway Tunnel,	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			which is being constructed by a new, competitively tendered Infrastructure Provider, from which our shareholders do not profit. Our shareholders are putting money into the business, not taking it out. Our shareholders will subscribe an initial £500 million of new equity this financial year (2022/23), and we're working with them on plans to provide a further £750 million of equity funding, which will be subject to certain conditions. Our shareholders have not taken a dividend for six years, since 2017.	
2557	Ardington and Lockinge Parish Council	Competence: why should we believe that Thames Water knows how to build such a structure and maintain it, granted their record with leaks/sewage?	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. South East Strategic Reservoir Option (SESRO/Abingdon Reservoir) The SESRO scheme, about which you have concerns, is one part of a wider programme of resource development and demand management options. As a water storage solution, it is an important asset in the resilience against potential water shortages arising from forecast population increases and drought. The reservoir has the potential to offer a wide range of opportunities including creating a place that people would want to visit for their health and wellbeing, new accessible leisure and recreational facilities from walking, cycling, fishing, birdwatching and a wide range of water sports for all as well as providing opportunities to host sporting events with access to new facilities for local people. If the reservoir is taken forwards, we would work with stakeholders and the local community to deliver the best project for the local area and wider Oxfordshire. It is understandable that those located close to proposed major infrastructure projects will have concerns and we want to work with them to understand and take measures to mitigate them.	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets	

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			are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks. Thames wastewater practices Our plans for reducing and removing sewage outflow to rivers (as well as other wastewater-related topics) are available in the Drainage and Wastewater Management Plan (DWMP), the sister-plan to the WRMP for the waste-side of the business. Supporting information for the DWMP can be found here: https://www.thameswater.co.uk/about-us/regulation/drainage-and-wastewater-management	
2557	Ardington and Lockinge Parish Council	I wish to object strongly to the Thames Water Plan for the following reasons: Need: the proposed reservoir is not needed (the population and water	Forecasts for the amount of water required in the future, including for factors such as population growth) are derived in strict accordance with the Environment Agency's Water Resource Planning Guideline. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and	We have provided information in response to your comments, there are no changes as a result of your representation.

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		shortage are exaggerated). Environment: it will cause massive environmental destruction and damage both during and after construction in respect of carbon footprint and loss of diversity. Better Solutions: water transfers, recycling and desalination these are drought resilient and cost effective. In particular, Severn Thames Transfer is the key: start it now! Competence: why should we believe that Thames Water knows how to build such a structure and maintain it, granted their record with leaks/sewage? Risk: flooding has not been assessed, nor has the risk of catastrophic inundation/dam breach. Transparency: the details of the plan are not clear and nor are the costs. Without transparency it is impossible to compare options (e.g. Severn Thames Transfer/reservoir). Financial and Commercial facts: The Thames valley customers pay. Thames Water's shareholders benefit. The water is not for Thames Valley/Oxfordshire at all but is to be sold to Southern Water after sending some to London.	also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. The SESRO options will result in areas of existing floodplain being removed. In line with prevailing legislation and best practice, this would be mitigated through the development of level-for-level floodplain compensation, as part of the reservoir proposals. This would be designed to ensure that the flood risk to areas upstream and downstream was not worsened by the SESRO proposals. All such work would need to be reviewed and agreed by the Environment Agency before consent for the scheme is allowed. Our initial findings at RAPID Gate 2 are that the scheme could result in a slight betterment to the flood flows passing downstream to Abingdon and negligible impacts on groundwater flooding. This will be subject to further modelling, appraisal and scrutiny as the design progresses. Detailed information on the landscape impacts, environmental impacts including biodiversity and heritage impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID, and agreed with the Environment Agency. In our Gate 2 submission to RAPID (Table 4.3), we have explained the various measures that we will take to ensure the reservoir is designed, constructed and operated safely. Thames Water has an exemplary record of safety at its existing 59 reservoirs which fall within the remit of the Reservoirs Act 1975. Thames Water also has several	

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			comparable reservoirs to the SESRO. King George VI, Queen Elizabeth II, Queen Mary, Queen Mother and Wraysbury all have dam heights of 12-20m and crest lengths of 4.3-6.3km. At between 15m and 25m high, the earth embankments for the proposed SESRO scheme are well within the parameters of other similar schemes in the UK. The British Research Establishment (BRE) Register of UK Dams lists 370 embankments with a height of at least 15m and 105 over 25m. Most embankment dams in the UK are built as impounding reservoirs (i.e., impounding a watercourse, and therefore abutting either valley side). The non-impounding nature of the SESRO does mean that its total crest length is unusually long. However, the length of the dam has no bearing on the maximum stresses within it, which equate to the height, as this defines the scale of the loading induced by the self-weight and the loads applied by the water. A longer dam is typically more likely to encounter variety in the ground conditions which are to support the dam, but the ground conditions at the SESRO site have been found to be highly consistent around the perimeter. Globally, there is a World Register of Dams maintained by the International Commission on Large Dams, which highlights that there are many dams around the world of comparable or greater scale to the SESRO. Within the 2020 register there are, internationally: - Over 1,950 earth embankment dams impounding a reservoir volume of at least 150Mm3 - 121 earth embankment dams with a crest length of at least 10km In an international context the proposals for SESRO constitute a large reservoir but there are many which are larger. Far from being untested, the use of earth embankments of such scale to impound reservoirs is very well established.	

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			The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers	

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			tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J.	
2557	Ardington and Lockinge Parish Council	Objecting to the above plan specifically in relation to the proposed Reservoir. I now wish to mention another important objection, namely that so long as Thames Water continues to allow sewage or contaminated water to be discharged into the River Thames, it cannot be safe to use Thames water to feed the Reservoir.	The water quality risk assessment and analysis completed for the SESRO options, as reported in our Gate 2 submission to RAPID, which confirms the feasibility of the proposals from a water quality risk perspective, takes account of the actual recorded water quality within the River Thames. This is therefore reflective of historical wastewater spills and associated risks. This risk assessment has been reviewed and found acceptable by the Drinking Water Inspectorate (DWI).	We have provided information in response to your comments, there are no changes as a result of your representation.
2557	Ardington and Lockinge Parish Council	We, Ardington and Lockinge Parish Council, wish to object strongly to the Thames Water Plan for the following reasons: • Need: the proposed reservoir is not needed (the population and water shortage are exaggerated). • Environment: it will cause massive environmental destruction and damage both during and after construction in respect of carbon footprint and loss of diversity. • Better Solutions: water transfers, recycling and desalination these are drought resilient and cost effective. In particular, Severn Thames Transfer is the key: start it now!	Water is essential for all our lives. Over 20 million people live in the South East, with around 10 million in Thames Water's area, who all need a safe and dependable water supply. The consequences of not having a secure water supply for our economy, society and the environment is huge. We support an economy that in London alone is responsible for 24% of the UK's economic output, while also caring for sensitive and precious habitats including almost a quarter of the world's rare chalk streams. Our changing climate, the need to protect the environment alongside accommodating future growth are all putting pressure on our water resources. Without action, we could face a substantial shortfall of around one billion litres of water a day in the next 50 years. We don't know exactly what the future will bring, so our plan is	The parameters considered align with the guidelines of subjects we need to consider. The choice of options in our plan are due to the guidelines and the optimisation of the WRSE regional model.

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		• Competence: why should we believe that Thames Water knows how to build such a structure and maintain it, granted their record with leaks/sewage? • Risk: flooding has not been assessed, nor has the risk of catastrophic inundation/dam breach. • Transparency: the details of the plan are not clear and nor are the costs. Without transparency it is impossible to compare options (e.g. Severn Thames Transfer/reservoir). • Financial and Commercial facts: The Thames valley customers pay. Thames Water's shareholders benefit. The water is not for Thames Valley/Oxfordshire at all but is to be sold to Southern Water after sending some to London.	adaptive. We'll monitor the future and adjust our plan accordingly but investing now will mean we can: cope with the changing climate and more severe droughts; leave around 20% more water in the environment around us and support growth in our communities and our businesses. • Climate Change: Our climate is changing and our weather is more unpredictable than ever. We're facing hotter, drier summers, which means there'll be less rain when we need it most, and extreme weather events will likely happen more often. We've taken the most recent climate change projections produced by the Met Office (UKCP 2018) and assessed how they could impact our water sources in normal years as well as in a drought. This tells us how much more water we'll need to replace the supplies we may lose and identifies which water sources are most at risk • Protecting the Environment: A significant driver in our dWRMP24 is to improve the environment we are so heavily reliant on. Over the past 25 years, we've reduced the amount of water we take from the environment by 134 Ml/d and taken steps to protect some of our most sensitive rivers but we need to do more to protect the environment. In this draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. • Growing Population: London and the Thames Valley is already one of the most densely populated parts of the country, and the number of people living and working here is forecast to grow significantly. We've used the latest forecasts from local authorities to develop future	

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			growth forecasts in our area. This is in line with guidance from our regulators which states that the plan should reflect local growth ambitions and plan to meet the additional needs of new businesses and households. We've also looked at other forecasts such as the ONS. By 2050, we forecast there will be around two million more people living in our area, and by 2075, we forecast the population will rise by a further one million people to a total customer base of over 13 million. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the revised draft WRMP and also within our Gate 2 submission to RAPID (section 6), both can be found on our website This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. The SESRO options will result in areas of existing floodplain being removed. In line with prevailing legislation and best practice, this would be mitigated through the development of level-for-level floodplain compensation, as part of the reservoir proposals. This would be designed to ensure that the flood risk to areas upstream and downstream was not worsened by the SESRO proposals. All such work would need to be reviewed and agreed by the Environment Agency before consent for the scheme is allowed. Our initial findings at RAPID Gate 2 are that the scheme could result in a slight betterment to the flood flows passing downstream to Abingdon and negligible impacts on groundwater flooding. This will be subject to further modelling, appraisal and scrutiny as the design progresses.	

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			Detailed information on the landscape impacts, environmental impacts including biodiversity and heritage impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID, and agreed with the Environment Agency. In our Gate 2 submission to RAPID (Table 4.3), we have explained the various measures that we will take to ensure the reservoir is designed, constructed and operated safely. Thames Water has an exemplary record of safety at its existing 59 reservoirs which fall within the remit of the Reservoirs Act 1975. Thames Water also has several comparable reservoirs to the SESRO. King George VI, Queen Elizabeth II, Queen Mary, Queen Mother and Wraysbury all have dam heights of 12-20m and crest lengths of 4.3-6.3km. At between 15m and 25m high, the earth embankments for the proposed SESRO scheme are well within the parameters of other similar schemes in the UK. The British Research Establishment (BRE) Register of UK Dams lists 370 embankments with a height of at least 15m and 105 over 25m. Most embankment dams in the UK are built as impounding reservoirs (i.e., impounding a watercourse, and therefore abutting either valley side). The non-impounding nature of the SESRO does mean that its total crest length is unusually long. However, the length of the dam has no bearing on the maximum stresses within it, which equate to the height, as this defines the scale of the loading induced by the self-weight and the loads applied by the water. A longer dam is typically more likely to encounter variety in the ground conditions which are to support the dam, but the ground conditions at the SESRO site have been found to be highly consistent around the perimeter.	

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			Globally, there is a World Register of Dams maintained by the International Commission on Large Dams, which highlights that there are many dams around the world of comparable or greater scale to the SESRO. Within the 2020 register there are, internationally: - Over 1,950 earth embankment dams impounding a reservoir volume of at least 150Mm3 - 121 earth embankment dams with a crest length of at least 10km In an international context the proposals for SESRO constitute a large reservoir but there are many which are larger. Far from being untested, the use of earth embankments of such scale to impound reservoirs is very well established. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRSE Regional Plan requires the Teddington Direct River Abstraction by 2033 and SESRO by 2040. Our work has shown that a combination of options are needed, but a new reservoir is a better option against a transfer of water from the River Severn, as it is: • less expensive overall, with lower running costs; • is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • forecasts suggest we'll see more droughts occurring at the same	

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			time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. Under the requirements of the Reservoirs Act, there is an obligation on the owner and operator of a reservoir to produce an On-Site Plan prior to the reservoir being filled for the first time, which would detail breach failure and inundation extents for use by first responders and civil contingency planners. This plan is a critical part of the certification of the reservoir by the Construction Engineer, who would be appointed under the Reservoirs Act. This type of inundation information would not normally be produced ahead of DCO consent. There are no direct requirements of either the Water Resources National Policy Statement or in the 2008 Planning Act for inundation mapping to be provided for a reservoir. Cost information on all our WRMP options is included in the data tables published in the Document Library in the WRMP35 consultation site (https://thames-wrmp.co.uk/document-library/). We are developing SESRO in collaboration with Affinity Water to people across the South East, including customers of Southern Water. Should the reservoir go ahead we will draw on the learning from the success of Thames Tideway Tunnel, which is being constructed by a new, competitively tendered Infrastructure Provider, from which our shareholders do not profit. Our shareholders are in it for the long - term, they are putting money into the business not taking it out. In	

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			June 2022, we announced our revised business plan for 2020 to 2025, increasing our expenditure to £11.5 billion compared to the £9.6 billion in our final determination, supported by new equity underwritten by our shareholders, to prioritise investment in improving service for customers and to protect the environment.	
2558	East Hanney Parish Council	➢ It is clear that figures quoted in the draft plan grossly overestimate future population figures for the region, using national growth estimates rather than more realistic figures for the area of concern. This makes the assessment of the issues of supply and demand complete nonsense. Better alternatives are more readily available than a grotesque bunded reservoir towering above the flat agricultural landscape that this will destroy forever.	All growth forecasts used by Thames Water have been produced by ONS or a local authority and we have no reason to consider they have been unduly exaggerated. ONS growth forecast are used for planning purposes across a range of sectors. In the case of local authority plans these are reviewed by Government planning inspectors prior to their approval. The use of these forecasts are required by the Water Resource Planning Guidelines. Given this we consider their use within our plan appropriate and we have a duty to enable the growth within local authority plans by ensuring a secure supply of water for proposed growth to be available.	We have provided information in response to your comments, there are no changes as a result of your representation.
2558	East Hanney Parish Council	The Plan also needs to have a different focus which is based on customer concerns and needs, so that the plan targets and provides resource and commitment to address those concerns, this clearly is not how the plan is presented, ambitions are poor for those areas which matter to customers such as fixing the leaks, and value for money is not being delivered.	Identifying a best value plan includes subjectivity, based on quantitative and qualitative analysis of a range of metrics for cost, environment and resilience criteria. We accept that people can look at the same data and have a different view, which is why we set out our process and decision making in section 10 and 11 of the WRMP Main Report. Meeting the needs of customers (and the environment) for water supply is central to the WRMP process. The objectives for water resources planning were consulted on and agreed upfront, including ongoing reductions in leakage and usage. Customer concerns are wide ranging and are heard throughout the process via consultation. We believe we have heard a good cross-section of views. We also have to make proposals in the full knowledge that will never satisfy everybody in our supply area or the wider SE of England.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.

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			Where people are directly impacted, we will work with them to mitigate and minimise the impacts and maximise potential benefits in the long-term.	
2558	East Hanney Parish Council	The draft plan does not explain why a scheme that will result in major carbon emissions is being prioritized over schemes that would have far less impact.	For each option that we consider, we estimate the carbon emissions that would result from construction and operation of that option. When building our plan, we aim to produce an overall Best Value plan, considering the costs, emissions and environmental impacts of each scheme. Our planning has shown that adopting other options would be likely to increase the overall carbon emissions associated with providing a reliable water supply over the long term, when considering both the emissions needed to build different options and the emissions that would arise from their use.	We have not made changes following this response, as our consideration is that our plan (both dWRMP and rdWRMP) clearly explains our programme appraisal reasoning.
2558	East Hanney Parish Council	We detail below what the issues for residents are. Currently the plan would seem to be driven on a financial basis which generates income for Thameswater and assures long term financial returns for the shareholder from the principle investments proposed which are funded by customers through increases in the cost of the bills. We would like to see a different approach focused on service provision and achievement of value for money for the customer base. As currently drafted the focus of the plan is centered on the provision of the mega reservoir at a material capital cost paid for by residents, for which there is no requirement, is not supported by the customer base, and is harmful to the environment. This needs to be removed from the plan This is not a service based plan, or one which addresses customer needs, and does not provide Vfm, to the customer base who will have to pay an increase in their bills to fund a scheme which	Thank you for your feedback, responding to the points raised: Our WRMP, as part of a regional solution for the South East of England, is not defined on a financial basis and is not the least cost solution, but one that reflects best value across a range of financial, environmental, social and resilience metrics. The reservoir is one part of a wider programme of demand management and resource development meeting the need for water across the South East of England. The WRMP focuses on water resources, we prepare a sister plan covering drainage and wastewater management called the DWMP, and the funding for all future investment is presented in our Business plan, which is submitted to Ofwat every five years. Specifically in regard to the discharge of untreated sewage, this is unacceptable, Between 2025 and 2030 we will be investing at least £750 million to reduce discharges of untreated sewage to sewers, and over £1 billion	Section 5 presents updated information on our environmental destination and section 8 presents the scenarios for the leakage reduction programmes.

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		would be created for the benefit of value to Thameswater, and not be of benefit to local bill payers. Although £37 per year is quoted, the chart goes to £100 per year. There is therefore flexibility built into the plan by Thameswater which puts customers at risk of paying more as the plan evolves, and apparently no cap! Further, investment in facilities such as waste water is additional. There needs to be a detailed proposal of what the costs for customers will be. The plan should have a different focus, being that of delivering service and addressing customer concerns, these include: 6 • Providing capacity within the sewage and waste water processing systems to alleviate the need to discharge into rivers and water courses. We unfortunately frequently experience a need for areas of the village to be pumped because of insufficient local capacity. • To immediately stop the practice of discharge of raw sewage into rare chalk streams. We have within the village the Letcombe Brook which is abused by Thameswater in this regard, with effluent frequently prevalent within this highly sensitive natural environment. • To protect the environment and clean up the rivers. • To cease the practice of extraction from rare chalk streams. The timeframe for this should be brought forward considerably, 2030 is not unreasonable! • To have a real focus on mending leaks, we note a target of 50%, this is very weak, and should be higher, as that also helps resolve supply. It should not be a target, but a commitment. At the moment the plan is not ambitious,	to improve treatment processes at our sewage treatment works. . We engage with customers in the development of the strategic plans (WRMP and DWMP) and on the Business plan to ensure we understand and develop plans to reflect our customers preferences and priorities, this is a requirement of our economic regulator, Ofwat. In terms of environmental protection, this is a key driver to our WRMP and through our proposed environmental destination programme we are seeking to return flow to chalk streams and other rivers across the region. The timeframe for reducing unsustainable abstraction is contingent on completing the investigations and developing new water sources to compensate for the reduced abstraction as we need to be able to continue to provide a secure water supply. The EA has asked us to review the timeframes for delivering the environmental destination and we have done that as set out in Section 5 of our revised draft WRMP. Leakage reduction is a priority for us and significant reductions are built into the draft WRMP. The commitment to halve the amount of water lost through leaks by 2050, is an ambitious target, and alongside measures to reduce demand this will make up over half of the water shortfall forecast by 2050. We have considered programmes of work to achieve more leakage reduction, and faster, and the cost and deliverability of this, and have presented this information in Section 10 of our revised draft plan.	

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		and a focus on this would benefit all. • To see proper planning and investment to protect from flood events arising from climatic change.		
2558	East Hanney Parish Council	We wish to see the plan withdrawn, and specifically request the removal of the proposed mega reservoir (remove from the plan the Thames Water South East Strategic Reservoir Option (SESRO)). The proposed reservoir is environmentally harmful, of a size and design which is untested, and is proposed at a height which would tower over the surrounding landscape adversely affecting surrounding communities, landscape and the character of the area. It would create significant risk to the local area, including increasing flood risk to local villages, whilst also devastating an area which is currently rich in wild life and historical character. Further, there is no supported requirement evidenced within the plan for its need, and there is no requirement for it to service the customers of Thames water. It is proposed at significant cost to Thameswater customers, but without benefit, and therefore does not meet value for money requirements. This specific element of the plan is flawed and needs to be removed, there being other alternative sources of future supply which can be provided more effectively, efficiently, and on an adaptive basis, such as through use of water transfer. It would seem that the reservoir is only proposed so that Thameswater can use it as a basis from which to sell water out of the area to affiliated water companies, thus generating a longterm income stream which will benefitshareholders, and not the customers who will have paid for it. In the case of East Hanney and neighourbouring areas affected by the	Forecasts for the amount of water required in the future, including for factors such as population growth) are deroived in strict accordance with the Environment Agency's Water Resource Planning Guideline. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. The SESRO options will result in areas of existing floodplain being removed. In line with prevailing legislation and best practice, this would be mitigated through the development of level-for-level floodplain compensation, as part of the reservoir proposals. This would be designed to ensure that the flood risk to areas upstream and downstream was not worsened by the SESRO proposals. All such work would need to be reviewed and agreed by the Environment Agency before consent for the scheme is allowed. Our initial findings at RAPID Gate 2 are that the scheme could result in a slight betterment to the flood flows passing downstream to Abingdon and negligible impacts on groundwater flooding. This will be subject to further modelling, appraisal and scrutiny as the design progresses.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		reservoir, there is also a deep and immeasurable cost of loss of environment, impact on community, and disturbance to way of life. We reassert that there is no local need or supply demand for which a reservoir can be substantiated, especially one of such size and physical proportions, dwarfing the area and creating significant blight and risk. There is no proven need for the reservoir and the projected data given by Thameswater is not supported and is demonstrate ably flawed, making the plan unsound. Recent government data predicts a much lower population in the southeast and therefore no requirement or need for such a reservoir. Within the Thamesvalley, we note there is sufficient future supply, particularly if the plan were to be balanced with other more efficient and cost effective water supply options such as Water Transfer, or if Thameswater were to actually fix the leaks! There is no requirement for a reservoir, and it needs to be removed from the Plan. Use of the Transfer water option and or salination plants would also generate supply and provide a more cost effective, environmentally beneficial, and more immediate basis for ensuring need throughout the region, which could support other areas as part of a wider regional plan if needed. It also represents a more adaptive approach which ensures the flexibility for the term of the plan. We are particularly concerned about the specific issue in the plan of the proposed mega reservoir which is referenced as the 'Abingdon' reservoir, as it is actually proposed to be built in our Parish of East Hanney and in the neighbouring Parish of Steventon. If this were to be taken forward it would have a	Detailed information on the landscape impacts, environmental impacts including biodiversity and heritage impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID, and agreed with the Environment Agency. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in	

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		devastating effect on our villages, the communities, and the environment. The area is also very sensitive to flood and residents work hard voluntarily to keep the water courses clear in order to prevent flooding. The imposition of a reservoir would increase flood risk as well as damage the local environment. We note that Thameswater have not undertaken a detailed technical analysis of flood risk to the villages and are not able to provide assurances about the impact of their proposal, which will be devastating. Nor have they undertaken consultation with residents in this village, despite it being a larger village. The Parish Council invited Thameswater to hold on open residents consultation event in East Hanney but they opted not to do so. As a consequence, the plan is not informed, there is no understanding of local conditions, no consideration of the views of the residents who will be materially impacted, and the plan consequently uninformed. The failure to consult means that the proposal is unsound, having no consideration of local environmental or resident concerns. Much of the area of the proposed reservoir is recognised as being core NRN (Nature Recovery network) within the Oxford draft plan. Running through East Hanney is the Letcombe Brook a rare chalk stream and priority habitat whose associated watercourses are directly impacted by the proposal. Despite the plan making statements about protecting the environment, the proposed reservoir would have a devastating effect on the local environment which is highly sensitive, and rich with protected species prevalent. The reservoir is contrary to environmental statements made by Thameswater within the plan. We strongly oppose the Thames Water South East Strategic Reservoir	drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J.	

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		Option (SESRO) latest proposal to build an enormous unnecessary reservoir in the flood plain of the Vale of the White Horse, devastating an area of flat open countryside southwest of Abingdon between East Hanney and Steventon. A previous proposal for a smaller scale reservoir was rejected at a Public Enquiry which found the project to build a reservoir in this area was unsound. This latest proposal is for an even larger reservoir with little or no new scientifically validated evidence to support a need for such a large water storage facility nor its cost effectiveness. The proposal is unsound and therefore is unacceptable.		
2559	Steventon Parish Council	It is impossible for any judgement on 'best value' to be made since Thames Water refuse to release any meaningful cost data for any of their projects and give hopelessly optimistic estimates of the supposed leisure benefits of the reservoir. Without visible cost data how can Thames Water claim that certain schemes are more costly than others?	Best value is assessed at regional level, based on a balance of cost, environment and resilience metrics. These are calculated at a scheme level and then combined when schemes are put into programmes to meet the future challenges. Relative costings of alternative programmes of options are provided in Section 10 of the WRMP Main Report. Relative costings of individual options are provided in the WRMP Tables Appendix.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
2559	Steventon Parish Council	Your all approach to future water demand is questionable and suffers from a large degree of uncertainty, Thames Water should use more informed future population growth, sustainability, leakage, environmental issues and leakage data instead of manipulating to achieve less cost, more profit scenarios. There is so	We acknowledge that there is a large amount of uncertainty present in our forecasts of baseline supply-demand balance. The uncertainty in our forecasts is because there are several uncertain factors that we must plan for. We have explicitly dealt with this uncertainty in our plan by adopting an adaptive planning approach, in order to determine an adaptive best value plan.	We have not made changes following this repsonse, as our consideration is that methods applied in our planning are robust and meet the

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		much uncertainty in your figures that they are essentially meaningless. The whole Water Plan as it stands is based on desk studies and modelling. Without credible, verified input data, the outputs are shrouded in uncertainty. At this stage with the high degree of uncertainty in the data and nonvisible cost comparisons how can Thames Water credibly justify their current Water Plan proposals.	In our adaptive plan we have considered both population growth forecasts based on local authority plan-based population projections (as is required to comply with the Water Resources Planning Guideline), as well as growth forecasts based on ONS projections. These forecasts are produced by expert consultants, Edge Analytics. The licence reduction forecast set out in the preferred plan of our WRMP is based on a scenario produced by the Environment Agency, communicated through the National Framework for Water Resources. It is important to acknowledge, however, that our adaptive plan also includes scenarios of lower volumes of licence reduction. We feel that our leakage reduction plan is ambitious but deliverable. Our plan involves hitting the 50% leakage reduction 2050 target set by government. It is not true that our plan is one which maximises profits. The Regional investment planning approach involves modelling in which the first step is establishing the least cost (to customers, on a net present value basis) plan which solves all deficits across the region. In this modelling, payments to capital are considered explicitly within the costs associated with each option, and so the model is more likely to be weighted against options from which Thames Water may derive a profit. In addition, the larger options are unlikely to be owned and operated by Thames Water, with a more likely outcome being delivery through a Special Purpose Vehicle through either the Direct Procurement for Customers or Specified Infrastructure Projects Regulations procurement models. While uncertainty is present, this is a necessary part of our planning. Our Best Value Plan is one which we feel is the best value plan, acknowledging this uncertainty.	requirements of the water resources planning guideline.

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2559	Steventon Parish Council	We do support a reduction in the amount of water companies take from fragile chalk stream supplies, but do not agree with the scale of reductions which you propose. You should prioritise the most vulnerable environments and focus on those environments which are identified by experts such as Chalk Streams First. This will reduce the amount of water you have to replace. It is claimed that the Thames Water plan uses an “adaptive plan”. This may be considered valid whilst in the “desk-study and option stage” but, when a preferred option is declared, detailed design and site evaluations undertaken an construction started it is no longer adaptive.	Thank you for your response. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. The reductions are based on the approach that should be taken in defining a regional environmental destination, which is set out by The National Framework for Water Resources and Water Resource Planning Guidelines. The guidelines set out the requirement to plan for the ‘High’ Environmental destination scenario, which is what has been included in both the WRSE draft plan and our draft plan. We recognise the requirement to improve our track record compared to past performance in some areas. This is why we have announced our turnaround plan, which will address issues related to waste discharges. Our plans for waste are covered in our DWMP whereas our WRMP focuses on water resources issues. We don’t know exactly what the future will bring, so our plan is adaptive. We’ll monitor the future and adjust our plan accordingly but investing now will means we can: cope with the changing climate; leave around 20% more water in the environment around us and support growth in our communities and our businesses.	Since our draft plan, we received feedback that it is not acceptable to plan for Environmental Destination reductions to be made after 2050, and as such we have moved our Environment Destination scenarios so that all reductions in our high scenario are made by 2050.
2559	Steventon Parish Council	Why does Thames Water appear to put so little effort into research and development and innovation. We would expect to see a significant section in the draft plan on innovation and future improvements enabled through new technology. Worldwide there are some extremely good examples why have you not taken advantage of these? Why does the use of desalination plants not feature?	Thames Water puts a considerable focus on innovation. We have an established Innovation Department, as well as embedding innovation within each department and team, enabling us to better meet the evolving needs of our customers, society and the environment, by developing and using ambitious, and sustainable technology. Within our innovation portfolio, we are a major contributor to the Ofwat Innovation Fund, where we are supporting over £35m worth of projects by building and strengthening collaboration and partnerships across our partner water companies, the supply chain, academia and outside the water sector. Additionally we deliver globally recognised scientific research which is funded wholly by the business.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			In relation to desalination, we have looked at a wide range of solutions to reduce the shortfall between the amount of water we have and the amount we need, including reducing demand, creating new sources of water and improving catchment areas. Working with Water Resources South East (WRSE) we've been exploring new ways to increase water supply, including desalination plants, water recycling systems, new reservoirs, and national and regional transfers of water. We've assessed every option for cost, water output, the time to deliver the scheme, potential impact on the environment, carbon footprint, and futureproofing. Possible sites for desalination plants have been identified at Beckton and Crossness in London. In 'High' environmental destination scenarios, by 2050, there is a significant need for water in our Swindon and Oxfordshire (SWOX), Kennet Valley and Slough, Wycombe and Aylesbury (SWA) WRZs, as well as a need for an import into Southern Water's Western Area from the Thames catchment. This means that effluent reuse or desalination options in London alone will not meet regional resource needs, and so the delivery of the STT or SESRO will be required, with both potentially being needed. Under the adaptive plan Beckton desalination plant (150 Ml/d) is selected to be delivered in 2050 under Pathway 1 and Crossness desalination plant (50Ml/d) is selected in 2061. Further information on the selected options can be found in Section 11 of the Plan.	
2559	Steventon Parish Council	The WRSE regional plan showed the 2050 target of the other 5 companies in the group ranging between 106 and 113 litres per person per day (lpppd) with an average of 108 lppd -within the national target of 110. So why is Thames Water aiming for a much higher 123 lpppd? This is unacceptable. It appears that you	In the draft plan we set the Per Capita Consumption (PCC) target based on the best available evidence. We have listened to the feedback and revised our draft plan to aim for the target of 110 l/h/d in 2050 in line with the government's target. We have strengthened our programme to roll out smart water meters, work with customers to understand their water use and measures focused on high water users, and explore more punitive measures such as water tariffs. The delivery of this target is not fully within our control and its success will	Since our draft WRMP further guidance has been received from the Environment Agency, Ofwat and Defra that sets a clear policy pathway to 110 l/h/d by 2050, and

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		choose your own targets when you feel fit and Government targets when they are convenient.	require collaboration with government, stakeholders and our customers.	122 l/h/d by 2037/38, and new targets for NHH too. We will aim to achieve these new household and non-household targets in our revised draft plan through some improvement in our reductions and further government led reductions. We made it clear in our draft WRMP that further customer reductions were challenging from the analysis carried out to date.
2559	Steventon Parish Council	Thames Water must undertake a faster rollout programme for smart metering, lobby for quicker introduction of government regulations on domestic appliance efficiency and improve customer advice and education programmes. Much better use could be made of smart meter provided data to rapidly fix leaks at the household level and identify and educate, high users. Your decision to accept the Government target of 50%reduction in leakage by 2050 in unambitious. Your statement on leakage reduction performance since 2018 only	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		arose because of the results of leaking pipes in London where some 55% of leakage occurs. A more ambitious target for 50% reduction would be by 2040.	programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Government-led water use reduction policies In addition to the actions we can take, the government is planning to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits	

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			to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Metering to identify property leakage As we progress with our metering programme, we'll be expanding our utilisation of the data we collect to better identify leaks on domestic and commercial properties. When smart meters installed on household customers register 'continuous flow' over a set number of days, we engage directly with the household customer informing them of the potential leak and offer a range of leak fix options. To date, this proactive engagement activity is resulting in the majority of customers fixing their own leaks with a week of notification. Currently, retailers can access commercial property smart meter data through our Digital Data Service. Our commercial Digital Data dashboard also has real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling business to self fix. Leakage targeting	

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			Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be	

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			felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Better metering data for customers All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end	

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			user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix.	
2559	Steventon Parish Council	In the last consultation, Thames Water were adamant that the reservoir had to be 150 million cubic meters and went to great lengths to explain why it couldn't be smaller. Suddenly it is 100 million cubic meters, with no explanation. How can the company expect its proposals to have any credibility? The current diagram in the consultation document is for a 150Mm3 reservoir! At Thames Water dropin meetings, the answer to any serious question or concern is always it is still at the desk top stage and more detailed assessment has to be done. Why, in particular for the reservoir proposal is this still at "desktop" stage after some 25 years ago of it being first proposed? Given that Thames Water continually tell us we are in the most water stressed region of England, it is still unclear how the reservoir would be filled, or refilled in a drought and particularly, how would it perform in the case of 2 dry winters? As your water source options for the proposed reservoir and Severn Transfer Transfer are "desk top" studies shrouded in uncertainty we do not consider that the	The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West	We have provided information in response to your comments, there are no changes as a result of your representation.

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		SERSO is the correct option. The phasing of the reservoir and STT could equally be considered with the STT first followed by “smaller sized reservoirs” at a later date, see the data in the background section.	• The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they’d prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. More detailed technical appraisal of the SESRO options can be found within our Gate 2 submission to RAPID, reflective of the level of scheme development, funding and analysis prescribed at this stage in our regulatory process.	
2576	London Borough of Hounslow	We understand that the Environment Agency are being consulted with regards to the biodiversity impacts of the proposed scheme and therefore we expect detail on the environmental assessment will follow. Regardless, we require a guarantee of no adverse impact to water quality, biodiversity across the River Thames catchment and its tributaries, natural habitats and surrounding environs.	All of our strategic resource options (including the Teddington Direct River Abstraction scheme) are being assessed through a multi-stage (known as a "Gated") process to better understand the benefits and impacts of the different schemes, with the work getting more detailed as we progress through each of these stages. Our regulators, including the Environment Agency, have been fully engaged throughout this process. Following investigations undertaken for the "Gate 2" submission, and following discussion and representations from the Environment Agency on our dWRMP24, our consideration is that 75 Ml/d is the	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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			largest promotable size for the Teddington DRA scheme for consideration in WRMP24. Environmental assessments undertaken to date lead us to consider that there is no reason that a 75 Ml/d scheme would not be feasible, and as such a 75 Ml/d Teddington DRA scheme is included in our preferred programme. As a matter of course, environmental assessments will be undertaken (with an increasing level of detail) through to the submission of our "Gate 3" documentation, and the necessary environmental assessments would be undertaken as part of planning processes. If it is found that the Teddington DRA is not environmentally acceptable then the scheme will not be developed, and we will adopt our alternative option for delivering 1 in 200-year resilience, Beckton Water Recycling.	
2576	London Borough of Hounslow	Hounslow Council recognises that a solution to water shortage needs to be found, however in any solution that is presented, we would expect the environment to be protected and its protection given equal weighting alongside the other factors considered as part of the proposals.	In developing the draft WRMP24, and plan for the South East region, an evidence based approach has been taken to assess the challenges facing the region and how best to solve them, to ensure we have a resilient and sustainable water supply for future generations. A key driver to the WRMP24 is to protect and improve the environment. We included measures to reduce abstraction from some chalk streams and vulnerable watercourses in our draft WRMP24 in line with regulatory guidance from the Environment Agency. We have responded to feedback received to the public consultation in relation to our environmental ambition and in our revised draft WRMP24 we have committed to reduce our abstractions from sensitive rivers and waterways by over 400 Ml/d by 2050 and continue studies, with the Environment Agency, to make sure we understand how abstractions are impacting specific rivers and streams so we can prioritise action and take forward the right solutions.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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			We have also undertaken environmental assessments as part of the development of the WRMP, these are presented in Section 9 of our revised draft WRMP24 and have undertaken initial environmental assessments on the feasible schemes to ensure we understand and can address any environmental risks.	
2576	London Borough of Hounslow	We have noted the timeline published in the consultation documents; however, we are keen to work in partnership with Thames Water. I would welcome a meeting with the team responsible for developing the proposal to better understand the challenges, technical detail, changes proposed at Mogden STW, and timeline for engagement if the initiative progresses to planning stage. This will be particularly beneficial for understanding the likely effects for Hounslow in more detail.	We are keen to work openly with stakeholders as we progress work to develop the WRMP24 and specific schemes. We have had initial engagement with London Borough of Hounslow and will initiate further discussions to ensure we work effectively together.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2576	London Borough of Hounslow	We note the proposed new river abstraction at Teddington supported by water recycling scheme and would welcome further details on the scheme and whether it will impact pollution levels and the water quality of the River Thames. Additionally, the proposal includes changes to Mogden Sewage Treatment Works. The consultation material fails to provide any detail on the required changes to the plant therefore it is difficult for us to provide any meaningful comment.	The work completed to date on the London water recycling schemes, including the proposed new abstraction near Teddington Weir supported by water recycling, has been designed to meet the requirements set by RAPID (Ofwat, Environment Agency and Drinking Water Inspectorate). The studies have focussed on preparing a concept design for schemes and undertaking initial environmental appraisal to understand potential environmental risk. This level of information has allowed Thames Water to determine that the Teddington DRA scheme is a viable and feasible scheme for providing a new source of raw water and therefore appropriate to be included within the Water Resources Management Plan (WRMP). Further to feedback to the public consultation and new information and regulatory guidance we worked with WRSE to review and revise the draft SE plan, and in turn our draft WRMP24, and can confirm that the Teddington DRA scheme is still included in the revised draft WRMP24 to be available from 2033. Further studies will be undertaken on the scheme and as the scheme is progressed through the planning process we will seek a Scoping Opinion from local authorities and complete a full Environmental Impact Assessment (EIA). We will	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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			engage openly throughout this work and hold dedicated scheme engagement and consultation prior to submitting a planning application in several years time.	
2582	Waverley Borough Council	We are supportive of the approach being taken, particularly regarding plans to aim for the highest level of environmental improvements, increased resilience to drought and addressing the potential shortfall in water as a result of climate change. However, we would add that flexibility needs to be embedded as population growth across the region will not be linear and may vary across parts of the region.	Thank you for your support. We agree growth will not be linear across the region and that is why we have included a range of population scenarios within our adaptive planning approach. This ensures that we have a plan for both higher and lower growth scenarios across the planning horizon.	We have provided information in response to your comments, there are no changes as a result of your representation.
2582	Waverley Borough Council	The Waverley Local Plan Part 1 requires that new dwellings shall meet the requirement of 110 litres of water per person per day. We are therefore supportive of the aim to reduce demand with the intention of achieving 123 litres of water per person per day, on average. However, we do think more detail is required on how this will be achieved, particularly whereby activity is outside of the direct control of Thames Water. -We suggest that work with nonwater based sectors needs to be undertaken so the plan fully embeds future needs and includes appropriatelyfunded solutions. The Council are supportive of principle of the priorities that are proposed to safeguard the region's water supplies for the future. However, we note from the consultation document that there are no specific schemes geographically located in or around Waverley. We are particularly concerned about this and raised such concerns in our previous consultation response, as in recent years, there have been a number of incidents where there has been no or low water supply in different areas across Waverley.	Thank you for your comments. We are glad to hear that new dwellings in the Waverley Borough Council area are required to meet the 110 l/h/d Per Capita Consumption (PCC) threshold. We acknowledge that there are areas of our plan, particularly those which you have highlighted associated with demand reduction outside of our control, which are particularly uncertain. The Water Resources Planning Guideline has been updated between the publication of our draft and revised draft WRMPs, and has now set out the requirement that we plan on the basis of achievement of the 110 l/h/d PCC target. As such, we have had to rely further on demand reduction activity in order to comply with guidance. We acknowledge that there are no supply-side schemes which are due to be developed in our Guildford WRZ (which overlaps with the Waverley Council area), aside from a proposed import from South East Water, meaning that the plan for Guildford is heavily reliant on demand reduction.	We have made changes to our plan as described in our consideration

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2598	Colne Catchment Action Network (ColneCAN)	I would like the following reasons for using the CCSTT scheme, for transferring water from The River Severn to the River Thames, as opposed to a proposed underground pipeline and other desalination and waste water plant options, to be taken into consideration in the WRMP. Environment: The scheme adopted has to take into account the benefits to the environment and increase biodiversity in the area it affects. In my opinion excavating a trench or tunnel for an underground pipeline would only disturb the natural environment and not have any future benefit to the environment or the biodiversity in its locale. I would be interested to learn what environmental benefit is perceived from a pipeline or waste water and desalination plants proposed by the alternative option? Conversely, restoring the Cotswolds Canals brings many species of water fowl (moorhen, coots, mallard, swans, geese, herons and more), otters and rodents such as water voles, fish, reptiles and amphibians. I walk along, and work as a volunteer on these canals regularly, and have seen increased numbers of buzzards and barn owls along them – these are apex predators; a sign of an ecologically rich and balanced environment. In addition the canals provide habitat for water flora such as reeds at a time when reed beds are becoming scarcer, which provide shelter for small fish fry, newts, frogs and toads, as well as for dragon fly and other insect larva. I have seen an increase in the abundance of insect life over these waterways and that maintenance of the banks leads to increased spring flowers – snowdrops, crocuses, wood anemones, celandine, bluebell, etc. plus other flora such as marsh marigolds and irises. Social Benefits: From my walks along and working as a volunteer to restore the Cotswold Canals, I have seen many hundreds of people in	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		just hours, also walking/dog walking, fishing, boating, canoeing, relaxing, picnicking etc. in the open air. Not only enjoying more clean air away from busy city streets, but taking exercise, increasing their absorption of Vitamin D form the sun, being able to take time to be calm and peaceful; reducing the stresses of everyday life and interacting positively with other people and with nature. This undoubtedly, increases peoples' mental and physical wellbeing – indirectly reducing aggression and violence – so reducing public services needed in terms of social services and policing, less illness so less medical care needed from our very stretched NHS. Again, I would ask what social benefits are perceived from a pipeline or waste water and desalination plants proposed by the alternative option! Financial: A recent Inland Waterway Association (IWA) Waterways for Today Report (a wellconsidered analysis of the financial value of the restored canal to society and the local economy) shows that the value of benefit of canals is much greater that the other options have estimated; by a tenfold magnitude to that estimated by the alternative schemes. So the benefit of the canal over 80 years would be £800 million, rather than £80m and, even if the cost of the CCSTT scheme is greater than the pipeline scheme, the canal scheme would be the 'Best Value' option in the long run. The response to the emerging draft WRMP demonstrated very strong support for the Cotswold Canals transfer scheme. I am concerned that this strong support is not being considered as a deciding factor. Lead Times and Priorities: I understand that Thames Water wants to build the controversial SESRO (South East Strategic Reservoir Option), Abingdon Reservoir, which has met with much protest and objections to planning permission being granted over the last 40 years. The building of this reservoir is being greater priority than the Water Transfer Scheme, and even if it gains planning permission, is not estimated to be		

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		completed until 2040 – a very long lead time. The Cotswold Canals Trust advocates that the restoration of the whole 36 miles of the Thames – Severn link could be achieved within perhaps 12 years or so – a much shorter lead time. Given the recent shortage of water supplies; with several months of drought during the summer of 2022, which is likely to get much worse very quickly with climate change and ongoing uncertainties in demand reduction etc. it makes no sense to build the long lead time SESRO reservoir first and then implement the water transfer scheme – taking its completion to the 2050s. The greatest and quickest benefit would be to adopt the CCSTT scheme with its shorter lead. I would repeat that there has been very strong support in previous consultations for the Cotswold Canals transfer option and this is does not seem to be influencing the plans. (TW dWRMP) I would therefore be obliged if you would give these points serious consideration for the WRMP transfer scheme, as they justify that the Cotswold Canals transfer option as the scheme that is: · - - - Best for the affected areas environment and biodiversity · - - - Greatest social benefit in terms of the health and wellbeing of people living, working or being in its vicinity · - - - Best value in the long term · - - - Quickest achievable option and should be given priority, given the climate emergency		
2610	River Thames Society	We also feel that these initiatives should also include industrial and farm users. These activities also have significant impacts on Water demand and we feel IMPROVED DEMAND MANAGEMENT SHOULD INCLUDE ALL WATER USERS.	The demand management programme within our preferred plan does include reducing non-household with an ambition to reduce non-household demand by more than 15% over the forecast period.	Our preferred plan a reduction in non-household demand by more than 15% over the forecast period.

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2610	River Thames Society	Limiting customers' bills is important, but relative immediate financial costs must not be allowed to dominate decision-making.	DUPLICATE, remove	
2610	River Thames Society	The RTS supports reducing extraction from vulnerable chalk streams and the highest level of environmental improvements. he existential impact of DRA on chalk streams has taken too long to be recognised: we must avoid the same applying to the main river. We are anxious that the Plan will not result in increased abstraction which is not carefully controlled and environmentally sensitive. Over abstraction in the Thames and its tributaries (particularly in times of stress) is clearly greatly detrimental to the environment and is not sustainable. The Plan needs to REFLECT CAREFULL MANAGEMENT OF ABSTRACTIONS GENERALLY.	Thank you for your response, and your support of our high figure for abstraction reductions. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first.	Since our draft plan, we received feedback that it is not acceptable to plan for Environmental Destination reductions to be made after 2050, and as such we have moved our Environment Destination scenarios so that all reductions in our high scenario are made by 2050.
2610	River Thames Society	The RTS supports all action to reduce demand and stop leaks: this must be top priority. 50% reduction in leaks by 2050 is an insufficient challenge.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is	

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			already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts.	
2610	River Thames Society	We are in favour of the SESRO (South East Strategic Reservoir Option), but have no consensus views from our members on which size to favour. Whether above Teddington or elsewhere, Direct River Extraction (DRA) may appear cheap, but is associated with longterm disadvantages to the environment and our enjoyment of it. Water transfer. - In general, we support collaboration between water companies with water seen as a precious national resource, not just a commodity to be traded. - We appreciate the many amenity advantages from reopening the Cotswold Canals, which could also play a key role in water transfer. This option for STT (Severn Thames transfer) has our full support. - It could be important for the UK to have the strategic capacity to transport raw water by ship. It is unclear if this option was assessed only by considering those responding to a bid. A UKwide rather than a Water resources SouthEast view might be more appropriate on this for the medium term, and enable the UK to remain selfsufficient in water.	Thank you for your response and comments. <u>Water Transfer</u> For the Severn Thames Transfer (STT) we have considered conveyance of water from the River Severn into the River Thames catchment via a new pipeline from Deerhurst to Culham or options that included restoration of sections of the Cotswold Canals. As part of its SRO Gate 2 submission to RAPID in November 2022, the STT project team developed an Interconnector Options Appraisal which assessed the cost and benefits of a direct pipeline and options that included the Cotswold Canals. The conclusions from this assessment were that a water transfer from the River Severn to the River Thames would be best delivered by a direct pipeline. In summary, a canal transfer option is more costly, has a greater carbon and environmental impact, and is more complex to procure, construct and operate. The Interconnector Options Appraisal concluded that the best way to fully and effectively deliver both a water transfer and a navigable canal would be to separately deliver them. This is irrespective of the size of the transfer required. Tankering by both road and sea have been rejected as a generic option types. Previous assessment found tankering by sea to be excessively costly to supply our geographic area. We have received a	We have provided information in response to your comments, there are no changes as a result of your representation.

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		euse of treated waste water Mogdenrecycling that involves water out/in at Walton needs to be subject to explicit consultation, rather than having it slipped under the radar. The same applies to recycling at Beckton. The crux for both these schemes will be the quality of the water after treatment and how any otherwise adverse impacts on the river are able to be mitigated - If Mogden waste were treated to the right standard, it could be sent via the TLT (Thames Lee tunnel) direct to East London, so avoiding the disruptive in/out as in the Teddington DRA. In our view, this would be preferable than disturbing the river further at Teddington. If Modgen waste is diverted from its usual outflow by Isleworth Ait, there would be consequences for the local river which have not been adequately explored to date. This area is important for various estuarine species and water birds, as well as for human users. - Some impacts have been considered for the Richmond autumn draw down period, but data is needed at locations and other times that could be crucial for people and wildlife. Areas where more data are needed include the allyear impact on the water in the Richmond pound, and especially in the height of summer when incoming tide combines with low fluvial flow. - For various measures like temperature, salinity and solutes, loss of effluent shifts the position upstream or downstream in the river to where it would then get close to the current situation, and it might be helpful to see this shift given as a measure. Some estuarine species may not care much about another mile on the tideway, were matching the current	specific proposal from Waterlevel for tankering water by sea from Norway and concluded that while technically feasible it would be excessively costly and have minimal Deployable output benefit for London. This option has been included as a potential “more before 4” measure in our Drought Plan. We will continue to engage with Waterlevel to explore this option further. <u>Water Recycling</u> There are a number of points raised and we have provided below a thematic response to the key themes. Any scheme progressing through the planning process will include specific scheme consultation as part of the pre-planning application process; in most cases there would be at least two separate consultation rounds prior to a scheme planning application. Schemes within the London Water recycling SRO have not started the planning process yet and when they do then specific scheme consultation will be undertaken. Transferring recycled water from Mogden STW directly to the east London reservoirs via the Thames Lee Tunnel (TLT) is technically feasible however, there are a number of challenges to overcome which makes this option less favourable and more environmental damaging than the schemes currently within the Water Resource Management Plan. These are, 1) The recycled water would require full advanced treatment within or close to the Mogden STW, as there would be a limited environmental buffer before the water is treated and put into supply for our customers as drinking water. The Teddington DRA scheme would require significant new infrastructure which would require new land outside of the TW land ownership of Mogden STW to provide full treatment. This additional land required for development (somewhere between Mogden and Teddington) would significantly increase cost	

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		conditions crucial to them. - With maximum loss in navigable level estimated at 56cm, passenger boat operators need to know how much longer they may need to wait for safe passage through Syon Reach at low springs. Operators of tidal drydocks need to know how much they could be affected, with high water levels of most concern. The altered circumstances also need to be considered for those using the tidal grids and slipways. - It is unclear how the operation of Richmond lock and Weir could be impacted. - Local mitigations may be needed Continued reuse for drinking of human waste water may be inevitable going forward, but demands extensive monitoring and research in the local context, not just relying on international data, since some of the pathogens/toxins/enzymedisrupters/pharmaceuticals etc may have greater representation in the UK than overseas. Deregulation must not be allowed to reduce safeguards for UK water users. - In relation to Contaminants of Emerging Concern (CECs), we are not reassured by: “However, for CECs, if in future the UK water quality regulations were to be heightened in line with recent USEPA (United States Environment Protection Agency) guidance, compliance will be very challenging for most of the UK new and existing water treatment works” (gate2 summary p5.9). Contingency planning for higher standards, say at least to that in USEPA guidance, is needed. This may mean different and bigger sites being reserved for Thames Water to use for further treatment of waste. It may not be right to rely on the current land at Mogden which is already too restrained, planning instead that any tertiary or other advanced treatment has the space it needs for the	and increase the environmental impacts of a scheme. 2) The existing TLT would not exclusively be used for recycled water, as recycled water would only be required at times of drought. The TLT is used to transfer raw river water from Hampton to East London. This would result in periodically a change in the water blend reaching the reservoirs or water treatment works which may create operational difficulties. 3) Full advanced treatment is complex and an energy intensive process that would have higher environmental and carbon impacts when compared to the currently technologies associated with the Teddington DRA scheme. Our Gate 2 reports (https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions) for Teddington DRA and Mogden water recycling scheme sets out the modelling and assessment work undertaken for a reduced discharge at Isleworth Ait during scheme operation. The results show no significant changes to salinity, water levels or flows. There are also benefits to water quality with improvements in dissolved oxygen levels and a reduction in temperature, suspended solids, nutrients and chemicals. We have concluded there is a low risk of significant environmental effects from a reduction in discharge at Isleworth and actually an environmental benefit. We note more work is required and this will be undertaken through Gate 3 and Gate 4. Thames water would also like to reiterate that water level modelling to date shows a reduction of only 6cm in water levels in the Tideway at low water springs as a worst case scenario from Teddington or Mogden operation. We have reviewed this level change at each shoal location to assess the potential for delays to navigation and concluded at this level there would be no new restrictions. Our assessments to date have also assumed maximum scheme sizes of 150Ml/d however, we have confirmed within our Gate 2 report that Thames Water will not promote Teddington DRA greater than 100Ml/d	

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		medium and long as well as shortterm future. - Comments from the RTS in the last consultation are still pertinent. Monitoring of potential impacts from the increasing use of recycled water needs to include livestock and companion animals and the potential for unknown unknowns. - Scenario planning must include the potential for multiused recycled water to be found unsuitable for drinking, eg if new data arises on the long term adverse impacts of microfibres or there is a major longlasting contamination event. Planning must ensure minimal levels of safer sources of drinking water could remain available for the nation, including investment in desalination. We have yet to form a view of the schemes with long leadtimes at Beckton (at confluence of the Roding/Barking Creek and the tidal Thames in East Ham), at Crossness (where sewage from the Southern Outfall is prepared for discharge in Thamesmead), and others on the R Lee including at Deepham (Edmonton). - Teddington DRA The case has not been made that it would be appropriate to have further extraction at Teddington. Although drafted in relation to existing extractions, it is pertinent to note: 'recent precedent suggests that it is generally incumbent on water companies to prove that abstractions do not have a detrimental impact on the environment in order to make the case for why licence reductions should not be made, rather than to find evidence of impact and make licence reductions in response' (Section 11 consultation papers on Overall best value in 11.13). Inadequate data has been provided on the Teddington DRA scheme and some of the current data are concerning, hence we cannot give it our support. -	Our Gate 2 report also provides an assessment of water level changes above Teddington Weir and concluded no change in water levels or velocities and therefore no impacts on navigation in this stretch of river. We recognise the need and requirement to do more work on assessing and mitigating any potential impacts on water users and we recognise the amenity value of the river, Tideway and surrounding area around Teddington. This will be a key focus of our early planning work planned to progress through 2023 and into 2024. We are working with the Environment Agency and Drinking Water Inspectorate to collect a suitable baseline dataset to support detailed impact assessments on water quality. We have presented our early findings in our Gate 2 reports and acknowledge more work needs to be done over the next couple of years to provide more certainty on the quality of water discharged into the freshwater Thames and demonstrate it can compile with discharge limits and environmental quality standards set for the scheme. *Abingdon Reservoir* Our reservoir feasibility report assessed 55 potential sies for constructing a new reservoir and the 3 best performing sites were included in our options for programme appraisal. More details of the feasibility assessment can be found in the Reservoirs Feasibility Report Addendum which is included in the Consultation Document Library on our website (https://thames-wrmp.co.uk/document-library/). The Abingdon reservoir (SESRO) is consistently selected in the Best Value Plan but not the other 2 reservoir locations. The earliest date for water to be available from the largest variants of SESRO is 2037/38, it is in our plan to provide water from 2040 and planning consent for construction is planned by 2030. We are committed to engaging in a continuous dialogue with local	

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		Serious questions are raised but not yet answered about: river flows and its relationship with river traffic, lock and tidal movements (back flows upriver are seen regularly at this location so extracted water might well include treated effluent which would have to meet drinking water standards after all): actual measurements of flow and not just theoretical modelling are required; - the totality of the impact on local water quality, which inevitably will be reduced; the navigational impact above the weir which needs to be assessed by the local competent authority (Environment Agency), not just assumed to be negligible, and include users of small sail and manpowered vessels including paddlers - interference with multiple leisure users of the river and its bank including swimmers, fishermen and those looking for temporary bankside mooring; aesthetics, noise, odour and other nuisances as well as potential health impacts for those nearby, including those on the river, both banks and the residents on Trowlock Island opposite; disturbance to local ecology, not just for the pound above the weir, but also for the Richmond pound below. - The treatment being proposed for waste discharged at Teddington is some improvement on that for waste discharged at Isleworth: however, we believe any benefits are outweighed by the other disbenefits noting this effluent would still be of a lower quality than that discharged further	communities through a dedicated engagement manager and more formal consultation as part of the rigorous planning process.	

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		upriver. - Turning specifically to the issue of taking more water from the River at Teddington weir, we have some concerns regarding this. -Although some/all of the treated discharge from Mogden would be piped up to enter the River to compensate, this would only assist in maintaining flow between Teddington and where it would otherwise have entered the River at Mogden/Isleworth, leaving the shallowest reach of the River, i.e. Syon Reach potentially impassable at low tide even for the smallest vessel. -This would also have a significant environmental impact on that reach of the River. -At times of stress the existing rates of abstraction produce very little river flow between Teddington and the Richmond half tide barrier when there has been little rain up river. -This causes problems with oxygenation and keeping the fish population alive. -This could potentially get much worse with the current proposals. Teddington DRA would not be needed were Mogden effluent to be treated to a high enough standard to be able to enter the TLT direct or to be discharged to the river at Walton, either of which we would favour over Teddington DRA, subject to appropriate mitigations being applied. - Navigation needs to be maintained at all times with no further reduction in the permitted minimum flows over Teddington under the LTOA (Lower Thames Operating Agreement). We strongly feel therefore that any increased ABSTRACTION AT TEDDINGTON SHOULD BE MANAGED IN SUCH A WAY THAT EFFECTIVE NAVIGATION IS MAINTAINED AT ALL TIMES AND THE ECOSYSTEM OF THE TIDEWAY IS NOT DAMAGED. Turning to the implications for Human Health we have some concerns. -		

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		Endocrine disrupting chemicals and other harmful discharges into rivers have been a concern for some time. -The potential cumulative impact of recycling water with not all hazardous agents removed by standard treatment processes could have an impact on human health. -Although there is specific monitoring for many hazardous discharges the greater intensity resulting from intensive recycling water could potentially cause problems. -There also remain concerns about current unknown unknowns e.g. - For products where international use and experience is not directly comparable and so confidence cannot be drawn from reuse schemes elsewhere. The generation and spread of atypical animal or human pathogens including novel infections, agents including antimicrobial resistance. Trade effluent from illicit uses e.g. the production of recreational drugs. - In view of the foregoing we seek REASSURANCE THAT THAMES WATER WILL PUT IN PLACE ROBUST MONITORING AND TREATMENT PROCESSES THAT WILL PROTECT HUMAN HEALTH AND THE ECOSYSTEM OF THE RIVER WHERE RECYCLED WATER IS CONCERNED. There is also concern about companion animals and livestock which may have susceptibility to some hazards which is different from that seen in humans. 2.7 We note that the proposed reservoir at Abingdon is now quite a distant proposition. -We believe that the proposed reservoir site is the only viable site in the Thames Water geography and we feel detailed plans for its viability and environmental impact etc. should be reinvigorated and perhaps brought forward as part of the plan. -We do not believe that the Plan will be effective without the construction of the		

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		reservoir perhaps sooner than currently anticipated. -We feel therefore THE PLAN SHOULD INCLUDE A REEXAMINATION OF THE TIMING OF THE PROPOSED ABINGDON RESERVOIR AND EARLY CONSULTATION ON ITS IMPACT.		
2615	Action for the River Kennet (ARK)	Water transfers: We support the creation of a water transfer network and would like to see transfer options prioritised. We have concerns that the large scale options such as SESRO and STT are a long way in the future, and offer uncertain benefits for the Kennet catchment, with the pipe to SWOX not scheduled until 2050 and not under all scenarios. If the SESRO development is to go ahead we would like certainty that it will benefit the chalk streams in the upper Kennet, which was a primary motivation for building it the last time is was seriously considered. In the interim we would prefer to see Farmoor used more effectively to supply Swindon in normal years. We welcome the proposed water transfer from Wessex to support the Kennet Valley and would like more details of that scheme. Abstraction reduction: We are concerned that there needs to be a clear and proportionate approach to abstraction reduction to ensure that time and money is spent reducing those abstractions that have the greatest impact. We support the approach proposed by the CaBA chalk stream restoration strategy that suggests a lower overall reduction in abstraction achieved in a targeted way, rather than a blanket ban on all groundwater use. The latter may not be realistic in any reasonable timeframe. In instances where abstraction reduction is not possible we support the concept of moving abstractions downstream to points where the environmental impact will be lower. With this in mind we would like to be reassured that the development of the -5Ml/d groundwater abstraction in the lower Kennet at Mortimer in 2042 would occur after abstraction reductions (of	Thank you for your response to the consultation, your points are noted. We note your support for the creation of a water transfer network, working in collaboration with the other SE water companies, through WRSE, has enabled us to consider the whole SE region and how best water resources can be shared across the region. Within region transfers and sharing resources are an important part of all the plans of the SE water companies. We do need to develop strategic resource options and the 150 Mm3 SESRO is included in our revised draft WRMP24 from 2040. We have set out the long lead time for the planning and development of strategic schemes and this is why we need to make decisions now to be able to progress these schemes. The development of new water sources is required to faciliate the reduction of unsustainable abstraction across the catchment and we have included in our revised draft WRMP24 significant measures to reduce abstraction by 2050, prioritising the most vulnerable watercourses first. In relation to the proposed water transfer from Wessex to support the Kennet Valley, this is no longer included in our revised draft WRMP on the basis that Wessex Water have identified that they cannot make this option available . Abstraction reduction - We note your comments in relation to the approach to abstraction reduction and have engaged wth Chalk	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		between 3.7Ml/d and 50Ml/d) identified for the upper Kennet. We consider that the West Berkshire Groundwater Scheme is a valuable resource, which has an important role in extreme drought years, but should not be hard wired in to business as usual day to day resource options. If rivers like the Kennet are to be restored, then improvement in water quality is as important as renaturalising flows. Expenditure on abstraction reduction must be balanced against improvements in waste water treatment, so it is vital to prioritise abstraction reductions to those which are most needed. Nature Based Solutions and the catchment based approach: We support investment in nature based solutions and a catchment based approach to build resilient catchments and engaged communities.	Stream First in the development of our approach. We have aslo worked closely with the Environment Agency (EA) to prioritise the sustainability reductions that are required and to develop a programme to meet our regulatory requirements by 2050. To read more about our environmental ambition and proposed reductions please read section 5 of our revised draft WRMP24. In relation to nature based solutions (NBS), while there exists a good body of evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a wide range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits. In AMP8 we will consider nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions. In addition, it is important to note that the WRMP is not the only area of Thames Water which is considering nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles.	

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2615	Action for the River Kennet (ARK)	Overall ARK supports Thames Water's approach, we welcome the commitment to reduce abstraction, manage water demand and prioritise chalk streams.	Thank you for your response, and your support for our environmental proposals within our WRMP.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
2615	Action for the River Kennet (ARK)	We are disappointed by the leakage reductions proposed for the SWOX region and believe that the per capita consumption targets are too low. Demand management: We welcome the emphasis on demand management. As a priority we would like to see smart metering and stepped tariffs used to help customers manage water use. We think there will be a need for joined up publicity and messaging from across water companies and NGOs to raise awareness of the need to use water wisely and create a better understanding of the water resource challenges we all face. We have concerns that Thames Water is being less ambitious in its per capita consumption targets compared to other water companies, and although the reasoning behind this stance is carefully explained we think that as smart water metering provides more data Thames Water will be in a stronger position to target the superhigh users and bring this figure down, in line with government targets and those of other water companies. Leakage: The level of leakage reduction proposed for the SWOX and Kennet Valley zones is low.At only 14% in SWOX and 30% for the Kennet Valley, both are well below the government target of 50% by 2050. If Thames Water were to achieve the government's targets for leakage reduction and per capita consumption there would be no need to export	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. Our goal of reducing leakage by more than 50% by 2050 (from 2017/18 levels) , this is ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		water from the Kennet Valley to Swindon, properly protecting the chalk stream environments of the Kennet Valley.	Since our draft WRMP24 the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in	

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			the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs. Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Chalk Stream In this draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce	

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			abstraction to sustainable levels by 2050, our draft plan proposes reducing the amount of water we take from sensitive rivers and waterways by over 500 Ml/d, targeting reductions in vulnerable catchments first. To deliver on this, we are working with the Environment Agency and our stakeholders such as Chalk Streams First. We are also commencing the installation of smart meters in homes and businesses in these sensitive catchment areas, further assisting efforts to reduce both customer demand and leakage.	
2628	East Hendred Parish Council	The submission refers to other areas of disagreement withy the Thames Water Resource Management Plan, including: Demand reduction solutions. No confidence can be placed on Thames Water's pathway to population projections 20252035, given that the latest ONS 2018based population projections are discussed & agreed with Local Planning Authorities before their publication. 4 The Parish Council has no confidence in Thames Water population estimates: i) They are double, (2m instead of 1m pop.), the 25year Government ONS projections, 20252050, used by Local Planning Authorities to assess housing need. The demand for water from population growth by 2050 should be halved from 202 ml/d to 100 ml/day, NonTechnical Summary page 13. ii) The 9% ONS population growth over 10 years 202535, projected in May 2014, has declined to a predicted 3% population growth, by March 2020.	WRMP development is a long and complex process. It took approximately 2.5 years from the time the population forecasts were produced in Spring 2020 to the publication of the draft WRMP24 for consultation in December 2022. The population forecasts used the most up-to-date evidence that was available at the time that they were developed. Inevitably, since then, revised evidence has become available that could be used to update them. We will revise our projections with updated information for our revised draft WRMP. The Water Resources Planning Guidelines are clear on the importance of using Local Plans it in the development of population forecasts for WRMP purposes. Moreover your preferred alternatives ONS projections (i.e. demographic trend-based forecasts that take no account of any future policy-led initiatives) are likely to 'constrain planned growth', which is in direct opposition to what WRPG states in Section 6.3. Given this we remain confident in the data used for our draft WRMP and as we have stated will updated this in our revised draft plan.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		iii) This is a staggering reduction that Thames Water appears unaware of. The recent projections significantly reduce the demand below that found to be insufficient to justify a new reservoir at the previous Public Inquiry.		
2628	East Hendred Parish Council	The submission refers to other areas of disagreement withy the Thames Water Resource Management Plan, including: The lack of interregional cooperation to enable water to be transferred from areas with higher rainfall, to increase water supply.	We are disappointed to learn that you think that there has been a lack of inter-regional cooperation in our consideration of transfer from other regions, as this has been a main area of focus for us. We have worked as part of the Severn-Thames Transfer Strategic Resource Option team to develop the Severn-Thames Transfer option. The amount of detail given to the development of this option has increased dramatically since WRMP19, and we have worked with partner organisations, Severn Trent Water and United Utilities, in developing this option. In the development of this option, one of the key questions is determining the price that United Utilities would need to charge us to make water available from Lake Vyrnwy, as they would need to build new sources of water to offset loss of resource from this reservoir. The regional planning process has undoubtedly resulted in a more integrated water resource management plan for the South East of England, and consideration of intra-regional transfers and use of other options, such as inter-regional transfers, by all companies across the South East is a key part of this regional planning approach. The Regional planning process has included several steps of 'regional reconciliation', whereby plans and approaches are shared between regional groups.	We have not made changes to our plan as a result of this response, for the reasons set out in our consideration

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2628	East Hendred Parish Council	It is not acceptable to await until a Strategic reservoir is included in a Resource Management Plan, before carrying out an Environmental Assessment, as stated in page 17 of the NonTechnical Summary. The failure to carrying out an environmental impact assessment that makes a comparison of alternative options to identify a preferred option based on weighing the benefits against the harm to the environment.	Thank for your response. Our Water Resources Management Plan is a strategic plan for provision of demand management and water supply solutions over the next 80 years. The options we have considered, including SESRO, have been progressed through a suite of environmental assessments at a level appropriate to the nature of this strategic plan. The results of these assessments are reported in the draft and revised draft plan and Gate 2 documents. Environmental Impact Assessment will be carried out as part of a planning application if these options progress to the planning stage.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.
2628	East Hendred Parish Council	The submission refers to other areas of disagreement withy the Thames Water Resource Management Plan, including: i) The reductions in abstractions.	Thank you for your response, it is not clear from the representation what the concern is. A significant driver in our dWRMP24 is to improve the environment we are so heavily reliant on. In this draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
2628	East Hendred Parish Council	1. It does not comply with the National Planning Policy Framework policies on Areas of Outstanding Beauty (ANOB) and their setting, which states that “Great weight should be attached to conserve & enhance designated landscapes.” 2. It does not comply with Ofwat’s requirement to carry out an environmental appraisal, & assess the risks from landscape impacts & engagement within AONBs. 3. It does not comply with Infrastructure Planning (Environmental Impact Assessment) Regulations, or Case Law from a High Court decision.	1. In producing our dWRMP24 and in developing SESRO as a scheme we consider that we have had due regard to this very important aspect of the environment, as appropriate to the strategic nature of the plan and the planning stage that the scheme is currently at, including RAPID requirements applicable to this stage. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment (SEA) that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan, including the impacts on biodiversity, traffic and landscape and visual amenity from both local and regional viewpoints including the North Wessex Downs AONB. Furthermore,	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. 2. As at Gate 1, landscape was considered as an objective within the SEA for this scheme. Enhanced analysis carried out for Gate 2 has considered the effects on individual local landscape character areas in conjunction with the appraisal of effects on the North Wessex Downs AONB. This work is presented in both the SEA that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (Section 6). Section 6 (Gate 2 Report: Environmental Assessment) and Supporting Technical Document B2: Initial desk-based assessment has been completed for Gate 2. A Technical Liaison Group was established to agree the scope of this work, including representatives from OCC, VoWH and North Wessex Downs AONB. A Gate 2 Master Plan has been developed in line with high-level landscape mitigation principles bespoke to this scheme, described in further detail within the Gate 2 submission for this scheme. Both the engagement activity and development of mitigation actions described here will continue through subsequent gates for this scheme. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. 3. We consider that in completing our assessments for Gate 2 of the RAPID process and our dWRMP24 that we have complied with all applicable regulation and legislation.	

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2628	East Hendred Parish Council	Reducing leaks is accepted as a Priority. But reducing leaks by 16% by 2030 provides no confidence that the Government target of a 50% reduction, saving 176 ml/d, will be achieved. The target reduction is uninspiring. Water saving actions propose a reduction of water usage from. 141 litres per person per day to around 125 litres. The Ofwat requirement for a reduction to 110 litres per day could be reduced by a faster roll out of meters.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target.	

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			Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters.	
2628	East Hendred Parish Council	The Parish Council (EHPC) requests answers to Rapid Gate 2 submissions on SESRO: (see Appendix 1). QUESTION 1. When will Thames Water publish an Environmental Impact Assessment of the reservoir, which complies with the NPPF, Infrastructure Planning (Environmental	The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		Impact Assessment) Regulations, & Ofwat's Strategic Regional Water Source Solutions Guidance for Rapid Gate 2, Feb 2022. Section 6.3 requires a (locallybased) indexed initial environmental appraisal, in addition to strategic work todate. QUESTION 2. When will Thames Water comply with NPPF & Rapid Gate 1 decision on the South East strategic reservoir option (SESRO) to assess the risks from landscape impacts & engagement within the Areas of Outstanding Natural Beauty (AONB). Will it include a Risk Assessment of not complying with legal requirements to publish a comparison of the environmental impact of the alternative options prior to their inclusion in a management plan for a National Infrastructure Development Consent Order? QUESTION 3. When will Thames Water comply with Case Law on National Infrastructure Development Consent Orders? (The High Court Case C0/4844/2020 dated 30/07/2021 between Stonehenge World Heritage Site v. Secretary of State for Transport. The High Court found that the Sec of State had acted unlawfully in granting a Development Consent Order as an environmental assessment of alternative options against all policy & legal requirements was not carried out).	The environmental impacts of the proposals have been assessed as part of the Strategic Environmental Assessment (SEA) of the draft WRMP. This assessment allows an environmental 'metric' of positive benefits and negative impacts to be generated, which is used to enable comparison with other options when deriving the best value plan. The more detailed environmental appraisal, which has been used to inform the SEA, forms part of our Gate 2 submission to RAPID and Supporting Documents B1 to B7 provide details of the environmental appraisal of the SESRO options, all of which are available on Thames Water's website (https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions). Therefore, the potential environmental impacts have been taken into account in weighing up the pros and cons of the SESRO options compared to alternatives. We have started to explore how some of the most significant impacts might be managed and mitigated when the scheme is designed, as part of our Gate 2 submission to RAPID. For example, section 3.4 of our main report to RAPID (and figure 3.1) explain some of the key landscape issues and how we have taken these into account in deriving an indicative landscape master plan for the 150 Mm3 SESRO option. We will continue to develop our thinking on these issues, in close liaison with the local community as the design of the scheme develops. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the	

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		The Parish Council (EHPC) consider that public consultation is required on an environmental assessment of the adverse impact of whether reservoirs should be developed sooner, (for inclusion as the preferred option before 2040), or later. FEEDBACK ON SIZE OF NEW RESERVOIR/NEW WATER SOURCES. 5.1 Page 7 of the NonTechnical Summary does not show any “working together” with Water Companies preparing the Water Resources East & West areas, which have a higher rainfall. The lack of InterRegional cooperation is a significant failure of the Management Plan. 5.2 The need for a reservoir before 2050 has not been proven, given the grossly inflated demand projections and the omission of interregional working on accessing water from Severn Water, via the Water Resources West Management Plan. 5.3 Any reservoir, whatever its size, requires an Environment Impact Assessment comparing alternative options up to 2050, including Water Transfer from Severn Water. Expansion of existing reservoirs at Farmoor & West of London may be options for a comparison with an Abingdon reservoir. 5.4 But NO scheme of national & regional significance should be included in a Management Plan prior to consultation on an Environmental Assessment, not after	selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it’s hard to predict exactly when we’ll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we’ll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they’d prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J.	

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		its inclusion, as stated on page 17 of the NonTechnical Summary. CONCLUSIONS. THE PARISH COUNCIL (EHPC) REJECTS THE EVIDENCE BASE JUSTIFYING A NEW ABINGDON RESERVOIR FOR THE REASONS IN THIS SUBMISSION.		
2636	Everflow Limited	Opportunities in the business market: Business (nonhousehold) customers use around 30% of water supplies, but water efficiency work has focussed heavily on household rather than nonhousehold customers over recent decades. It was expected that the opening of the business retail market would stimulate water efficiency delivery but neither customers nor retailers have been incentivised sufficiently for this to happen. Some structural barriers have contributed to this, and we helped develop the Retailer Wholesaler Group's plan, which proposes regulatory changes to provide the industry with targets, incentives and funding for watersaving interventions. We were pleased to see that Defra announced the 9% demand reduction target for NHHs. We would like to understand further how this will be applied in practice, particularly in companies' WRMPs. For example, will certain areas of England take on a greater share of water saving than others? It does not seem fair that already water stressed areas with high demand are asked to save more than others – particularly with Ofwat's encouragement of water trading between regions.	EIP targets were not announced until after the production of our draft WRMP was complete. It is at this point difficult to say how the 9% non-household reduction will be applied for practice but it may be prudent to assume a uniform reduction across the country until more detail is announced. Non-household demand is discussed extensively within section 3 with a dedicated appendix on the modelling of this. Non-household demand management is discussed within Section 8 of the main report.	Our preferred plan a reduction in non-household demand by more than 15% over the forecast period.

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		Overview of draft WRMPs: Regional and wholesaler water resource management plans do not adequately consider the potential of the NHH market to deliver water demand reduction. Some general commitments to the NHH market are included, e.g., retrofitting NHHs with smart meters alongside households over 10 to 15 year periods, but we would like to see more details about NHH smart metering and water efficiency plans before final WRMPs. Echoing MOSL's point from their WRMPs response, several WRMPs barely mention the NHH market in the main document, and in some cases, important NHH information is buried in appendices. The NHH market consumes 30% of water in England, so it's essential to include an overview of how it features in your plans in the main document. Business customers' involvement is essential to the industry meeting its demand reduction targets, but they have low awareness of water scarcity threats and how they could affect their businesses. Business customer awareness also feeds into general household awareness and employers are in a prime position to influence their employees' behaviour.		
2636	Everflow Limited	Drought plans: Retaining TUBs and NEUBs for peak demand or droughts is regrettable for our customers, but if they must be used, we ask that the plan details how retailers will be involved in customer	Thank you for your response. TUBs and NEUBs, as well as other drought measures, are addressed through our Drought Plan rather than our WRMP. We are very happy to engage with retailers in relation to customer communications.	We have provided information in response to your comments, there are no changes to the

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		communications around these. Ideally communication protocols should be agreed in advance so that they can be sent out in a timely and organised way.		draft plan as a result of your representation.
2636	Everflow Limited	Smart meters: This market is ideally placed to support overall demand reduction targets, which will avoid investing in expensive and environmentally destructive new infrastructure. Our market consumes a third of potable water in England and Wales and lends itself to very targeted interventions. For example, 3% of NHH customers use 72% of water in the NHH market – or 20% of all consumption. Just 11,000 large meters and 152,000 mediumsized meters could be targeted for smart meters to achieve 80% of the impact of fixing leaks promptly and reducing consumption. Recent research by Artesia for MOSL found a strong business case for rolling out smart meters to NHH customers alongside domestic customers (e.g., by geographic area rather than prioritising one over the other). It also recommended companies without largescale meter investment programmes would benefit from replacing or upgrading selected NHH customers' meters, particularly the largest customers and/or where businesses are close together. Ensuring that customers' usage is visible to water providers and customers themselves, and that water scarcity situations are proactively communicated and linked to usage, is key to getting	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Metering to identify property leakage As we progress with our metering programme, we'll be expanding our	We have provided information in response to your comments, there are no changes as a result of your representation.

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		customers to understand their potential contribution towards reducing water scarcity and protecting the environment. We therefore urge wholesalers to align with the national NHH metering strategy being developed by MOSL. From our review of WRMPs, many wholesalers are intending to roll out smart meters from 2025 or have already started. However, there are no set dates for when every business will have one. Wholesalers that have already rolled out smart meters identified around 25% of the water being used by NHH customers is continuous flow – a large proportion of this could be leakage and/or wastage. Smart meters enable leaks to be detected much quicker so that wasted water can be minimised. One million smaller NHH customers use water in a very similar way to households (toilets, sinks, etc.) and have similar meter sizes and usage. We would like clarity on how many smart meters (AMI not AMR) you intend to deploy in AMP8 and beyond, including visibility for retailers on when and where they will be rolled out, to avoid duplication of effort or customers paying for loggers when they don't need to. Data sharing: We would like wholesalers to align with the national NHH metering strategy position on data sharing. Proactive logging and continuous flow/high usage alerts for customers via retailers are also key to	utilisation of the data we collect to better identify leaks on domestic and commercial properties. When smart meters installed on household customers register 'continuous flow' over a set number of days, we engage directly with the household customer informing them of the potential leak and offer a range of leak fix options. To date, this proactive engagement activity is resulting in the majority of customers fixing their own leaks with a week of notification. Currently, retailers can access commercial property smart meter data through our Digital Data Service. Our commercial Digital Data dashboard also has real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling business to self fix. Better metering data for customers All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage	

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		obtaining 'in the moment' conversations about water efficiency which NHH customers are more likely to engage with, so smart data should be shared with the customers' retailer. We would also urge wholesalers to pool their NHH benchmarking data (ideally nationally) and share this with retailers operating in their area, so that the benefits of big data can be realised and result in better targeting of water efficiency and leakage services by retailers. Water saving National research by the RWG Water Efficiency subgroup steering group has shown that customer incentives to increase their water efficiency are insufficient and the savings required to achieve the customers' expected return on investment time unrealistic. The initial (time and money) investment required to achieve water efficiency relative to the size of their bill is a particular barrier to SME customers, which make up the majority of the NHH market. Wholesalers are in a position to apply for funding which they can use to incentivise retailers or collaborate with us on delivering water efficiency. A collaborative approach is important to avoid undermining competition and to increase customer uptake. There is low demand for water efficiency services among businesses1 even when they are offered for 'free' to the nonhousehold customer. Retailers' relationships with their customers are key to improving this and communications by wholesalers and retailers must be coordinated. We would like more detail on how water efficiency services will be	and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs.	

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		offered to different categories of NHH customers. We want to be able to offer water efficiency services consistently nationwide so that water saving is simpler for NHHs to engage with. We would prefer a nationwide approach to demand reduction so that multisite customers have clarity about the services and funding and/or incentives available to them. This is another reason why wholesalers need to focus their efforts on incentivising and collaborating with retailers. Collaboration We would like to see true collaboration between wholesalers and business retailers that delivers value for customers, as well as environmental and water security benefits. In a recent trial with a large water wholesaler targeting customers with continuous flows, we demonstrated the value of our enhanced data and relationship management by more than tripling their usual engagement rate. However, it's important that adequate funding is transferred to retailers to cover such marketing, service provision (e.g., leak detection or water efficiency audits, products etc) and/or contact list costs, at a market rate which recognises the quality of the data they've invested in improving and enhancing since market opening. Funding also needs to reflect actual costs of engaging and delivering such services. Wholesaler water efficiency incentive schemes for retailers to date have been based on per litre usage reductions, and there are inadequate commercial retailer incentives. Due to low	Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Non-Household (commercial) water use The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role. Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with	

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		business engagement and willingness to pay for leakage and water efficiency services, retailers therefore have not been able to cover the costs of water efficiency services and delivering them. While not all retailers will prioritise providing water efficiency services for their customers, those that do should not be prevented from providing competitive services and innovations that benefit customers and the retail market, as well as the environment and security of supply. Being kept informed and involved in communications between wholesalers and customers is also crucial to maintaining great customer service. We would echo Waterwise's request last year for a wholesaler commitment to greater collaboration with retailers in the plan, and a more detailed plan for how they will deliver demand reduction in the NHH sector. This could involve: • Technical support with abstraction options • Providing a sterner 'police' type function when customers don't respond to retailers about potential leaks and over consumption (e.g., issuing leak notices and showing local connections with water deficits/risks to supply or the environment) • Sharing smart meter and logger data • Sharing plans for smart meter/logger roll outs • Offering white label services (as most wholesalers already do for meter reading) for leak detection and repair, water efficiency site surveys and installing water efficiency products. However, we believe a competitive market for these services would serve customers best, so	wholesalers and retailers and have fed into the metering committee to help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8 (2029-30). Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH smart meter data on a live dashboard. The dashboard includes real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	

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		do not think that wholesalers should offer these directly to NHH customers.		
2648	Waterscan Limited	Many thanks for the opportunity to comment on the draft plan. We have focussed our response on the demand management elements of the plan. Overall we are pleased to see significant detail in the draft plan and supporting appendices on how future demand has been calculated and the demand management options that have been considered when it comes to household demand, nonhousehold demand and leakage. The appendix document presenting the experience of the company in AMP6 and AMP7 was also very insightful. We are really pleased that Thames continues to be actively involved in a range of national water efficiency fora, including those organised by Waterwise. Reference could be made in the final plan to the new UK Water Efficiency Strategy to 2030 which the company very much helped to develop. We fully support the AMP8 water efficiency programme presented which builds on the company''s experience of the largest and most comprehensive AMP6/7 water efficiency programme in the sector. However, in the longer term implementing the WRMP24 plan is predicted to only achieve 125 lppd PCC by 2050 (123 lppd with policy support), which is higher than almost all other English water companies and significantly above government, regulatory and stakeholder expectations. What stands out in the Thames forecast of PCC is the very limited further reductions in PCC achieved between 2037/38 and 2049/50 including in comparison to other companies, with Thames achieving one of the smallest reductions in PCC lppd in that	<u>Household water use and the national target</u> Between draft and final plans the government have confirmed that the national target for PCC of 110 should be applied at company-level. As such our revised draft plan will hit this target. <u>Non-Household (commercial) water use</u> The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role.Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with wholesalers and retailers and have fed into the metering committee to help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8 (2029-30). Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH smart meter data on a live dashboard. The dashboard includes real time data showing any meter with continuous flow, which can be used	Our preferred plan includes a PCC target of 110 l/h/d and an ambition to reduce non household demand by 15%.

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		period (3 lppd without policy or 5 lppd with policy) -see table below. The plan attributes this significant tail off to having smart metered the vast majority of properties by 2040 and “exhausting” traditional water efficiency options/target properties. Further longer term savings due to new tariffs and innovation are flagged but are predicted to deliver just 1.4 lppd and 1.2 lppd respectively by 2050 based on Technical Expert opinion. Although both figures seem very low we agree they are uncertain at this stage. Given the supply demand challenges that the company faces, the ultimate level of PCC reached in 2050 in the draft plan is disappointing. It would therefore be useful if the final plan could also provide an alternative glidepath that gets nearer to 110 lppd highlighting what additional actions are required by government, regulators and by the company. We also need to be confident the company has considered all opportunities in its control to go further. For example the company has undertaken around 330k home visits to date since 2015 but from Table 811 in Section 8 appears to only be planning a further 320k visits & 26k wastage fixes in the next 25 years, focussing on households as they are metered and on high water users. We would like to see the final plan explore what more could be achieved by significantly scaling up and broadening out the longer term SHV programme (x2, x3) to include “normal” water users. Elsewhere the draft plan does indicate that savings of circa 37.94 litres a day per property can be achieved from normal level water users albeit we accept that this will not be as cost effective as targeting high users only. We are pleased to see that Thames Water recognises the potential contributions to demand reduction from government policies such as water labelling of products and have highlighted this in the plan. Thames has been actively involved in helping develop and share the evidence base needed to highlight where policy needs to be improved or to support new policy initiatives and this is very welcome. We are asking all companies to include a	by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	

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		budget in their final plans to support/promote the rollout of water labelling in AMP8 helping to explain to their customers why it is important and how they can use the label. The trial of a linked incentive scheme could also be considered. There are further policyled opportunities to secure additional savings through more ambitious policy with regards to linking the water label with minimum standards and through new regulations for new build development and retrofit. We would urge Thames Water to continue to work with Waterwise to advocate for more supportive policies to add to what the company can deliver itself. It would be useful to set out what specific policies are included in Government Options A to G presented in Table 89 including specifically in Option B which has been adopted by WRSE. It would be useful to see Figure 824 extended to cover the full period through to 2050 and we query why in this figure under the Government B scenario there are no further PCC savings from water labelling shown after 2040 on the graph when in Table 89 there is an additional 5 lppd post 2040. Table 810 indicates that between 2040 and 2050 improvements in device efficiency using the Thames trend a**nalysis deliver an additional 7.6 lppd saving in PCC (seebelow). This does not seem to be reflected in the PCC dWRMP outturn between 2040 and 2050 which in the dWRMP datatables goes from 127 to 123 lppd in the with policy pathway, a 4 lppd reduction which, as highlighted above, is largely down to tariffs and innovation..** **Given the above challenges in delivering household consumption reductions post 2040 it is very important that Thames sets aside significant funds in AMP8 to fully** **explore new additional opportunities for further savings in AMP9 onwards. AnglianWater has included a £5m AMP8 Water Demand Discovery Fund in their plan and we are pleased to see Thames including an AMP8 Water Efficiency Innovation Trials work programme. Although the scale of it is not clear in the plan document we would**		

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		expect it to be at least twice the size of the Anglian programme given the relative size of the companies. One area that should be considered to deliver further PCC savings is the use of relatively inexpensive flow controllers/regulators which in small scale trials (Affinity, Sussex, NWL) have been found to deliver 3564 litre savings per property with further larger scale trials planned in Sussex and by UU, Severn Trent Water, Yorkshire Water and others. One cost effective option Thames could consider that other companies are exploring is fitting these devices when you fit smart water meters focussing on known high water pressure areas. Alternatively in all new homes and on change of occupancy in those areas. Thames Water has been actively involved in a number of fora exploring how demand reduction for NHH users can be better supported and delivered including through wholesalers playing a more active role in the short to medium term. This is welcome given the government's Environment Act target (which includes NHH demand reduction) and Ofwat's planned performance commitment (which also includes NHH demand reduction). The dWRMP24 plan indicates that there is potential for significant savings in NHH water use based on data from smart meters and the company's sector leading SBV programme. However, the final plan could provide more detail in terms of AMP8 NHH options and Thames Water's proposed NHH programme. We believe there is scope to significantly scale up the SBV programme. A portion of the potential deficit in the Thames Water area is driven by future decisions on the type and location of future development. We believe that water hngry developments in a region with such a large water deficit and especially in areas where the companies' abstraction licences are being capped or reduced to protect the environment, should be water demand neutral….in much the same way as regulators require new developments in flood prone areas to be flood neutral. This could be achieved through proactive collaborative work with planners and developers at a WRZ or catchment level in these sensitive areas. We were pleased to see Thames Water launching		

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		its developer incentive to help minimise or avoid the additional water demand footprint of new development and will be encouraging other water companies to adopt a similar approach.		
2648	Waterscan Limited	We support interconnected action to tackle climate change, for examples through net carbon neutrality goals and taking better care of local ecologies like sensitive chalk environments. Anglian Water is so far the only water company to voluntarily cap abstraction licences by 2025, which will reduce their abstraction licences by 85%. We urge other Wholesalers to follow Anglian Water's example to strengthen environmental protections and to go beyond mandated targets. A recurring theme across the draft WRMPs is operational net zero carbon emissions targets, with deadlines beginning from 2027 for Essex and Suffolk Water and Northumbrian Water. We encourage water companies to measure, disclose, and work to reduce their carbon emissions – as well as their water footprint – through the Carbon Disclosure Project (CDP). We are also keen for Wholesalers to consider and share their position on water neutrality. We expect Wholesalers to provide a clear, compelling roadmap to meet every target in their WRMP as the current goals are unhelpfully vague. The same applies to	Thank you for your comments. We have worked with other companies through the Water Resources South East regional group, and through other forums such as the All Company Working Group to work together to meet the challenges that we face, and will continue to do so to ensure that we're working together on tough topics, such as carbon neutrality. Regarding environmental protection, we have set out different scenarios of licence reduction which we think may be necessary in the long-run, and which comply with current policies. We do not think that it is the right approach to make significant abstraction licence cuts which would entail large investment decisions ahead of having undertaken investigations to determine whether making abstraction reductions would result in material environmental/ecological gain. Our target is for net zero operational emissions by 2030, and we will report on this as necessary.	We have improved our monitoring plan, in Section 11, to provide more detail on how we will track delivery of our plan, and the triggers we will adopt to monitor the need for change. We have also included more detail on the carbon emissions arising from our WRMP, and how this sits in the context of our wider business.

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		the industrywide commitment to reach net zero operational carbon emissions by 2030.		
2648	Waterscan Limited	We recognise the temptation to fall back on national targets set by Defra (for example to reduce per capita water consumption by 9% by 2038) as this allows water companies to request funding through PR24 to meet these targets directly. However, it is essential that Wholesalers move more quickly and go further than Governmentset targets. This is especially important considering that per capita consumption excludes nonhousehold (NHH) consumption, undermining the incentives and funding available for improving NHH water efficiency. We are concerned about the setting of national targets and the tendency for water companies to default to these targets. There is a troubling lack of transparency over how these national targets were chosen and whether they are suitable or ambitious enough for particular catchments, water resource zones (WRZs), and/or water companies	We're working with all our customers to encourage them to use water wisely. We've installed almost 700,000 smart water meters so far, and over 50% of our household customers now have a water meter. Our work has shown that having a meter can help each customer's use around 13% less water. We are also delivering the industrys largest programme of NHH water efficiency visits, Smarter Business Visits, helping our NHH customers to repair leaks and reduce their demand for water. We fully support the government's plans to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. These measures are included in our planning. Taking government-led and our own actions into account, we forecast that average water use in our area will reduce again to around 123 litres per head per day (in our draft plan) by 2050. Since our draft WRMP further guidance has been received from the Environment Agency, Ofwat and Defra that sets a clear policy pathway to 110 l/h/d by 2050, and 122 l/h/d by 2037/38, and new targets for NHH too. We will aim to achieve these new household and non-household targets in our revised draft plan through some improvement in our reductions and further government led reductions. We made it clear in our draft WRMP that further customer reductions were challenging from the analysis carried out to date.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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2648	Waterscan Limited	At Waterwise, we're committed to driving equity and preventing discrimination at work and in the work we do. A great deal of our impact is delivered through challenging others through consultations such as this to ensure equity, diversity and inclusion has been considered in all policy and planning decisions. We encourage as you develop the final plan to consider the impacts on social wellbeing and how you will understand impacts of decisions, including in the longterm following tradeoffs, on the diverse members of the Thames Water customer base.	Thank you for this comment which is noted. We do consider social aspects as part of the Strategic Environmental Assessment which informs the plan development but your points are noted from a wider context.	The SEA has been updated for the revised draft plan.
2648	Waterscan Limited	On a presentation note, from the perspective of a reader, many of the Plans were extremely dense and formatted in a way that created barriers to close reading or clear understanding. This undermines the quality and integrity of the whole consultation process. The Summary documents often provided a useful overview, but the main documents were largely unwelcoming. For documents very often 100+ pages, it was surprising how often questions were left unanswered at the end. Wholesalers must think more carefully about their audience and the role these Plans play in the consultation process. Some of the more digestible Plans came from Affinity Water, United Utilities, Southern Water, South Staffordshire Water, and Severn Trent Water	We endeavoured to provide tiered documentation comprising an easy to read summary accompanying the technical report and appendices, which contain detailed technical work, to ensure it was accessible to all readers. Your comments are noted and thank you for taking the time to provide feedback.	No specific changes to the draft plan.

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2648	Waterscan Limited	Wholesalers need to take anticipatory action before the final WRMPs are published in 2024. For Wholesalers who do not forecast a water deficit before 2040 (like Yorkshire Water, Essex and Suffolk Water, and Northumbrian Water), there needs to be greater emphasis placed on innovation to channel investment into preventive measures and scoping projects that the industry as a whole would benefit from. Such trials could include water neutral partnership work and developing final effluent reuse possibilities. While we support the consistent emphasis placed on partnership work, there was an overall lack of clarity and specificity over how such partnerships would be set up, run, and assessed. There is significant scope for more intensive, targeted partnership work under the umbrella of naturebased solutions, but it was not made clear how Wholesalers plan to engage with different stakeholders and under what terms. Wholesalers also need to play a greater role in researching the key challenges facing the water industry by working with collectives like the National Leak Research Centre (run by Northumbrian Water), the Water Research Institute at the University of Cardiff, and the Environmental Change Institute at Oxford University	We are looking forward to seeing how Ofwat's proposed Water Efficiency Fund offers opportunities to progress partnership working, research and innovative delivery schemes, outside of, but complementary to the demand reduction activities delivered through the PR24 price review. Ofwat is consulting on the structure, governance and activities targeted through this fund during 2023. Yes, partnership working needs to play a bigger more important role in AMP8, across a range of water and wastewater agendas. Our core business needs to focus on improving performance, compliance and resilience, delivering benefits to our customers and the local environment. Our WRMP includes significant demand reduction volumes associated with both household and business water use. These demand reduction targets will require a mix of wholesaler-led and partnership interventions. The design of specific delivery mechanisms, which will need to include partnership working, will be developed following the PR24 Final Determination. In parallel with our demand reduction focus, our WRMP outlines plans that are focused to deliver asset and operational improvements in-line with stronger performance commitments. Within the non-household space, we have proposed an accelerated rollout of smart meter installs on business properties, aiming to upgrade all existing non-household meters with AMI smart meters by end-AMP8. This acceleration will enable a step-change in consumption data availability and water efficiency opportunity, essential for Retailers and businesses to play contributing roles towards the Government's new national water target agenda. We've led the sector by introducing a water efficiency incentive for NHH Retailers and a three-tiered financial incentive for developers to accelerate the use of water reuse technologies and deliver water	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			neutrality across new homes in our supply area. Our WRMP and PR24 plans proposes opportunities for further innovation, driven by the need for measurable savings against the WRMP demand reduction volumes. We are keen to work in partnership to drive innovation and are active participants in a range of initiatives.	
2648	Waterscan Limited	On the whole, Waterscan supports the efforts made by Wholesalers to meet the supply and demand challenges facing the water industry in the coming decades, even though we believe there is much room for improvement. We support carefully managed investment into improving drought resilience, reducing leakage, and reducing per capita consumption. Given the risks that national targets have been watered down and do not push Wholesalers far enough, there needs to be greater clarity and justification around why goals and deadlines have been chosen. This is particularly relevant when percentage decreases still leave excessive leakage rates due to high starting points. For instance, roughly 24% of Thames Water's supply is currently lost to leakage, but halving this to 12% is still not nearly acceptable. We do not believe that the current targets are challenging enough. Maintaining shockingly high leakage rates disables customer motivation to change behaviours and sends the de facto message that high leakage is both acceptable and the norm	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		Wholesalers have an untapped resource in Retailers to drive down NHH water usage. We believe Wholesalers need to develop a mechanism that empowers Retailers to offer this service to NHH customers. This would allow Wholesalers to focus on deliverables that cannot be achieved by third parties like leakage reduction, net zero, meeting household (HH) targets, and reducing pollution incidents.There is a serious lack of consideration in the draft WRMPs over how the Plans will affect other stakeholders, particularly NHH customers. There is a lack of transparency and clarity around the impact Wholesaler decisions will have on business customers. It is not acceptable to pass problems onto customers. While Wholesalers have a statutory requirement to protect domestic water supplies over NHH properties, this legal caveat should not translate into normal operating practice. This is particularly the case when NHH customers are proactive in managing and reducing their water use. These supply issues are happening now, yet are not analysed in the draft WRMPs. Given these issues, we require all Wholesalers to more carefully consider the cascading impacts of their Plans on other stakeholders like NHH customers Smart Metering: Plans, Data, and Messaging There is a serious lack of consideration in the draft WRMPs over how the Plans will affect other stakeholders, particularly NHH customers. There is a lack of transparency and clarity	of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the	

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		around the impact Wholesaler decisions will have on business customers. It is not acceptable to pass problems onto customers. While Wholesalers have a statutory requirement to protect domestic water supplies over NHH properties, this legal caveat should not translate into normal operating practice. This is particularly the case when NHH customers are proactive in managing and reducing their water use. These supply issues are happening now, yet are not analysed in the draft WRMPs. Given these issues, we require all Wholesalers to more carefully consider the cascading impacts of their Plans on other stakeholders like NHH customers Water companies have a substantial responsibility to lead an urgent, largescale cultural shift in the water industry. Perceptions are powerful and shape behaviours on all levels, so startling statistics on Wholesaler pollution events and leakage rates create a negative feedback loop that entrenches stagnation and poor practice. The market looks to Wholesalers for leadership in these and other areas. It is jarring that the more water a customer (particularly a NHH customer) uses, the cheaper this vital resource becomes. We expect Wholesalers to be much more proactive in reversing these perverse incentives in the final WRMP24s Wholesalers need to change the narrative in the water market that propagates, rationalises, and normalises inefficient, irresponsible, and uninspiring performance. Threats to water	national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Non-Household (commercial) water use The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role. Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with wholesalers and retailers and have fed into the metering committee to help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8 (2029-30). Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH	

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		security, water quality, and water stewardship are very much present in the here and now, so Wholesalers must not allow the current culture to seep into yet another planning cycle.	smart meter data on a live dashboard. The dashboard includes real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	
2648	Waterscan Limited	We fully support the continuing smart meter rollout to HH and NHH properties through to 2035. Our research coupled with the experiences that Anglian and Thames Water have shared with the sector have shown that smart metering is a game changer when it comes to reducing leakage and engaging with customers on water use and water wastage. It is very useful to see the data in Section 8 of the plan which sets out the savings that smart metering is achieving in a range of properties through a combination of behavioural change and reduced water wastage. We also support Thames Water's plan to undertake tariff trials during AMP8 to inform potential rollout by 2035. We are pleased to see the inclusion of an additional programme element in AMP8 around	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Better metering data for customers All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end	We have provided information in response to your comments, there are no changes as a result of your representation.

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		the sharing of consumption data with water users through a digital portal. We encourage Thames to initially undertake customer research to determine how customers want to access consumption data (i.e. whether customers prefer an online platform they can log into or a phone app as with Octopus energy see image); what sort of data they would find most useful and what would prompt them to save water (i.e. resolution, benchmarks, alarms). However, the budget set aside in AMP8 to set up for this welcome programme seems very small (£200250k) given it is earmarked to deliver around 10 Mld of savings and represents a new, major, opportunity to engage with customers using smart meter data to help them reduce wastage and save water. We would like to see Thames Water significantly increase the budget in AMP8 for this important new programme element.	user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix.	
2648	Waterscan Limited	Wholesalers need to take anticipatory action before the final WRMPs are published in 2024. For Wholesalers who do not forecast a water deficit before 2040 (like Yorkshire Water, Essex and Suffolk Water, and Northumbrian Water), there needs to be greater emphasis placed on innovation to channel investment into preventive measures and scoping projects that the industry as a whole would benefit from. Such trials could include water neutral partnership work and developing final effluent reuse possibilities.	Thank you for your response which is noted. We continue to progress a number of water recycling options in our plan that are considered feasible options, with one chosen for inclusion in the early 2030's, being Teddington Direct River Abstraction.	Thames Water's WRMP sets out the vision to address the predicted deficit in water across London and includes a number of different measures to generate new sources of water.

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2696	The Richmond Society	inform/educate customers so behaviour changes to reduce demand. It's all about efficient usage of water, and the side benefits from that. For example, if customers: use less water for showers and/or baths, they will also reduce their energy bills heating water for same ditto re efficient usage of dishwashers, washing machines etc water gardens with efficient micro irrigation systems rather than hosepipes use less water for eg washing their cars	We agree that educating customers is an essential part of the demand management strategy. Within our preferred plan we aim to have metered approximately 75% of all properties by the end of the decade and beyond that horizon we will look to continue to increase the number of metered properties achieving over 90% by 2040. Smart metering will allow customers to understand how they use water currently and use water more efficiently in the future. This is supplemented with water efficiency activity such as in home audits which will allow us to assist customers in reducing their water use. We have also included within our preferred plan the introduction of different tariffs where by those who use excessive volumes of water will pay more while protecting those who have valid reasons for higher water use and ultimately encourage customers to use water more efficiently as you suggest.	We have provided information in response to your comments, there are no changes as a result of your representation.
2696	The Richmond Society	Whilst some may continue to deny climate change, most of us accept it is happening. -Our water supply is vitally important, and longterm planning is urgently needed to ensure resilience of supply.	Thank you for your comment, which we agree with. Our Water Resources Management Planning includes modelling of the impacts of climate change, using the latest data from UKCP18 climate projections.	No changes - none requested
2696	The Richmond Society	stopping the leakage of treated water should be a top priority for Thames Water, Affinity and other water companies. all too often mains' leakages are supposedly "repaired", but reappear within days, weeks or months	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is	

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			already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts.	
2696	The Richmond Society	TW's emphasis is, perhaps unsurprisingly, on expanding the supply of water through new reservoirs, transfers between water companies, desalination, more abstraction from rivers, and greater use of "recycled" water, all to provide for predicted increases in demand and to reduce/eliminate abstraction from vulnerable aquifers etc. Teddington DRA - This is, by most measures, cheap in comparison to other options presented for progressing to Gate 3, but on its own goes nowhere near filling the predicted supply shortage. -Given concerns about the effect of Teddington DRA on water quality in our already seriously compromised River Thames, surely a great deal more consideration must be given to other drought management and demand reduction options, and where money would best be spent. - Beckton to the Lee seems to offer a much better long-term solution than Teddington DRA. -It's expensive in terms of money & carbon now, but it would deliver much more water, with fewer ecological downsides, and avoid even greater infrastructure costs in the future. We are far from convinced that the Teddington DRA is without risk to our river's ecology, and to the safety of river users in our area. -	We've looked at a wide range of potential solutions – both measures to manage demand for water and provide new water supplies to future proof our water supply. We'll need a combination of measures to address the predicted shortfall in water resources. The Beckton Recycling scheme is continuing to progress through the RAPID gated process to refine its design and environmental assessment. The WRSE regional water resources options modelling will continue to assess the best combination and timing of a wide range of strategic resource options, including Teddington DRA and Beckton Water recycling scheme. The regional modelling is a comprehensive assessment considering CAPEX, OPEX, Carbon, Environment, Social and Sustainability factors. The output of this WRSE regional modelling determines the schemes selected and their programme for delivery, which currently leads us to assess Teddington DRA and Beckton Water Recycling on slightly differing timelines. Full details of the methodology used to determine best value can be found on the WRSE website at the following link - https://www.wrse.org.uk/media/3oah3rep/wrse-best-value-planning-method-statement-december-2022.pdf. Environmental studies have so far led to the rejection of larger sized Teddington DRA schemes (c 100Ml/d and above). Assessments will	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken. The draft WRMP plan selected Teddington Direct River

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		We have also been unable to establish any likely effect of the River Thames Scheme on Teddington DRA.	continue through 2023/24 to increase the detail of the assessment to further understand potential environmental risks of the scheme and we are committed to ensuring their would be no deterioration in water quality at Teddington as a result of the scheme. The River Thames Scheme team have been engaged with to understand the pass forward hydrology and water quality into the reach where the Teddington DRA scheme will operate. This information will be used to inform in-combination assessments.	Abstraction (2030). During the 2022 drought the water available for abstraction from the lower River Thames was less than expected. We are carrying out work with the EA to further investigate the water available in the river and the observed shortfall from the 2022 drought event. For the revised draft WRMP we have chosen to delay the delivery of this option to 2033 to allow for this activity to be undertaken.
2713	London Borough of Richmond Upon Thames	Helping residents and business utilise nonpotable water effectively is something that the partnership encourages. Through this, Thames Water should actively encourage rainwater harvesting techniques, targeted at property owners and developers. - This has the highest costbenefit ratio for demand management options and thus it should be prioritised and encouraged among customers. - It also reduces capacity demand on the surface and combined sewer network, which causes repeated flood events within our catchment. -	Rainwater harvesting has been considered as a demand reduction measure in the development of our WRMP. We have an established programme of water efficiency and have offered water butts to customers for garden usage for many years. Scaling up, the difficulty, as with the installation of greywater systems, is retrofitting to existing properties. We believe there are better opportunities to build the systems into new housing developments at the design stage, and we are working with Housing Developers to encourage this. For example we launched an incentive scheme for Housing Developers in 2022 offering discounts on the charges they pay Thames Water to connect	We have provided information in response to your comments, there are no changes as a result of your representation.

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		We believe Thames Water should be taking active steps to facilitate customers installing these measures, such as resourcing engineers to install rainwater harvesting facilities, or consultants available to give tailored advice to customers on how they can reuse rainwater and nonpotable water. This part of the strategy must be strengthened in the WRMP. We suggest that Thames Water could offer customers who implement SuDS and other interventions on their property receive incentives such as a price reduction.	to the public water supply if they commit to building new properties fitted with low water using devices like showers and washing machines and use rainwater or 'grey water*' for toilet flushing and watering plants.	
2713	London Borough of Richmond Upon Thames	We understand that you are still developing the finer details of what will be a large programme addressing the future water needs of London in an increasingly changing climate. While we understand that details on the impact are not necessarily available now, these need to be provided as soon as possible so that residents, communities and partners can properly understand and assess the impact that the proposals will have.	In the draft WRMP we set out the planning assumptions around the key parameters, such as climate change and population growth, as they have been used in the development of our long-term plan. This information is presented in Sections 3,4 5 and 6 of the draft WRMP. We have reviewed and updated these assumptions, where appropriate, for our revised draft plan and set out the forecast challenge for future water supply which is around 1 billion litres of water a day by 2050, this is a significant challenge and we need to plan ahead to address the shortfall. We recognise there are uncertainties in planning for the long term and we have a monitoring plan, which is presented in Section 11 of the revised draft plan, to track changes to our forecasts and the delivery of measures in our WRMP. We report the output annually, as part of an annual review of the WRMP, and publish the report so it is available for our customers and stakeholders to review.	We have provided information in response to your comments, there are no changes as a result of your representation.
2713	London Borough of Richmond Upon Thames	Our project is community focussed, therefore we oppose large increased cost or harsh tariffs to the individual consumer during this cost of living crisis. We support an ambitious long-term strategy and recognise that this will	We appreciate the pressures felt by all during the current cost of living crisis. Thames Water offers a range of support measures and we continue to review and develop these to ensure we offer support to those customers who need it.	

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		have financial implications alongside inflation. However, including the price increase that only takes water resources into account on the non-technical summary, not considering increase in prices that will come with other services such as wastewater, is misleading. The total predicted increase in price should be estimated and included clearly to give customers an accurate outlook of future financial implications. As prices will be increasing, the strategy should include support for low-income households to manage future increases in water bills.	The scope of the WRMP is focused on water resources and ensures we are developing a long term strategy for water supply recognising a secure water supply is vital for society, the environment and the economy. It is for this reason that an indicative bill impact is included for water resources only and we did make this clear in the summary document. The activity proposed in the WRMP feeds into the Business Plan, which is currently under development, and it is the Business Plan which will provide an indication of overall bill increases for all aspects of the business.	
2713	London Borough of Richmond Upon Thames	What will be the carbon impact of the construction process, and how will that be mitigated through more sustainable construction approaches?	The work we have completed to date on the water recycling schemes is in accordance with the requirements set by RAPID and has focussed on preparing a concept design for schemes and undertaking an environmental appraisal to understand potential environmental risk. This level of information has allowed Thames Water to demonstrate that the Teddington DRA scheme is a viable and feasible scheme for providing a new source of raw water and therefore appropriate to be included within the draft Water Resources Management Plan (WRMP). We have confirmed that the Teddington DRA is still an integral part of the best value revised draft WRMP24 and as such we will continue to undertake further work on the scheme. The scheme can progress through the planning process as part of which we will seek a Scoping Opinion from local authorities and complete a full Environmental Impact Assessment (EIA) alongside holding dedicated scheme engagement and consultation prior to submitting a planning application in several years time. We are still determining the planning route for a scheme and will be engaging closely with local authorities as we progress the project. We are in the process of setting up Planning Performance Agreements with each local authority that the scheme interacts with to allow for pre-planning advice.	Section 7 of our WRMP includes greater detail on carbon assessment than was present at dWRMP

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			Thames Water has published the environmental appraisal of the Teddington DRA scheme that has been completed to date www.thameswater.co.uk/sro. Work to date has shown that there maybe some localised negative but largely temporary effects during construction. The risk of significant environmental effects during operation are low and where impacts are predicted mitigation measures are available to reduce the scale and magnitude. Our environmental impact assessment work is still at an early stage and further work is required over the next couple of years to refine assessments, the design and mitigation measures to ensure we develop a scheme that does not impact people and the environment. We are working closely with environmental regulators to define modelling scenarios so we can assess the scheme fully and would welcome London Borough of Richmond Upon Thames' input into the scope of future modelling exercises.	
2713	London Borough of Richmond Upon Thames	More emphasis should be given to supporting nature based solutions such as river renaturalisation, wetlands, wet woodlands and other natural flood management techniques. This will enable water to be held in the landscape, meaning aquifers naturally recharge. These measures also aid in combatting climate change which is a driver of increased water stress. Further, it would help meet many of the 'value criteria' set out in the plan. More funding should be allocated to supporting projects delivering these measures across the area and funding new projects identified by communities, local organisations and local authorities.	While there is a evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits. We will continue to work on nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions.	We have not made changes to our plan as a result of this response, as our consideration is that our inclusion of catchment options is appropriate.

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			In addition, it is important to note that the Water Resources Management Plan is not the only area of Thames Water which is considering the adoption of nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles.	
2713	London Borough of Richmond Upon Thames	Has the plan taken account of the potential changes which may occur as a result of the impending Retained EU Law Bill and associated legislation, in particular the prospect of water quality standards being significantly reduced as a result of the changes to UK law in respect of EU directives (i.e. current Environment Agency standards based in EU directive). How does the plan take account of the Water Framework Directive (Water Environment (Water Framework Directive) (England and Wales) Regulations 2017) and the impact on environmental and water quality standards. Currently there are issues across the borough in respect of the ecological standard achieved, with the River Thames (upstream of Teddington) classified as having 'poor' ecological status. Under the WFD, any deterioration of water bodies (groundwater and surface waters) needs to be prevented, and 'good status' or 'good ecological potential' should be achieved by 2027. How will the proposals put forward attain this standard?	In preparing our draft and revised draft WRMP24 we have had regard to current environmental legislation and best practice, engaging with our environmental regulators throughout the process. Section 9 of our revised draft WRMP24 provides information on the various environmental assessments that have been undertaken to inform the development of the plan.. Appendix D of our revised draft WRMP24 (Water Framework Directive Report) sets out how our revised draft WRMP24 complies with the Water Framework Directive.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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2713	London Borough of Richmond Upon Thames	The partnership encourages the reduction of abstractions which will sustain low-flows in summer drought conditions. However, we urge Thames Water to provide more evidence on the effects that reducing abstractions will have on baseline groundwater levels and base-flow of rivers and streams. Further, we question how the increase of abstractions from the Severn catchment to support the Thames Water catchment will lead to an overall reduction in abstractions. This should be clarified.	We note your comments in support of proposals to reduce unsustainable abstraction. The National Framework and Water Resource Planning Guideline set out the approach that we are required to follow in defining an environmental destination, which is what has been included in both the draft South East plan and our draft WRMP24. As part of the public consultation on our draft WRMP24, the EA asked us to advance a number of the abstraction reductions to ensure these could be achieved by 2050, which we have complied with for our revised draft WRMP24. For each reduction in abstraction that we make we undertake comprehensive investigations in advance to determine the benefit before advancing with a scheme. Due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050, the additional water that this will save means that the Severn Thames Transfer (STT) is no longer required in our preferred programme. Desalination and water recycling are more regularly selected post-2050. The STT (via pipeline) does feature if SESRO is excluded and in some cases alongside SESRO if the supply demand challenge on the plan is increased. As such, our revised draft WRMP24 supports the continuation of STT investigations within the SRO process. The increase in abstraction from the Severn catchment, if it is taken forward, would only be undertaken in combination with the redirection of the Lake Vrnwy abstractions that are currently used to supply Liverpool with this source replaced by a sustainable source that is available to United Utilities.	Since our draft WRMP further guidance has been received from the Environment Agency, Ofwat and Defra that sets a clear policy pathway to 110 l/h/d by 2050, with an interim target of 122 l/h/d by 2037/38, and new targets for non household customers too. We will aim to achieve these new household and non-household targets in our revised draft plan through some improvement in our reductions and further government led reductions. We made it clear in our draft WRMP that further customer reductions were challenging from the analysis carried out to date. The requirement to plan on the basis of achievement of the

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				110 l/h/d target has reduced the long-term need for water resources across the WRSE region and as such the STT is no longer selected in 2050. The STT remains an important part of our plan, as a backup to SESRO and as an option which may be required should the PCC target not be achieved. We have revised our programme appraisal between dWRMP and rdWRMP, due to changes in the water resources planning guideline and due to comments on our draft plan from regulators and stakeholders. Revised appraisal is documented in Sections 10 and 11 of our rdWRMP24.

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2713	London Borough of Richmond Upon Thames	More clarity is required on how the planning authority will be determined for the Teddington Extraction scheme, and how/whether CPO powers will be required. Has an impact assessment considered what the impact would be for landowners on the riverbank and supporting areas, and the noise levels of the extraction unit when operational. There is limited consideration in the plan of the importance of good water management including engagement on water usage with residents, communities, businesses and other key stakeholders. There is a need for continued open engagement from Thames Water with local authorities, as well as residents, communities and businesses. We request that further Thames Water carries out further consultation and engagement with the community on local water usage, management and storage issues that are highlighted in the consultation responses, especially around reducing surface water flooding and using rainwater for nonpotable purposes. We also request that the Council is consulted and engaged as a key stakeholder within this process. Some of the figures and maps use very similar colours which is not accessible for colourblind readers.	We have responded to each of your points below. Scheme impacts and consenting: Both protecting and improving the ecological health and water quality of our streams and rivers is central to our Water Resource Management Plan (WRMP). We are working closely with the Environment Agency, Natural England, the Drinking Water Inspectorate and Port of London Authority as we develop our proposals. This includes assessing a range of factors including water level, velocity and water quality as well as ecology and biodiversity surveys, focusing on the river and the riverbank. The assessments completed so far have shown that there are some minor impacts, but these are not significant and can be addressed without causing any environmental harm. Following the assessments so far, we have reduced the scheme size to ensure we protect the environment. We will do more detailed assessments through 2023 and 2024, including studies on other issues such as noise, air quality and landscape. As part of that process we will be seeking a Scoping Opinion which will inform the Environmental Impact Assessment (EIA) and technical studies that will be needed to complete an EIA and wider technical reporting of the scheme. When completed and submitted for planning consent the scheme and its EIA will be scrutinised by all relevant local planning authorities in whose areas the scheme is to be located, the Environment Agency, other regulators, stakeholders and the local community. With regards to the decision making process work is continuing to establish the relationship between scheme, Thames Water's Water Resources Management Plan, and Government guidance in respect of planning for water infrastructure. The scheme does not automatically qualify as one for which a Development Consent Order must be obtained yet it does share many of the characteristics set out in the Government's guidance on planning for such projects. Further	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			certainty on this matter is anticipated in late 2023 or early 2024. It is also recognised that once the sites for development of the scheme have been identified and assessed the scheme will lead to the permanent development of some areas of land, and the need for permanent rights of access on others. As part of the process of site identification and assessment Thames Water will explore the opportunities for use and acquisition with all affected landowners once it is understood where the project could be located. In respect of promoting the efficient use of water, we're working with all our customers to encourage them to use water wisely. We've installed almost 700,000 smart water meters so far, and over 50% of our household customers now have a water meter. Our work has shown that having a meter can help each customer's use around 13% less water. We are also delivering the industry's largest programme of NHH water efficiency visits, Smarter Business Visits, helping our NHH customers to repair leaks and reduce their demand for water. Water efficiency and wider demand reduction are a fundamental part of our long-term water strategy. We welcome the opportunity to work with local authorities to promote these messages in local communities. We are committed to work openly and transparently with all stakeholders and have appointed a dedicated Engagement Manager for the Teddington Direct River Abstraction scheme to ensure effective engagement in the local community and with the local authorities. We note your feedback regarding accessibility, and work to ensure we meet accessibility guidelines, and will be cognisant of your point for future materials.	

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2713	London Borough of Richmond Upon Thames	Thank you for publishing Thames Water's draft Water Resources Management Plan and for inviting consultation responses to it. We welcome the engagement in the process so far with the public and with London Borough of Richmond upon Thames. - We request that further Thames Water carries out further consultation and engagement with the community on local water usage, management and storage issues that are highlighted in the consultation responses, especially around reducing surface water flooding and using rainwater for nonpotable purposes. We also request that the Council is consulted and engaged as a key stakeholder within this process.	Thank you for your comments which are noted and we will continue to engage with London Borough of Richmond, and other stakeholders including local communities as we progress components of the plan including the promotion of the efficient use of water. The WRMP does not cover surface water flooding but we will engage with colleagues to ensure our ongoing engagement covers all aspects of interest to the London Borough of Richmond.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2713	London Borough of Richmond Upon Thames	We have concerns over how the impact of storm overflow will be managed to prevent contamination in the proposed new pipes/outfall, which could seriously degrade the quality of the water at Teddington and further downstream. There also needs to be consideration of action on current sewage spills that can occur due to storm overflow and an appreciation of the difficulty in coping with surface water volumes currently.	We note the concerns raised, and can confirm that there is no route for raw or untreated sewage to be discharged in the River Thames, upstream of Teddington Weir. The Teddington Direct River Abstraction (DRA) scheme would use treated water that would normally be put into the Tideway, the tidal stretch of the River Thames downstream of Teddington Weir. The treated water would have an extra stage of treatment before being transferred via a new pipeline into the stretch of the River Thames, upstream of Teddington Weir. The Environment Agency would set the requirements for the quality of the water that would be put into the river to make sure the river is protected, and the environment is not damaged. In respect of the discharge of untreated sewage, we have said publicly that this is unacceptable and we are committed to tackling it. Between 2025 and 2030 we will be investing at least £750m to reduced discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at our sewage treatment works, including £97 million to upgrade Mogden Sewage Treatment Works. The Teddington DRA scheme is unrelated to storm overflows.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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2713	London Borough of Richmond Upon Thames	The partnership supports the aims of tackling leaks. Leaks exacerbate existing flooding and drainage issues within the Beverley Brook catchment. The ambition to reduce leaks by half by 2050 is not nearly ambitious enough and should be strengthened. Thames Water should prioritise leak reduction, which will aid in their ability to reduce abstractions. Quicker response times from ontheground officers would greatly reduce the volume of water lost, as some leaks are left discharging water for extended periods of time. This should be incorporated into the leakreduction strategy.	Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. We are committed to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. We have considered the feedback from customers and stakeholders to the consultation and have committed to reduce leakage by over 50% by 2050 (from 2017/18 levels), this is ambitious and operationally challenging and we will need to work with partners and the supply chain to develop new approaches and innovative techniques to achieve this scale of reduction.	Our demand management and leakage reduction proposals have been extended in our revised draft plan.
2713	London Borough of Richmond Upon Thames	In addition to these responses, I want to be clear that London Borough of Richmond upon Thames has serious concerns about the proposal put forward around the extraction and replacement of water from the River Thames at Teddington. These concerns are shared by our residents and communities, especially those living in Teddington who will be most impacted by these proposals. We have seen a huge community response to the proposals set out, which has shown the strength of connection Richmond residents feel to the River Thames and the depth of the concern at proposals which will potentially impact on the River Thames. These concerns are set out in more detail in our consultation responses but include: The negative impact on the ecology of the River Thames at Teddington and downstream and the river's resilience in being able to deal with these changes in a changing climate that is likely to put more stress on these ecosystems.	To date we have undertaken conceptual design studies and initial environmental and water quality assessments in line with the requirements set by our regulators, through RAPID. This level of information has allowed Thames Water to demonstrate that the Teddington DRA scheme is a viable and feasible scheme for providing a new source of raw water and therefore appropriate to be included within its latest Water Resources Management Plan (WRMP). We have confirmed that the scheme is part of our revised draft WRMP24 and further studies will be undertaken, furthermore as the scheme progresses through the planning process we will seek a Scoping Opinion from local authorities and complete a full Environmental Impact Assessment (EIA) alongside holding dedicated scheme consultation prior to submitting a planning application in several years time. We are still determining the planning route for a scheme and will be engaging closely with local authorities as we progress the project. We are in the process of setting up Planning Performance Agreements	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is

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		The level of extraction that will take place at Teddington and the quality of the water that is being used to replace the water being extracted. The process for determining planning authority and permissions for the scheme, and whether compulsory purchase order powers will be needed. The impact of the construction process on the local area and how this will be mitigated, as well as the carbon emissions associated with construction. The extent to which modelling of the proposals and future operational demands include future climate scenarios.	with each local authority that the scheme interacts with to allow for pre-planning advice. Thames Water has published on its website the environmental appraisal of the Teddington DRA scheme. Work to date has shown that there maybe some localised negative but largely temporary effects during construction. The risk of significant environmental effects during operation are low and where impacts are predicted mitigation measures are available to reduce the scale and magnitude. Our environmental impact assessment work is still at an early stage and further work is required over the next couple of years to refine assessments, the design and mitigation measures to ensure we develop a scheme that does not impact people and the environment. We are working closely with environmental regulators to define modelling scenarios so we can assess the scheme fully and would welcome London Borough of Richmond Upon Thames' input into the scope of future modelling exercises.	undertaken. The draft WRMP plan selected Teddington Direct River Abstraction (2030). During the 2022 drought the water available for abstraction from the lower River Thames was less than expected. We are carrying out work with the EA to further investigate the water available in the river and the observed shortfall from the 2022 drought event. For the revised draft WRMP we have chosen to delay the delivery of this option to 2033 to allow for this activity to be undertaken.
2713	London Borough of Richmond Upon Thames	We have significant concerns about the impact on the resilience of the river at Teddington, especially given that the scheme activation will be triggered by prolonged drought when river levels may be low and ecology at its most vulnerable. -	We note your concerns. We have published the assessments that have been completed to assess the feasibility of the scheme including initial water quality and environmental assessments. These are available on www/thameswaterco.uk/sro. Work to date shows the scheme poses a low risk to the environment and river users and as	We have deferred the delivery of Teddington DRA 75 Ml/d scheme to 2033. This will allow for more time for

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		What assessment has been carried out on the impact of the scheme on local biodiversity and wildlife – have differing levels of extraction/frequency of extraction been considered alongside potential length and frequency of future droughts? This will be important given the already changing climate, and anticipating future scenarios and impacts is vital to protect water levels and quality in the Thames, particularly at Teddington. We also ask for more information and detailed specifications on the quality of water being pumped back into the Thames. This has been highlighted as an area of concern for residents. Information on the specification of the water being put into the river at Teddington, as well as processes that will be used are needed to assuage these concerns. Is there suitable technology developed at this time to enable this process to be delivered safely in the timeframe of the project? - We have significant concerns about the impact of the proposals on leisure use of the river in the area close to the weir at Teddington, including swimming and boats. Therefore, we believe there is a requirement for further studies to be carried out and more detailed information provided on the exact impact on river ecology and human health impacts, given the high level of recreational use of the river at this location. Confirmation should be provided on when the majority of extraction will take place, as well as the criteria for the number of drought days to trigger this extraction approach, and whether this takes into account a changing climate that may result in more frequent drought days and more frequent extraction.	such the scheme should remain as one of our preferred schemes in our Water Resource Management Plan while further work is undertaken. We have also published further information for stakeholders and local communities in response to commonly asked questions on www.thames-wrmp.co.uk. We have completed further work on the strategic water resources plan, as part of WRSE, to take account of representations to the public consultation as well as new information and regulatory guidance, and can confirm that Teddington DRA remains selected in the revised draft SE regional plan and our revised draft WRMP24 as offering best value to customers and provides a viable new source of water during periods of drought. The scheme is planned to provide water from 2033. We will continue to work openly as further studies are progressed and share the output with interested stakeholders and the local community and will ensure these aspects are considered in the further work. We can confirm that we are committed to consider nature based solutions as part of our long term strategy for water supply and have provided a response in relation to nature Based solutions in a preceding response.	the solution development and assessment.

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		We have submitted two responses to the consultation, one from the Council and a joint response with partners from the Beverley Brook Flood and Coastal Innovation Resilience Project. In addition to these responses, I want to be clear that London Borough of Richmond upon Thames has serious concerns about the proposal put forward around the extraction and replacement of water from the River Thames at Teddington. These concerns are shared by our residents and communities, especially those living in Teddington who will be most impacted by these proposals. We have seen a huge community response to the proposals set out, which has shown the strength of connection Richmond residents feel to the River Thames and the depth of the concern at proposals which will potentially impact on the River Thames. As previously mentioned, the partnership actively encourages incorporating more nature based solutions into the Water Resource Management Plan to enable recharge of existing aquifers, prevent flooding, and hold water within the landscape to prevent drought and benefit biodiversity. These measures aid in combatting climate change which is a driver of increased water stress. Further, it would help meet many of the 'value criteria' set out in the plan. More funding should be allocated to supporting projects delivering these measures across the area and funding new projects identified by communities, local organisations and local authorities. The lack of ambition to support nature based solutions for the future sustainability of water resourcing is worrying considering the reliance of Thames Water on fresh, clean water, and the risks posed by climate change as well as flooding.		

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		he Beverley Brook FCRI project is exploring how nature based solutions and community cocreation can be used to improve flood resilience. The project will be collecting evidence on benefits achieved through these measures which can be shared with Thames Water. The EA is funding 25 of these projects, all of which explore innovative flood resilience measures that could have multiple benefits including increased water security. The projects will be creating evidence on the delivery of these various innovative methods and considers how they can be incorporated into both the WRMP and the DWMP.		
2717	Dacorum Borough Council	We appreciate the significant pressure on your water supply and infrastructure due to the steep rise in housing numbers in the South West Hertfordshire area.	Thank you for the acknowledgment of these pressures. We have included these within our plan to ensure that should they be delivered water will be available to serve their demands.	We have provided information in response to your comments, there are no changes as a result of your representation.
2717	Dacorum Borough Council	Dacorum Borough Council is broadly supportive of your draft WRMP on the three areas of demand reduction solutions, water supply solutions and improving catchment solutions. We strongly support the decision to stop abstracting from vulnerable chalk stream sources, of which Dacorum have several, thus safeguarding rare chalk stream habitats from environmental damage and depletion.	Thank you for your response. We note your support for the areas mentioned and for the highest level of environmental improvements.	No change has been made to the plan as a result of this response, as none are requested.
2717	Dacorum Borough Council	It is crucial that Thames Water continue to work closely and regularly engage with us, other local authorities, neighbouring water companies and third parties in order to deliver appropriate, sustainable and communityfocused solutions to water supply in Dacorum and South West Hertfordshire. We would like to be consulted on any infrastructure improvements affecting Dacorum river catchments, potential site allocations for new infrastructure early in the planning process and the future revisions to the WRMP.	Thank you for your comments, which are noted. We will continue to engage with Dacorum Borough Council, as well as other local authorities, neighbouring water companies and third parties to progress components of the WRMP.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		We will seek to keep you fully up to date as we make progress with establishing our future housing supply position and we look forward to continuing dialogue into the future.		
2717	Dacorum Borough Council	The Council supports the principles of the infrastructure proposals -the new reservoir in Oxfordshire (SESRO) and the Thames to Affinity transfer (T2AT). However, we request that more information is supplied as these schemes progress – particularly in relation to timescales and any appropriate mitigation measures that may be required.	Noted. Further information on the SESRO and T2AT will be published as the design and consultation on the scheme progresses.	We have provided information in response to your comments, there are no changes as a result of your representation.
2735	Swindon Borough Council	SBC has no further comments on the size of the proposed reservoir. Please see response to Question 3. The Council will continue to work closely with Thames Water on any impacts of the proposed route of the Severn Thames Transfer on the Borough (it is acknowledged three of the potential routes currently intersect a small area to the very north of the Borough only).	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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			no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
2735	Swindon Borough Council	The Council is supportive of enhanced water efficiency and education measures to help customers to actively reduce their demand for water. In January 2023 the Government launched the Environmental Improvement Plan, containing new potential water efficiency standards for new homes with a baseline of 105 l/p/d. In general terms planning authorities already expect limits of 125 litres of water per person per day on new developments as part of Building Regulations Part G. Local Planning Authorities (LPAs) can also ask for a lower limit of 110 litres as a planning condition. As a local planning authority, we intend to support the inclusion of the 105 l/p/d requirement as part of updated policy in our new Local Plan. The Draft WRMP assumes such measures will not be introduced until post 2040. Whilst the Council appreciates the uncertainty at this stage of exactly when these measures will be enacted, the Government's Environmental Improvement Plan suggests this will be within the next 10 years. Assumptions in the WRMP may therefore need to be amended to take this into account. The Council seeks to cooperate and maintain a good working relationship with Thames Water to provide accurate and up to date information with regards to anticipated growth in Swindon, as well as the timing and adoption of any new water	We look forward to continue working with Swindon Borough Council into the future and the provision of timely growth data will facilitate our planning to ensure the future water supply for your residents. We would be happy to engage with yourselves on these matters in more detail. The 2035 represents the latest dates at which these decisions can be made but we can reassure you that there will be annual reviews of both growth and also demand management as part of the formal annual review of our WRMP. Therefore should growth significantly change or demand management predictions not be achieved we will be able to make changes to our proposed plans prior to 2035. Prior to 2035 both the 2029 and 2034 WRMPs will be produced.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		efficiency policies as the new Local Plan progresses in order to help in better understanding potential demand for water going forward. Paragraph 11.141 goes on to state that: “In 2035 we will need to appraise the outcome from all of the investigations that we will undertake to determine the future licence reductions that will be necessary at our existing sources. At this point we will also need to assess what population growth has occurred and the success of our demand management schemes. If the OxCam growth corridor is to be put in place, or if our demand management has not been successful, then we will need to construct treatment and network assets in the SWOX WRZ to allow for use of water from SESRO [South East Strategic Reservoir Option, Abingdon] from 2040 onwards. We may decide that a transfer from the Henley WRZ, making use of sources that are already available, would be sufficient in a more moderate scenario, or in an extreme scenario we may need both of these sources for the SWOX WRZ.” Firstly, the Council have some concerns as the feasibility of the above timescales. The appraisal of options in 2035 as to whether demand management schemes have been successful, or as to what population growth has occurred, only allows for a fiveyear period for any additional treatment and network assets required to allow use of water from SESRO from 2040 onwards to be identified and put in place. Further clarity around this would be welcomed and the Council will continue to work closely alongside Thames Water to understand this matter and its implications for Borough’s water supply should the demand management reductions not deliver the reductions forecast. Since a large proportion of the demand reduction measures are outside of the direct control of Thames Water and rely on changes of consumer behaviour, the Council does have concerns about the strength of proposed approach in protecting the Borough’s water supplies. In light of this, it would be		

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		useful for data regarding the success of steps to support customers use water more wisely including the details of campaigns/their frequency and any measurable impacts on consumption/behaviour change so that the Council could have greater assurance in the proposed approach.		
2735	Swindon Borough Council	Swindon Borough Council is supportive of Thames Water's aims for the highest level of environmental improvements. It is not clear however that the proposed options are those that will deliver the highest levels of environmental improvements at present.	We thank Swindon Borough Council for their support in our aim to deliver the highest level of environmental improvement. Our plan that enables us to do so includes a wide range of options including demand management and resource development. Stakeholders have competing views on those options. In developing the plan we have considered alternatives and explained why we have made the decisions and support the preferred programme as our part of a wider regional plan for water resources.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
2735	Swindon Borough Council	As previously identified in our response to question 3, the Government's Environmental Improvement Plan 2023 contains new potential water efficiency standards for new homes with a baseline of 105 l/p/d. As a local planning authority, we intend to support the inclusion of this requirement as part of updated policy in our new Local Plan. The Draft WRMP assumes such measures will not be introduced until post 2040. Whilst the Council appreciates the uncertainty at this stage of exactly when these measures will be enacted, the Government's Environmental Improvement Plan suggests this will be within the next 10 years.	Thank you for your response. We have amended our demand management programmes and assumptions around government intervention to ensure that our WRMP is based on achievement of targets set out in the Environmental Improvement Plan. Rainwater harvesting has been considered as a demand reducing measure. We have offered waterbutts for garden usage for many years. Scaling up, the difficulty (as with greywater systems) is retrofitting to existing properties. We believe there are better opportunities to build the systems into new developments, particularly large ones, at the design stage and we lobby government to make this business as usual.	Our plan now achieves the 110 l/h/d PCC target

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		Assumptions in the WRMP may therefore need to be amended to take this into account. On water use management there may be opportunities for Thames Water to work more directly in partnerships with housebuilders and trade organisations on promoting infrastructure within schemes for greywater recycling and also retrofitting initiatives.		
2735	Swindon Borough Council	The Council is particularly keen to work with Thames Water (through the infrastructure delivery plan alongside the new Local Plan) to minimise any environmental risks to local residents and the wider natural environment through effective sewage infrastructure planning. A clear funded approach by Thames Water to resilience planning and building in resilience to new infrastructure delivery across the sewage infrastructure network is seen as a key priority, including Sewage Treatment Works. Sewage releases within the natural environment is a key concern and Thames Water needs to ensure that responding to biodiversity losses and supporting / maintaining ecologically healthy water courses is an overriding corporate priority and central to business investment decisions. Further jointwork also needs to be supported on local resident information to ensure that local communities are kept safe in relation to watercourses and related hazards. This forms part of ongoing work planning between the Council, Thames Water, the Environment Agency and other partners. The Council also welcomes further engagement on information (including GIS) and data to assist in Local Planning and other work areas. This again forms part of ongoing work planning	Thank you for your feedback. Between 2025 and 2030 we will be investing at least £750 million to reduce discharges of untreated sewage to sewers, and over £1 billion to improve treatment processes at our sewage treatment works. . At the beginning of the year we published an online map providing close to real-time information about storm discharges from all of our 468 permitted locations and this continues to be updated with information on improvements being made across our region. There are no quick fixes. Population growth will increase the strain on our sewage network and treatment centres. And because of climate change, the south east of England is experiencing heavier downpours, which can overwhelm some sewage treatment works. The scale of the challenge demands systemic reform with a shared undertaking from all stakeholders and we are keen to work in partnership with the Council on these matters.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2735	Swindon Borough Council	As identified in Thames Water's leakage performance data, (Our leakage performance | Performance | About us | Thames Water) 24% of the water supplied by Thames Water is lost through leakage. Whilst the Council does recognise some of the causes of leakage are unavoidable (e.g. climatic factors and leaks from private households), the Council considers that the targets outlined in the	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		WRMP for leakage reduction are fairly low (16% by 2030 and 50% by 2050), particularly in the short term. The Council considers that more could be done to replace pipes and identify leaks, with bolder plans for finding solutions and more ambitious targets set for reduction, although it is recognised that identifying the exact source of leaks can be challenging particularly in periods of extreme weather. Enhanced leakage reduction measures would reduce the requirement for the level of largescale supply options being proposed, with any associated identified environmental impacts. It would also reduce abstraction requirements in sensitive chalk streams (as identified in Part 2 of the Technical Report there are targets to reduce abstraction in such environments to 'sustainable levels' by 2050)	Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be	

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			felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Innovation We are always on the lookout for innovative technologies, particularly for the point at which they become commercially viable. Then we can update our assessments in future planning cycles. However, we cannot plan on the basis that a new technology will come along. The innovative options we currently have in the plan are based on current industry practices that have not yet been fully realised for Thames. These include: - Price Tariffs implemented to encourage customers to be more conscious of their water use. - Further advances in district metering our areas to aid with leakage reduction and, potentially, new pressure management. - Advances to current leakage control and mains replacement activities, to identify, locate, and fix/replace leaky pipes quicker. - Commercial Innovation will be focused on maximising the benefits of	

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			smart meter data to help identify innovative ways to reduce demand and help businesses save water and money on their bills. This will include continuous flow alerts and segmentation, as well as identification of discretionary water use opportunities. Chalk Stream In this draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes reducing the amount of water we take from sensitive rivers and waterways by over 500 Ml/d, targeting reductions in vulnerable catchments first. To deliver on this, we are working with the Environment Agency and our stakeholders such as Chalk Streams First. We are also commencing the installation of smart meters in homes and businesses in these sensitive catchment areas, further assisting efforts to reduce both customer demand and leakage.	
2743	National Farmers Union	Current plans focus on Public Water Supply (PWS) and work undertaken for the nonPWS sectors has been limited. This has limited the ability of the plan to fully understand the reflect these sectors and limits the multi sector approach that gives accurate predictions of water needs for the agriculture, food and drink sectors. The NFU supports demand management activities that will reduce the pressure on the water system. We ask for clarity on the involvement of the agriculture and horticulture sector in these options. Across these demand management activities the importance of water for food production must be recognised, the	The water resources management plan does not explicitly include non public water supplies as it is outside the scope of the WRMP and we do not have the data required in terms of abstractions or historical consumption as we do not provide this water. We do include agricultural use of the public water supply within our non-household demand forecasts for which more details can be found in Appendix G. Non PWS has formed part of the regional planning work by done WRSE. If the NFU believes there will be an increased reliance on the PWS to secure food production we would welcome direct contact with yourselves on how to deal with this. We would be happy to work with yourselves to ensure adequate provision is made for this vital sector.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		recent Government Food Strategy highlighted the importance of domestic food production, maintaining our productive capacity and growing more food in this country. The NFU acknowledges that the expansion of strategic water supply infrastructure is a vital component of improving longterm, multisector water management as a critical response to climate change, environmental protection, and population growth.		
2743	National Farmers Union	Habitat mitigation should be carried out to achieve 'no net loss' of biodiversity.	Thank you for your response. Within our plan we have considered how best to avoid and mitigate biodiversity loss, and have committed to achieving at least 10% net gain across our plan as required. We have provided further details on how we plan to achieve this via our BNG strategy for our plan, available within revised draft plan Appendix AA (Biodiversity Net Gain and Natural Capital) .	No change has been made to the plan as a result of this response, however changes relevant to this response (as it concerns BNG for the plan) have been made as part of planned work to develop our WRMP24. The change is to include a BNG strategy for our plan, available within revised draft plan Appendix AA (Biodiversity Net Gain and Natural Capital).
2743	National Farmers Union	As stated on page 11 "there are practical limitations to how quickly we can upgrade our infrastructure and introduce new sources of water" and therefore the single biggest driver for investment is reducing abstractions. While it acknowledges that there is a need to be careful	Thank you for your response. The proposals for abstraction reduction will only be delivered within the planning requirement for improved drought resilience, therefore these proposal will not result in greater frequency of use of drought permits or orders and so will not exert	We have provided information in response to your comments, there are no changes to the

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		about where and how quickly abstractions are reduced. The impact of this would be a need to impose drought orders and permits more frequently than currently committed to. The knock-on impact of this is pressure on existing over stretched resources within the Environment Agency, at a time then they could be dealing with drought and supporting other sectors. The NFU asks for a food risk assessment to be undertaken when restrictions are placed on abstraction and reduced water availability for the sector. A key question in our minds that must be addressed is, how do drought orders and permits further impact the restrictions already placed on the agriculture sector? Across these demand management activities the importance of water for food production must be recognised, the recent Government Food Strategy highlighted the importance of domestic food production, maintaining our productive capacity and growing more food in this country.	greater pressure on the agricultural sector. Further details about drought orders and drought permits can be found in our Drought Plan.	draft plan as a result of your representation.
2743	National Farmers Union	Current planning has also missed the opportunity to fully consider wider sector issues, e.g., abstraction restrictions (HoF's, section 57's etc) and wider abstraction reform.	Thank you for your response. The issues you raise are not a direct concern for TW's WMRP but are an issue for the Environment Agency as part of the wider sector issues.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
2743	National Farmers Union	The NFU supports the work to safeguard the local environment. In our view it should be of the highest priority for Thames Water to meet its responsibilities under the Water Framework Directive. We would like to see continued activity on protecting the water environment. Our	Thank you for your response and the priority NFU place on protecting the environment. We are keen to work more closely with NFU and other partners to plan secure and sustainable future water resources and I know NFU are now more involved with WRSE at a strategic planning approach, which is very welcome. There are also	We have provided information in response to your comments, there are no changes to the

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		members are very aware of the impacts of the water industry's activities on the water environment. Farmers are continually asked to improve and change practices in order to improve their environmental performance and reduce water impacts. We must all continue to work together at the catchment level to deliver continual improvements. It is also important that these joint improvements are communicated to local communities. There must be a coordinated and collaborative approach to protecting and enhancing the environment. Landowners and land managers can be key in providing catchment based and naturebased solutions and we urge Thames Water to engage the sector in conversations and discussions for future work to ensure all opportunities are explored at a multi sector level.	opportunities for closer working at a catchment level and we would be keen to explore this with NFU.	plan as a result of your representation.
2744	Network Rail Limited	There are a number of level crossings within the vicinity of the proposed South East Strategic Reservoir Option (SESRO) scheme, however we believe this will have no impact on the level crossings subject to the diversion of the PROW at Butterfly Lane. A Basis Asset Protection Agreement is also in place following engagement with Network Rail on the scheme. Below I give standard comments which should be considered for the water management plan and the reservoir option. SAFETY Any works on this land will need to be undertaken following engagement with Asset Protection to determine the interface with Network Rail assets, buried or otherwise and by entering into a Basis Asset	All noted. The SESRO project team would like to thank Network Rail for its valuable contributions and collaboration on the development of the SESRO options to date. We will continue to work in close collaboration with Network Rail's engineers and planners to ensure that proposals are developed in a mutually acceptable manner.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		Protection Agreement, if required, with a minimum of 3months notice before works start. Initially the outside party should contact assetprotectionwestern@networkrail.co.uk. DRAINAGE Soakaways / attenuation ponds / septic tanks etc, as a means of storm/surface water disposal must not be constructed near/within 5 metres of Network Rail's boundary or at any point which could adversely affect the stability of Network Rail's property/infrastructure. Storm/surface water must not be discharged onto Network Rail's property or into Network Rail's culverts or drains. -Network Rail's drainage system(s) are not to be compromised by any work(s). -Suitable drainage or other works must be provided and maintained by the Developer to prevent surface water flows or runoff onto Network Rail's property / infrastructure. Ground levels – if altered, to be such that water flows away from the railway. Drainage does not show up on Buried service checks. GROUND LEVELS The developers should be made aware that Network Rail needs to be consulted on any alterations to ground levels. -No excavations should be carried out near railway embankments, retaining walls or bridges. GROUND DISTURBANCE The works involve disturbing the ground on or adjacent to Network Rail's land it is likely/possible that the Network Rail and the utility		

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		companies have buried services in the area in which there is a need to excavate. Network Rail's ground disturbance regulations applies. The developer should seek specific advice from Network Rail on any significant raising or lowering of the levels of the site. EXCAVATIONS/EARTHWORKS All excavations / earthworks carried out in the vicinity of Network Rail's property / structures must be designed and executed such that no interference with the integrity of that property / structure can occur. -If temporary compounds are to be located adjacent to the operational railway, these should be included in a method statement for approval by Network Rail. -Prior to commencement of works, full details of excavations and earthworks to be carried out near the railway undertaker's boundary fence should be submitted for approval of the Local Planning Authority acting in consultation with the railway undertaker and the works shall only be carried out in accordance with the approved details. -Where development may affect the railway, consultation with the Asset Protection Engineer should be undertaken.		
2750	Buckinghamshire Country Council	Buckinghamshire Council welcomes the opportunity to comment on Thames Water draft Water Resource Management Plan 2024. The comments made today are at officer level. • Buckinghamshire Council is preparing a new Local Plan for Buckinghamshire1 for the period up to 2040. This is the first Local Plan for this geography, with previous Local Plans for the area covering the former districts of Aylesbury Vale, Chiltern, South Bucks and Wycombe.	Thank you for your representation to the public consultation on Thames Water's draft WRMP24. In relation to the population forecasts and growth assumptions we commissioned Edge Analytics to update the growth forecasts using local authority housing data for the revised draft WRMP24 and are keen to continue to engage to ensure we are planning using the latest growth figures.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		Both the legacy areas of Aylesbury Vale and Wycombe have recently adopted Local Plans supported by Infrastructure Delivery Plans (VALP IDP, VALP IDP Appendix A and Wycombe IDP). These documents identified the key infrastructure required to support development within the Aylesbury Vale and Wycombe in the period up to 2033, and how it will be delivered. The previous IDPs were based on an expectation that some 30,134 dwellings were going to be delivered in Aylesbury Vale (28,600 required plus a buffer) and 10,925 dwellings to be delivered in Wycombe during the period 2013-2033. These figures should be considered for infrastructure planning. The Local Plan for Buckinghamshire will replace existing local plans once adopted and will plan up to 2040 for additional growth. We want to keep having a dialogue with you in terms of understanding your population forecasts and growth assumptions, including sensitivity testing national changes such as those announced in the Planning White Paper and through the Levelling Up and Regeneration Bill. As the Local Plan for Buckinghamshire progresses, we will be keen to ensure that you factor in the latest growth figures in your plans. • If there are strategic options being considered in Buckinghamshire, or neighbouring authorities areas, or that could involve cross border issues in the future e.g. strategic options for a reservoir like the South East Strategic Reservoir Option(SESRO), we request early engagement to ensure this is included in our local plan at an early stage. As we embark on our Water Cycle Study and SFRA level 1 for the Local Plan, we also want to ensure that flood risk implications of the proposals for the catchments involved have been fully assessed. We would welcome a meeting in the spring to discuss these points, while continuing to engage with you in parallel on the WCS and SFRA level1. • We continue to support ambitious leakage reductions, both from a supply and flood risk management perspective. We know that leakages	The two strategic water resource options in our revised draft WRMP24 are a new abstraction in west London supported by water recycling in 2033 and a new reservoir (SESRO) in Oxfordshire in 2040, with new water transfers to enable sharing of water resources across the South East. We would be happy to arrange a meeting to discuss the revised draft WRMP24 and the schemes. In regard to tackling leakage and measures to reduce demand for water we have reviewed the representations received to this consultation and new policy requirements from government and have extended our proposals and in our revised draft WRMP24. Actions to tackle leakage and work with customers to reduce water demand will make up around 80% of the water shortfall by 2050. This scale of activity is very ambitious and has not been achieved previously. It will take concerted, collaborative activity by government, stakeholders and water companies and a transformation in how companies work with customers to help them reduce their water use. Moreover, it also relies on the government introducing new water-efficient policies earlier than originally proposed in our draft plan. The ability to achieve these ambitious demand reduction targets will greatly affect the resilience of our water supplies. We'll monitor progress so we can respond promptly. We note your commentary on the Local Nature Recovery Strategy Pilot – Buckinghamshire & Milton Keynes Natural Environment Partnership and would be keen to engage on this, noting catchment solutions are an area that we would like to have greater focus and plan to do further work on. We note your request in relation to the contact details and have made the change on our stakeholder database.	

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		contribute to increased run offs in urban areas. We do understand that this will need to be balanced with more strategic investments to replace the network. Having reviewed the regional policies proposals, and your company's proposals, and while we note your ambition of halving leakage figures by 2050, it is our view that your Per Capita Consumption policy needs to be more ambitious in the early part of the plan period, and specific, aligned with, as a minimum, the targets set in the Building Regulations (125 l/p/d; or 110 in an area of water stress). Note that both the Wycombe District Local Plan and the Vale of Aylesbury Local Plan have an adopted target of 110 litres per person per day which applies to all new development now. As we prepare future plans for Buckinghamshire under the new unitary authority, we will look to your evidence to continue to support ambitious targets. • We welcome the reduction of abstraction from groundwater supply as this protects the Chalk Aquifer. Where you may be considering groundwater schemes in the form of Managed Aquifer Recharge (MAR) or Aquifer Storage and Recovery (ASR), this should not be to the detriment of increasing flood risk from groundwater, now or in the future taking account of climate change; they should include opportunities for flood management betterment. All changes to groundwater abstraction should be modelled to understand changes in terms of flood risk impacts which can affect communities and the environment, now and in the future taking account of climate change, and these should be mitigated. • As you work towards embedding catchment / nature base solutions in your future plans, we are keen to see an intent to align with statutory Local Nature Recovery Strategies reflected in your plans now. You may be aware that Buckinghamshire Council produced a pilot in 2021/2022: Local Nature Recovery Strategy Pilot – Buckinghamshire & Milton Keynes Natural Environment Partnership (bucksmknep.co.uk). We will		

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		be developing a new LNRS in the next few months, following publication of national guidance in April, and are keen to engage with the water companies on this to ensure synergies in terms of priorities and schemes going forward. • We are keen to ensure that we are engaged at the appropriate times and through appropriate channels. To that effect, we ask that all consultations are notified to us by way of email, to planningpolicyteam.bc@buckinghamshire.gov.uk Please amend your consultation database accordingly.		
2757	Cotswold District Council	A particular area of interest, in addition to the reservoir we also note that water transfer from the River Severn (Severn to Thames Transfer (STT) across the District is also needed in the longer term (water available from 2050) due to higher cost and lead in times, with water moved from the River Severn to the River Thames either by a new pipeline, your preferred option, or alternatively by a combination of new pipeline and restoring the Cotswold canal. - The Council is supportive of a solution that promotes the reuse of the Cotswold canal. I attach the Council's previous response on this matter to the WSRE consultation (March 2022) for the benefit of new consultees. These comments remain extant. There are concerns that the TWdWRMP together with the DCO gateway process has identified its preferred solution and whilst assurances are offered at paragraph 3.19 of the Gateway 2 submission, it is clear that a piped solution is being actively pursued and the canal options have largely been dismissed as not offering best value. The Council asks Thames Water, Water Bodies and the government to take a strategic position when considering the transfer of water – it must be more than simply transferring water from A to B. The plan represents	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		millions if not billions of pounds of public and private investment over the next few decade and it is therefore imperative that we (you) squeeze every last drop of public gains and benefits from this investment. There are huge social, environment and economic gains to be had from reusing existing infrastructure. A point recognised by the government in its Living with Beauty report, where it highlights the opening and restoration of canals and waterways as a key priority in the pursuit of regreen our towns and cities.	consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
2757	Cotswold District Council	An adequate water supply is required to meet the demands of increasing numbers of households in the District and thus to support the delivery of the local plan.	We agree an adequate water supply is required for delivery of local plans. We have included these within our plan to ensure that should they be delivered water will be available to serve their demands.	We have provided information in response to your comments, there are no changes as a result of your representation.
2757	Cotswold District Council	Thames Water needs to provide greater assurances to the Council that the benefits are fully understood and have thoroughly costed; e.g. Tourism, Health and Wellbeing, decarbonising infrastructure, benefits of active travel corridors between rural settlements, economic benefits, biodiversity, nature recovery, enhancing cultural and links with the past (enhancing the sense of place) etc. The Cotswold Canals Trust and the Stroud Valleys Canal Company offer robust challenge to the costings presented. I support their lines of enquiry and their desire for greater clarity on the process. We look forward to seeing answers to their specific questions and points raised – especially in relation to the best value / costings process. I echo SVCC's comment that an executive summary report of the Options Appraisal Summary Report and its two technical annexes is needed. It is not	Thank you for your comments. We have collated the response in Appendix J - Response to consultation representations on STT.	Thank you for your comments. We have collated the response in Appendix J - Response to consultation representations on STT.

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		reasonable to expect members of the public to wade through c.300 pages of technical information.		
2757	Cotswold District Council	Overall we support your 'adaptive planning approach' taking into account population growth and climate change, planning for 9 possible futures and trigger points in time which may indicate a change of course.	Thank you for your comment, we are glad that you support our adaptive planning approach.	No changes - none requested
2757	Cotswold District Council	We support in principle your draft plan which seeks to apply the 'high' reduction scenario in order to provide the highest level of environmental improvement (out of your three abstraction reduction scenarios – high, medium and low) and your need to start developing new sources of water.	Thank you for your response supporting the proposed abstraction reductions in our WRMP.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
2757	Cotswold District Council	The Council wishes to be kept informed of any new evidence and any significant impacts that may arise from the proposal on the landscape, especially the Cotswold AONB and pipeline transfer, and local properties including heritage assets. Policy SP3 of the Local Plan aims to ensure that new developments help to enhance the canal and towpath for recreation, transport, biodiversity, the historic environment and do not prevent the longterm restoration of the canal.	Thank you for your comments. We will continue to engage with statutory consultees as well as interested stakeholders and local communities as we continue to develop our WRMP and the progress the measures proposed in the plan.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2757	Cotswold District Council	Our District WCS is anticipated to investigate proposals and evidence for residential development in the Local Plan which can demonstrate that a water efficiency standard of 110 litres per person per day (or lower) can be achieved. We note it is mentioned in Q2 that TW consider a higher target as more realistic for them at the moment e.g. using new water tariffs and smart meters. 'We've set out our plan for reducing	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Household water use and the national target	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		demand, with government interventions, to achieve 123 litres of water per person per day on average. This is above the government's national target…' However, in our recent Local Plan consultation (Issues and Options) your comments support a proposed Local Plan policy of 110 litres. Is this contradictory? We welcome working with TW in the future on such issues and support their commitment to reduce once there is less risk on supply 'Setting a toohigh goal and not achieving it would threaten the security of our water supply and put more pressure on the environment. It would also force us to develop alternative sources at short notice.' We note that increases in water demand are to be met by increases in water efficiency (e.g. reducing leaks and water use) and new water sources, in the shortterm by the development of Abingdon Reservoir, the South East Strategic Reservoir Option (SESRO) with water available from 2040.	Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	
2760	Gloucester City Council	That a more reliable water supply is required is not in question. The main issue is how that water supply can be assured and can we trust the organisation that is proposing the idea. And for the answer to the question of trust? I think that the company's performance over many years is plain to see.	We recognise that we need to improve our performance. In March 2021, we launched our eight-year turnaround plan and, with one year complete, we have made progress. We have always been clear it won't be quick or easy, however, the results of the first year are encouraging despite a challenging and changing environment. We all want to see significant improvements quickly but are determined to make the needed changes in a sustainable way to make a real, positive difference for our customers today and into the future.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
2760	Gloucester City Council	Even a cursory look at their proposals show that their figures just don't add up and they they are motivated by corporate greed on an epic scale. This is a company that by its own admission needs to "turn itself around" yet they are being trusted to put forward a proposal that would wreak untold devastation on the environment around where I live for centuries to come.	Thank you for taking the time to provide feedback to the public consultation on our draft WRMP. We note your dissatisfaction with Thames Water and the draft plan. We have a statutory duty to prepare a WRMP to ensure we can continue to provide a secure and sustainable water supply. We engaged with regulators, stakeholders and our customers throughout the development of the draft plan and have ensured the plan complies with legal requirements and the	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		It appears that the financial and commercial interests of Thames Water have been placed above the duties they have to the communities they purport to serve. When this plan was thrown out in 2010, they refused to listen to reason and decided that this plan should be retrieved from the shredder, dusted off, increased in size and reproposed. Please see this proposal for what it is: reckless moneygrabbing of the most extreme variety. This project has little to do with providing a sustainable water future for England more a convenient way of lining the pockets of Thames Water's shareholders and partners.	regulatory guidelines. We appreciate that some consultees do not like aspects of our draft plan but we do need to progress measures to ensure we can continue to provide a secure water supply for the next 50 years. We have considered all the feedback we receive to this consultation and have revised our draft plan in response to several issues raised, where we have not revised our plan we have explained why.	
2760	Gloucester City Council	The correct course of action should have been for them to realise that the best way for them to serve a modern 21st century England would be to fix the shocking levels of leakage that bedevils its poorly managed infrastructure. The fact is that if they fixed their leaks, the need for a reservoir would immediately disappear.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks.	

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2760	Gloucester City Council	I write to express my strong objection to the proposed reservoir undergoing evaluation for construction in my community -close to Abingdon. I have since discovered that the potential for something far worse than pollution is lurking around the corner for myself, my family and the tens of thousands of constituents you represent. The Abingdon Megavoir. Thames Water and the cronies it has managed to lure into following them are DESPERATE for this massive capital project to go ahead. They paint a picture of great need and position themselves as the saviour of water supplies for the most densely populated area of our country. -My only conclusion can be that this project – should it be approved – represents one of the gravest threats to the environment and communities in this area in modern times. There are far less damaging, cheaper and more effective proposals that need to be implemented before thousands of acres of greenbelt are drowned forever. They have skewed their projections to make it look like a reservoir is the only option. Siting a reservoir in the manner they have proposed would be an environmental disaster for this area. Eighty foot high walls enclosing an area that's larger than Heathrow containing 150 million tonnes of water pushing down on the water table is a recipe for disaster. As you will know, this area is already prone to flooding -and placing this much pressure on a flood plain would be a level of environmental vandalism of cataclysmic proportions. The wildlife in this area would suffer. The economy in the area would suffer. The inhabitants of this area would suffer. Whilst I totally understand that water is a precious and valuable commodity, wrecking	The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		thousands of acres of farmland in the name of corporate greed is not the answer. I truly believe that our children would be forever cursing their parents if such an evil project were to be given the goahead.	The SESRO options will result in areas of existing floodplain being removed. In line with prevailing legislation and best practice, this would be mitigated through the development of level-for-level floodplain compensation, as part of the reservoir proposals. This would be designed to ensure that the flood risk to areas upstream and downstream was not worsened by the SESRO proposals. All such work would need to be reviewed and agreed by the Environment Agency before consent for the scheme is allowed. Our initial findings at RAPID Gate 2 are that the scheme could result in a slight betterment to the flood flows passing downstream to Abingdon and negligible impacts on groundwater flooding. This will be subject to further modelling, appraisal and scrutiny as the design progresses. The environmental impacts of the proposals have been assessed as part of the Strategic Environmental Assessment (SEA) of the draft WRMP. This assessment allows an environmental 'metric' of positive benefits and negative impacts to be generated, which is used to enable comparison with other options when deriving the best value plan. The more detailed environmental appraisal, which has been used to inform the SEA, forms part of our Gate 2 submission to RAPID and Supporting Documents B1 to B7 provide details of the environmental appraisal of the SESRO options, all of which are available on Thames Water's website (https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions). Therefore, the potential environmental impacts have been taken into account in weighing up the pros and cons of the SESRO options compared to alternatives. We have started to explore how some of the most significant impacts might be managed and mitigated when the scheme is designed, as part of our Gate 2 submission to RAPID. For example, section 3.4 of our main report to RAPID (and figure 3.1) explain some of the key landscape issues and	

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			how we have taken these into account in deriving an indicative landscape master plan for the 150 Mm3 SESRO option. We will continue to develop our thinking on these issues, in close liaison with the local community as the design of the scheme develops. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved.	
2769	Port of London Authority	The PLA have attended a number of meetings with Thames Water to discuss the proposals contained within the consultation document, although these have dropped off recently and although the latest proposals are not seen as deleterious as those previously proposed. We would welcome further engagement with Thames Water to address these issues and offer practical mitigation measures for any ongoing remaining impacts.	We note your comments and we will ensure we re-engage with the Port of London Authority as we develop the WRMP and undertake further work to examine the proposed direct river abstraction at Teddington and other recycling schemes.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2769	Port of London Authority	It is required to maintain a minimum water height of 1.72m above ODN upstream of Richmond Lock and Weir. While the freshwater input to the tidal Thames is relatively small compared to the tidal discharge, fluvial flow is important in maintaining water levels at low tide in the upper reaches of the Tideway and regulating the saline intrusion, which in turn supports a complex physical and biological estuarine system, which is also home to the UK's largest port and busiest inland waterway for the movement of freight and passengers. The main freshwater input to the tidal Thames is from the non-tidal River Thames over Teddington Weir. In addition, the sewage treatment works at Mogden, Crossness and Beckton also provide a notable input to the tidal Thames. For many years the PLA have worked with Thames Water and the Environment Agency on the Lower Thames Operating Agreement, which manages the effect of abstraction on the river and its users to maintain a minimum flow at Teddington Weir to ensure compliance with statutory duties.	Work to date on all water recycling schemes has been based around the expectations and objectives set by RAPID and has focussed on preparing a concept design for schemes and undertaking an environmental appraisal to understand potential environmental risk. This level of information has allowed Thames Water to demonstrate that the Teddington DRA scheme is a viable and feasible scheme for providing a new source of raw water and therefore appropriate to be included within its latest Water Resources Management Plan (WRMP). Once the WRMP is finalised the scheme can progress through the planning process whereby Thames Water will seek a Scoping Opinion from local authorities and complete a full Environmental Impact Assessment (EIA) alongside holding dedicated scheme consultation prior to submitting a planning application in several years time. In our revised draft WRMP we will continue to progress the deveopment of the 75Ml/d Teddignton DRA option, and during this will	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan

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		Having considered the outline proposals contained in the consultation document, the principal areas of consideration for the PLA in relation to Thames Water's draft Water Resource Management Plan 24 (WRMP24) relate to the proposed new river abstraction (NRA) scheme at Teddington and how any changes to water levels or flow arising from the scheme may impact on the safety of navigation and its use, the river regime and its environment and ecology. We acknowledge that the most recent NRA scheme differs from that previously (WRMP19) proposed in this location and that the currently proposed scheme is capped at 100Ml/day rather than the 300Ml/day scheme previously proposed and that, together with the deletion of the Beckton re-use scheme, will mitigate the fundamental issues the PLA had with the previous scheme. Whilst, in broad terms, we would therefore envisage that the currently proposed scheme will have lesser impacts on the tidal River Thames than previously and notwithstanding that the PLA is purported, from the scheme FAQ's, to be content that there would not be a significant negative impact [on navigation or leisure use of the tideway] although we have no records of providing any such confirmation, further discussion and assessment is required for the PLA to arrive at that conclusion and, therefore, be content with the current proposals. These issues are as follows: - Reductions in water levels and flow potentially inhibiting the ability of the water-borne emergency services (London Fire Brigade, Metropolitan Police, RNLI) as well as the PLA's harbour service launches to respond to an emergency situation between Teddington and Putney. - A number of the commercial operations use the upper reaches of the tidal Thames for scheduled passenger services between Central	also continue to commuincate with all stakeholders and the community on their concerns. We will continue discussions with the PoLA on their concerns and endevaour to ensure all are adequately met.	while further work is undertaken. The draft WRMP plan selected Teddington Direct River Abstraction (2030). During the 2022 drought the water available for abstraction from the lower River Thames was less than expected. We are carrying out work with the EA to further investigate the water available in the river and the observed shortfall from the 2022 drought event. For the revised draft WRMP we have chosen to delay the delivery of this option to 2033 to allow for this activity to be undertaken.

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		London to Kew, Richmond and Hampton Court. - Lower water levels will impact on the ability of recreational users to use the upper tidal Thames and potentially increase risks and occurrence of incidents due to users occupying a smaller water area in the channel. - The need to maintain a level of 1.72m above ODN upstream of the Grade 2* Listed Richmond half-tide weir (constructed 1894) - Changes to sedimentation as a result of the change to the salinity gradient, leading to fine sediment being deposited particularly in the Tower Bridge to Greenwich area, where the change in salinity gradient would be greatest, potentially affecting navigable access to docks and creeks. - The changes in water quality, including water temperature and salinity, as well as the amount and velocity have the potential to affect the ecology of the river locally and further afield. Without the issues above being satisfied to the PLA's satisfaction, we must object to Thames Water's draft Water Resources Management Plan as it currently stands due to the potential effects on the PLA's ability to carry out its statutory duties.		
2776	Campaign to Protect Rural England	1. CPRE argues that future demand is exaggerated in the plan. -We believe a more realistic future requirement is half that projected. 2. The chosen population projection is the second largest of the 21 reported, suggesting an influx of at least one and a half million new people into the South East. -We urge that a much smaller number, such as that projected by the ONS 2018 principle projection be used. Pressures on water demand: The report identifies four pressures on water demand in the next 50	The Water Resources Planning Guidelines are clear on the importance of using Local Plans it in the development of population forecasts for WRMP purposes. In addition to local plans we have also utilised other projections including ONS projections. We will update our forecasts for our revised draft WRMP with the most recent data available. Thames do not produce growth forecasts and therefore any issues with projected growth would best be raised with either local authorities or ONS directly. The forecasts we have used are compliant with the	We have provided information in response to your comments, there are no changes as a result of your representation.

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		years: environmental improvement, climate change, population growth and increasing our drought resilience. -There is considerable uncertainty on the impact of all these pressures on future water needs and the report identifies nine possible scenarios. -The increased water need ranges considerably across these scenarios – from 259 million litres per day to 1182 million litres per day. -The headline figure is the 'reported pathway' at 1086 million litres per day – this has high population growth, high climate change and high environmental improvement. -It seems perverse that having identified a range of scenarios WRSE focus on one which is within a few percent of the highest, with very little justification. -We discuss the reasons we doubt the WRSE analysis of the individual demand pressures below. Population Projections WRSE and TW present 21 population projections for the TW and -southeast region (see VISCUS report, Population and Property Forecast, July 2020) . -The projected increases from 2020 to 2050 in population range from 120,000 to nearly 2.5 million. -The 'reported pathway', used in the subsequent plan development, uses one of the very highest projections, i.e. the housing plan, this has a population increase of 2.25 million (an increase of 23% on the 2020 figure). -We understand that the 'housing plan' is the guidance from the Environment Agency but it must be appreciated that its use poses a considerable risk of overestimating future demand and to base major funding and resource decisions on such flawed projections seems irresponsible. - The housing demand scenario is a sum of the individual housing growth projections of the local authorities. -These plans have been calibrated to achieve the Government target of 300,000 new houses a year – a target not achieved in the UK in the last 60 years. -We know from the experience of the local CPRE Branches that the local authority targets are nearly all aspirational and are unlikely to be achieved. -In fact,	Water Resource Planning guidelines and we consider them appropriate to have been used within our draft WRMP.	

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		recent announcements from the Department for Levelling Up, Housing and Communities suggest the 300,000 target is likely to be abandoned and some Local Authorities are stepping back from their high growth plans because they are proving to be undeliverable. A quick analysis of the Office of National Statistics (ONS) 2018 population projection shows that the 'natural' growth of the population (births minus deaths) becomes negative for the southeast of England in 2029. -Over the 25 year (2018 to 2043) period the overall natural change is in fact negative. -This part of the ONS projection is reasonably robust, the females likely to have children in the next 20 years are already born and there is a worldwide trend towards lower fertility rates in the last 50 years which is unlikely to be reversed. -The big uncertainties in all the projections are inward migration rates (both internal and international). -If the population of the Thames Water region are to increase by 2.25 million those people must come from overseas or from other regions of the UK. -Both movements would be contrary to current Government policies. -It is worth noting that moving millions of people from the north of England would have very serious social and economic consequences (and also reduce water demand in those regions). In conclusion it must be recognised that it is very likely that the reported pathway considerably overestimates future population growth. -It must also be recognised there are considerable uncertainties in population projections, arising from uncertain future migration patterns. -There are thus considerable dangers in assuming one of the highest population growth scenarios for water resource planning. -Although we recognise that choosing a lower growth scenario may go against guidance it is possible to put together robust arguments for such a decision. -The large uncertainties, exacerbated in the last few years by BREXIT, Covid and the economic slowdown, point to a need for adaptable and scalable		

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		solutions. Even taking the median of the population projections (although this still involves attracting over a -million people into the TW region) would halve the future demand due to population increase from 200 to 100 Ml/d. -We note much of the increased demand TW are anticipating is to supply Affinity and Southern Water, exactly the same argument apply to these regions – i.e. exaggerated and unrealistic population projections. CPRE supports the restoration of our internationally unique chalk streams and some reduction in groundwater extraction is needed. -We note that, as with the population increase, there is considerable uncertainty in the new water resource required to return the chalk streams to a pristine state, ranging from 520 Mlt/day to 1360 M Lt/day across the entire South East region. -We also note that the TW and WRSE preferred pathways choose the largest number, as with the population projection. -We also note WRSE acknowledge that: 'The investigations carried out by water companies over the next 10 years will provide the evidence base for the future reductions in abstraction'.		
2776	Campaign to Protect Rural England	The climate change requirement uses the highest emission scenario – following the recent climate talks we argue this is unrealistic and a medium scenario should be adopted. According to Ofwat, climate change impacts should be investigated for 'upper quartile' and 'lower quartile' effects. Upper quartile represents essentially no efforts to ameliorate Greenhouse gases. As we understand it the climate change requirement is based on the IPCC RCP8.5 scenario. -This is scenario is the highest emission scenario tested and it is now regarded as unrealistically high. -In fact, a recent article in the journal Nature (vol. 577, pages 618620, January 2020) recommends: 'Stop using the worstcase scenario for climate warming as the most likely outcome '.	Within our planning we have considered a wide range of climate change evidence. As described in Appendix U, we have undertaken extensive modelling based on scenarios other than RCP8.5 (we have considered RCP2.6, RCP4.5, RCP6.0 and RCP8.5) - the scenario initially considered RCP8.5 due to the importance of considering a coherent climate change scenario across the WRSE region. We have mapped the climate change impact pathways which we have adopted and have found that our 'high', 'medium' and 'low' scenarios represent approximately 75th, 50th, and 25th percentile trajectories respectively. While our preferred programme has adopted a pathway which follows a 'High' climate change trajectory, it is important to recognise that our	We have not made changes as a result of this response, for the reasons set out in our consideration

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		The last IPCC AR6 report the RCP8.5 scenario gives a mean global temperature increase of 4.4oC (with a range of 3.3 to 5.7oC). -The 2015 Paris agreement, signed by the UK Government, commits to a maximum temperature increase of 2oC (with an aspiration of 1.5oC). -The National Commitments made at the Glasgow COP26 suggest we are on track for a global heating of about 2.5oC, further illustrating that the high climate change scenario used is unrealistic. Thames Water take the highest climate change scenario as their 'reported' pathway. CPRE's view is to take the medium -leading to a halving in the deficit due to climate change. CPRE contends that it is perverse that the headline demand scenario used by Thames Water is within 5% of the very highest of the nine scenarios presented. -CPRE ask for a more honest assessment of the uncertainties in the demand forecasts and a target scenario closer to the average. We particularly urge the use of more realistic population projections and the need for a more holistic, adaptive and evidenced based plan to improve river quality across the region.	plan is adaptive, and we will be able to adopt a different investment programme in the future should we find that climate change projections in the future are lower than those in our preferred programme pathway. As is described in Appendix U, there appears to be a limited link between the emissions scenario and impact on our supplies. Rather, within the data from each emissions scenario, there is a wide range of uncertainty (as described in Appendix U, the difference in impact on London's deployable output between the 50th percentile of RCP2.6 and 50th percentile of RCP8.5 forecasts is around 20 Ml/d whereas the interquartile range of impacts from either RCP2.6 or RCP8.5 is of the order of 200 Ml/d). The Water Resources Planning Guideline requires that we consider a population growth forecast which is based on local authority plans. An expert consultancy has produced such a forecast on our behalf, alongside many others. While our preferred programme is based on a local authority plan-based demand forecast, we have also adopted an adaptive planning approach whereby we have considered a demand forecast based on ONS projections.	
2776	Campaign to Protect Rural England	Environmental Restoration: There are clearly many gaps in our knowledge about the best way to restore our chalk streams. -We would particularly like to highlight: 1. Uncertainties in the level of reductions in abstraction required to produce acceptable flows in the chalk streams. 2. Uncertainties in the amounts of additional water in the lower reaches of the streams which is then available for extraction following a reduction of groundwater pumping. -(We note that the 'Chalk Streams First' analysis suggest this is considerably higher than estimated by TW and WRSE.)	Thank you for your response. A significant driver in our WRMP24 is to improve the environment we are so heavily reliant on. In our draft and revised draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. We have linked the timing of our environmental destination scenarios with the time taken to investigate, design infrastructure solutions and	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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		3. To what extent additional pollution prevention interventions and catchment management (restricting agricultural and sewer outfalls and increasing recharge by land management) would be more effective in restoration. It is absolutely clear that we cannot wait 10 years to answer these questions before we embark on a programme of restoration. -So we strongly support the Chalk Streams First and the DEFRAsponsored 'Catchment Based Strategy' which recommends priority for streams where abstraction exceeds 10% of recharge (A10%R). -Such a strategy requires much lower resource requirements to regenerate the priority streams. -We would urge, as a matter of urgency, that work to investigate the best and costeffective strategies to restore our chalk streams is expanded (along with immediate action on the most vulnerable streams). -It is clear there is not a one size fits all solution and work needs to be done on a streambystream basis. We note that the recent Chalk Streams First report provides the first step in this process, and we believe further work should be based on this.	implement those solutions. Our consideration is that we should not apply a fractured approach to sustainability reductions where we accelerate sustainability reductions in certain locations, as this inhibits the ability to plan in a comprehensive manner to ascertain the optimum overall solution when considering new water resources and new infrastructure. Regarding points 1 and 3, the reductions included in our plan are based on the approach that should be taken in defining a regional environmental destination, which is set out by The National Framework for Water Resources and Water Resource Planning Guidelines. The guidance document, "Long term water resources environmental destination", states, "use the 2050 BAU scenario as the starting point to ensure you comply with current statutory and regulatory requirements in the future" and "use the enhanced scenario to identify where it may be necessary to provide enhanced protection to buffer from predicted climate change impacts". As such, our consideration is that adoption of the scenarios set out in the National Framework meets the requirements of guidance, and this is reflected in our plan. Regarding point 2, the issue of flow returns available for subsequent abstraction, our consideration (as elaborated on in the repsonse to Chalk Streams First (CSF)) is that the modelling undertaken to inform our WRMP is robust. The assumptions underlying the CSF and Affinity Water modelling studies are similar, but the events used in the assessment of DO gains by CSF are not representative of 1 in 500-year drought conditions (being based on historical events), and the CSF report indicates misunderstanding of the factors applied in our WRMP.	

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2776	Campaign to Protect Rural England	5. Thames Water should plan for the Government target of 110 Lt/day/person. This is challenging but achievable and requires concerted action by the Water Companies and Government. Leakage and consumption: For all the scenarios over half the 'solution' is achieved through leakage reduction and demand management and for the 'low' scenario this constitutes 78%. The TW plan will reduce leakage by 50% by 2050 and reduce personal water use from 146 to 121 litres per person per day. These targets are challenging, but CPRE asks for higher ambition. In terms of water use Thames Water should aim for a maximum of 110 litres per person a day, in line with Government policy (see, for example, the Environmental Improvement Plan 2023). All water companies should accelerate the installation of smart water meters and, as soon as possible, implement a progressive charging policy to penalise the high water users. Not all the 'heavy lifting' can or should be done by the companies and the Government has a considerable responsibility to help with public education and to update building regulations (the latter should ensure all new buildings, and renovations, are water efficient and contain rainwater harvesting and internal household water recycling systems). We particularly note this is not all about mean water use. Most of the 'new' water resource is only needed during drought conditions. Public awareness campaigns and social media have been shown to be remarkably successful in reducing water use at critical times. The Water Companies and Government need to work together to both standardise and refine this messaging (for example start mediaannounced public warnings to start saving water much earlier, when the hydrological situation clearly points towards an impending	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Government-led water use reduction policies In addition to the actions we can take, the government is planning to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		drought scenario). We also note from information from the recent Thames Water Resources Forum 31st January presentation that the mean water use is deceptive. In fact, many households achieve the 110 L/P/Day (the mode is 115 l/P/day) but there are outliers of very high use. We urge either progressive charging coupled with help to the high users to reduce their demands.	government will take future action are included in our forecasts. Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs. Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	

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2776	Campaign to Protect Rural England	We suggest urgent and rapid action is taken to reduce abstractions affecting the most at risk chalk streams. -We question the very large water resource requirements suggested by the WRSE, who plan a 'one size fits all' approach. -Research is urgently needed to identify which headwater catchments will most benefit from reduction in water extraction. The TW plan focuses wholly on water extraction but pollution (sewage and agricultural) is a bigger factor for the lower reaches of the rivers. -Resources may be better redirected from supply of new water infrastructure to Sewage Treatment and ameliorating agricultural pollution. We note that various environmental and angling pressure groups are also saying this, for example here: https://chalkstreams.org/2023/02/13/chalkstreamsfirstresponsetothewrsedraftregionalplanconsultation/. These organisations are also concerned that huge, planned expenditure (£9 billion) on replacement sources for unnecessary abstraction reductions will limit the money available for cleaning up rivers by stopping sewer overflows and improving sewage treatment. Given the very large uncertainties in the future demand projections we argue any new sources of water should be adaptable, scalable and have low environmental Impact. -We therefore recommend that water transfers and recycling schemes be given highest priority. The SESRO scheme is not adaptable or scalable and has an obvious high environmental impact and we suggest it be given low priority. Decarbonisation of the electricity grid may make desalination plants more attractive in the future. -These should not be rejected at this stage, although should be restricted to brownfield sites and subject to rigorous environmental assessment. All scenarios need some 'new' sources of water. -These include river	A significant driver in our dWRMP24 is to improve the environment we are so heavily reliant on. Over the past 25 years, we've reduced the amount of water we take from the environment by 134 Ml/d and taken steps to protect some of our most sensitive rivers but we need to do more to protect the environment. In this draft plan we have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. Our changing climate, the need to protect the environment alongside accommodating future growth are all putting pressure on our water resources. Without action, we could face a substantial shortfall of around one billion litres of water a day in the next 50 years. Working as part of Water Resources South East (WRSE) we developed 9 future pathways which reflect specific forecasts for growth, climate change and environmental destination. These pathways set out how much water is required over the planning period for each water resource zone and are all as equally likley of happening in the modelling undertaken. Thames, along with the sector, has made a commitment to cut the total duration of overflows by 2030 by 50% and 80% in most sensitive catchments. We regard all discharges of untreated sewage as unacceptable and will work with the government, Ofwat and the Environment Agency to accelerate work to stop them being necessary and are determined to be transparent. We are absolutely committed to protecting and enhancing our rivers and the communities who love them, and we want to make these discharges of diluted sewage unnecessary as quickly as possible. Between 2025 and 2030 we will be investing at least £750m to reduced discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at	

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		transfers, new reservoirs, water recycling, desalination and others. -It is interesting that for the 'low' pathway the three suggested reservoirs provide only 1% of the new demand. -Given the large uncertainties in future water demand, outlined above, we fully endorse the need for adaptive and smart solutions. -All solutions should be scalable, proportionate and minimise environmental damage. - CPRE supports the various river basin transfer schemes. -The Grand Union Canal transfer can provide very quickly water needed to reduce extraction along the Chilterns and thus allow the remediation of the Chiltern Chalk streams in the next few years. -Similarly, we support the development of the SevernThames transfer. -This scheme is scalable, adaptable and causes minimal environmental damage. - We understand it could be operational by the early 2030s, thus providing water quickly for improved resilience and river improvements. -We do understand that pumping across the Cotswolds has a carbon cost but in fact this goes away if the Government target of decarbonising the electrical grid by 2035 is achieved. We note that the 'operational carbon cost' quoted by WRSE assumes constant pumping of high flow in the scheme, whereas the likelihood (from the RAPID Gate 2 documents for the SevernThames transfer scheme) is around 25% averaged over the period to 2075, thus reducing the costs. CPRE also support the various recycling schemes. -These are also scalable, adaptable and have low environmental impacts. -The Teddington river abstraction (supported by Mogdon recycling) should be implemented as soon as possible. -We understand this could be easily expanded in the future from the current plans for 67 Ml/d to 100 Ml/d, and even further if the water temperature issues could be resolved (water heat pumps to supply district heating schemes along the pipeline is a rapidly developing technology and should be investigated).	our sewage treatment works. Our plan for the following five years, which is currently being prepared, will include further major improvements towards our goal of eliminating untreated discharges. Our plans for reducing and removing sewage outflow to rivers (as well as other wastewater-related topics) are available in the Drainage and Wastewater Management Plan (DWMP), the sister-plan to the WRMP for the waste-side of the business. We have looked at a wide range of solutions to reduce the shortfall between the amount of water we have and the amount we need, including reducing demand, creating new sources of water and improving catchment areas. Working with Water Resources South East (WRSE), an alliance of the six water companies across the South East, we've been exploring new ways to increase water supply, including desalination plants, water recycling systems, new reservoirs, and national and regional transfers of water. We've assessed every option for cost, water output, the time to deliver the scheme, potential impact on the environment, carbon footprint, and futureproofing. Our plan includes some small schemes e.g. groundwater schemes and small water transfers as well as new strategic schemes that will serve water to London and the Thames Valley as well as across the SE region. The strategic schemes in TW's revised draft WRMP24 are: • A new river abstraction at Teddington supported by water recycling – completion date in the early 2030s (67 Ml/d) • A new reservoir – the South East Strategic Reservoir Option (SESRO) – completion date 2040 (271 Ml/d). This would also supply water to Affinity Water and Southern Water. The Severn Thames Transfer is no longer requied in our plan. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess	

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		CPRE remains very critical of the priority given to the SESRO reservoir. -This development would not be scalable or adaptable and has considerable environmental damages and risks. -The reservoir would take a minimum of 15 years (until 2040 at the earliest) to build and fill. -As a large scheme it can only realistically be built in a single stage. It brings no new water into the Thames Valley and, so, is vulnerable to multiyear droughts (without the addition of the Severn Transfer scheme). It is also obvious that the environmental damage during the construction phase would be huge, not just on the 10 square kilometre site but in the surrounding area and access roads. -Even beyond the construction phase any restoration of habitat (or even the creation of new habitat) will take decades (for, for example, for trees to grow and insect populations to recover). We find it difficult to believe that the environmental impact would be anything but severe. In addition, we are doubtful about the weight given to the amenity advantages in the natural capital assessment – will, for example, the public and water enthusiasts be given full access given the possible security risks? -If the SESRO project is to be progressed at any time in the future we urge that a full, transparent and independent study of the amenity, environmental and greenhouse gas emission consequences be undertaken. CPRE believes that a portfolio of smaller distributed reservoirs combined with recycling schemes could provide a realistic adaptable solution. Desalination plants in the Thames Estuary and along the south coast should not be completely rejected but CPRE would urge they be restricted to brownfield sites and subject to a rigorous environmental assessment. -New technologies and the decarbonisation of the electricity grid may make these more costeffective options in the coming decade. -They can be scalable and adaptable. -We would particularly point to the previously proposed Fawley desalination plant. -The Fawley oil refinery is very likely to become redundant as the UK	winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRSE Regional Plan requires the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. Our work has shown that a combination of options are needed, but a new reservoir is a better first option, ahead of a transfer from the River Severn, as it is: • less expensive overall, with lower running costs; • is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed	

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		decarbonises (with for example, the vast majority of cars being electric by the 2030s). -There seems considerable opportunity to repurpose part of the site (clearly focusing on the brownfield area). -Again, as with SESRO, we would urge that a full, transparent and independent study of the environmental and greenhouse gas emission consequences be undertaken. To conclude, CPRE believes that the priorities for new water sources outlined by WRSE should reassigned in the light of the considerable uncertainties and likely overestimations of the demand forecasts. -The uncertainties bring into stark focus the importance of an adaptable plan. -We contend above that water transfers, recycling and desalination provide a route to real adaptability and scalability to equip us well for an uncertain future.	with regulators before any consent was approved. Our reservoir feasibility report assessed 55 potential sies for constructing a new reservoir and the 3 best performing sites were included in our options for programme appraisal. More details of the feasibility assessment can be found in the Reservoirs Feasibility Report Addendum which is included in the Consultation Document Library on our website (https://thames-wrmp.co.uk/document-library/). The Abingdon reservoir (SESRO) is consistently selected in the Best Value Plan but not the other 2 reservoir locations. Possible desalination plants have been identified at Beckton and Crossness. In 'High' environmental destination scenarios, by 2050, there is a significant need for water in our Swindon and Oxfordshire (SWOX), Kennet Valley and Slough, Wycombe and Aylesbury (SWA) WRZs, as well as a need for an import into Southern Water's Western Area from the Thames catchment. This means that effluent reuse or desalination options in London alone will not meet regional resource needs, and so the delivery of the STT or SESRO will be required, with both potentially being needed. Under the adaptive plan Beckton desalination plant (150 Ml/d) is selected to be delivered in 2050 under Pathway 1 and Crossness desalination plant (50Ml/d) is selected in 2061. Further information on the selected options can be found in Section 11 of the Plan. As a business we're committed to playing our part to tackle climate change. We're working towards net zero carbon by 2030 for our operations and to become a carbon negative business by 2040. Carbon is an important factor being considered in the development of the draft WRMP and for all new infrastructure we would look to use existing low carbon technologies while looking at how emerging technologies and innovation could reduce the carbon budget on the project. Assessments of both embodied (construction) carbon and operational	

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			carbon have been made for all options on the Constrained List. The assessments have followed the WRSE/ACWG Cost Consistency Methodology (https://www.wrse.org.uk/media/u4gf5pye/acwg-cost-consistency-methodology.pdf) and the carbon information is included in the Data Tables that are published on our website. Carbon from the use of power was one of the factors considered during programme appraisal to select options for the Best Value Plan. The assessment of carbon from electricity took account of the HM Treasury Green Book forecast decarbonation of grid power. The WRSE assessment of options takes account of expected utilisation and is not based on continuous operation at maximum output.	
2779	Canal & River Trust	Water transfers along our network can also support several other business sectors including the energy sector, agricultural sector, housing sector, construction sector, pharmaceutical sector and manufacturing sector. The water transfers can also support low carbon energy for heating and cooling. The Trust have been working closely with Thames Water for many years managing the existing raw water transfers used for public water supply via the River Lea Navigation and the Kennet & Avon Canal. The Trust believe that Thames Water have missed the opportunity to explore further the benefits that other, potential canal transfers can provide. 1. Oxford Canal raw water transfer: In their WRMP19, Thames Water had selected the Oxford Canal 15Ml/d raw water transfer scheme in their final preferred plan for delivery of deployable output by 2031. However, there is now discrepancy in the Thames Water dWRMP24 with Section 11, paragraph 11.77, stating that the Oxford Canal transfer is selected in the preferred plan (with two separate option variants), but the scheme does not appear in their WRMP24 data tables as a preferred scheme. The Trust have highlighted to Thames Water that the previously	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer. We have included the Oxford Canal option in 2040 for our revised draft WRMP

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		evaluated WRMP19 options for this scheme were costed on 50Ml/d transfer rates, and therefore with further evaluation (by Thames Water) were expecting to see the Oxford Canal scheme selected as one of the best value supply options to meet the shortterm planning problem. We would welcome the opportunity to discuss this further with Thames Water and understand the assumptions made around the best value metrics, particularly in comparison to other schemes. 2. Severn to Thames Transfer: Thames Water have stated in their draft plan that the potential transfer of water (now up to 500Ml/d) from the River Severn to the River Thames via a restored Cotswold Canal is too costly in comparison to a pipeline. Again, we would recommend that greater transparency around these assumptions are published and the comparative best value metrics are evidenced further to ensure the draft plan is driving the correct investment decisions. 3. Mendips Quarry Source: In our representation to the WRSE Emerging Plan in March 2022, the Trust highlighted that we were working with the West Country Water Resources regional group on a potential transfer opportunity for moving water from the South West to the WRSE region, using existing Canal & River Trust infrastructure. Whilst we understand that the West Country Water Resources regional group have been assessing the viability and quantum of the source water, we were surprised to see no reference of this potential scheme in the Thames Water draft plan and would welcome further discussions around this. We look forward to continuing working closely with Thames Water to develop these schemes further.	Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer. We have selected the Oxford Canal (Dukes Cut) raw water transfer scheme in 2040 for the revised draft WRMP. We look forward to working with CRT on the development and investigation of the option. The Mendips Quarry option is being developed by Wessex Water and South West Water as part of the RAPID process as a potential new resource for either WCWR, or WRSE. The regional reconciliation process has ruled out this transfer in all scenarios for WRSE companies' use as the water is required to meet the West Country regional demands. It is therefore rejected as an option to supply Thames Water for the revised draft WRMP.	

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2786	Cotswold Canal Trust	I wish to strongly support the option of using the Thames & Severn Canal as part of the solution to increase future potable water supplies to the South East of England. Some of my career was involved with pollution control and water treatment solutions so I am reasonably familiar with the range of options being considered. However, the use of a restored canal to channel water from the River Severn to the River Thames appears to have many significant environmental and community wellbeing advantages over many, if not all, of the other ideas. I also imagine there could be worthwhile costsavings compared to pumping the water the complete distance between the 2 Rivers (both capital and operational costs -the latter probably related to the decreased height needed to pump, as well as the shorter distance, by using the Thames and Severn Canal's Sapperton Tunnel, being much lower than the Cotswold escarpment for a 100% pipeline route) I note the need for 'Best Value' options; I believe the use of the restored canal will tick all the boxes -financial, environmental and community wellbeing. I would be interested to see the reasoning if other schemes are considered to present better overall Best Value outcomes.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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2786	Cotswold Canal Trust	In the case of the SESRO, Thames Water have been talking about building a reservoir here for more than 40 years and have failed to do so largely due to well organised and well resourced opposition. It even failed at the 2010 public inquiry on Oxford so it seems naive to assume the same won't happen this time around. Conversely, the Cotswold Canals SevernThames Transfer (CCSTT) scheme has a high level of public support as evidenced by many previous rounds of WRMP consultations and WRSE's Best Value Emerging Plan consultation last year. This scheme is presented as an "alternative" option to the Deerhusrt Pipeline in the current Thames Water dWRMP. It can also probably be delivered about 8 years before the SESRO project, always assuming the latter can overcome the opposition. The Cotswold Canals Trust has also suggested a "hybrid" solution which sees the Cotswold Canals restored to deliver a massive "Best Value" element to the overall STT as well as additional water resources but with the main transfer using the Deerhust Pipeline in the form that Thames Water prefers. This could be a winwin and help reverse some of the rather blemished reputation that the water industry seems to be suffering from recently. For the sake of getting the additional water resources available in a timely fashion, either the CCSTT scheme should be implemented as soon as possible either in its entirety or in a phased manner and take the SESRO off the critical path or the Hybrid solution developed as a priorities alternative.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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2786	Cotswold Canal Trust	The costings associated with the pipeline and canal options omit the wellresearched financial value of restored canals to society and the local economy. The Inland Waterways Association report Waterways for Today (2022) helpfully summarises these. For instance £1 invested in canal towpaths generates £7 of health benefits. In 2011 DEFRA published economic benefits ranging from £175k per mile in rural areas to over £1,175k per mile in urban centres. Using the IWA report, the additional financial value of restoring the canal would be in the order of £800M over the WRSE cost/best value calculation timescale. The previous public consultation was notable for the political and public opposition to reservoir construction at Abingdon. There was strong public support for the Cotswold Canals transfer option. It therefore has none of the political and planning uncertainties of a traditional 'reservoir' option -we note a reservoir has been discussed for 40 years and has previously been rejected by the Planning Inspectorate. Given the plan's concern to achieve supply objectives and reduce risk, it is illogical to build the long lead time SESRO first and the shorter lead time STT scheme after it. The STT scheme should be delivered as soon as possible to reduce risk and potentially bring forward water abstraction reductions.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		We therefore ask that your company redrafts its water resource management plan to take account of the above matters and prioritises the Cotswold Canal transfer scheme as a realistic early programme element that delivers best value. In view of 4 above, it is therefore questionable whether the timescales associated with the preferred options set out in the draft plan are achievable in the proposed timeline. No such uncertainty exists in relation to the Cotswold Canal transfer. In view of this, it is not clear why this option is shown as post 2040. A pipeline offers virtually no natural capital benefit. Canal restoration does – published postrestoration evaluation reports have researched and quantified the economic, wellbeing and environmental benefits. Published research also shows biodiversity increases. Building reservoirs does not provide similar biodiversity gains. In the context of a net zero and carbon reduction agenda, elements that should be uppermost in future infrastructure decision making, the canal option scores highly.		
2786	Cotswold Canal Trust	We are concerned that your company's approach in terms of water resource planning and engineering solutions is sub optimal and not best value. As with the WRSE draft plan, we do not consider your draft plan to be 'best value'. It discounts sustainability, biodiversity and well being elements and, as such, is not a	Sustainability, biodiversity and well-being elements are included in our option and programme assessments. They are balanced with cost and resilience measures. We accept that people will look at the analysis (both regionally through WRSE and then explained from a TW-perspective in our WRMP) and draw alternative conclusions. What we can set out is our process and decision making.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and

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		proper analysis of the return on investment and value for money.		11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
2786	Cotswold Canal Trust	This is my personal appeal for the Thames Water dWRMP to be changed to reflect a much better outcome than the current draft. I understand that the the water companies draft WRMPs Plan have to be consistent with the WRSE Best Value Plan and the other way around but it looks to me that Thames Water's desire for comfort and familiarity is trumping any notion of Best Value or even the logical ordering of the preferred solutions.	Comfort and familiarity are no more factors in the BVP than risk-taking and novelty. The best value plan, as developed at regional level, is a balance of cost, environment and resilience factors. The adaptive ordering of solutions is primarily determined by the optimisation model and then sense checked through numerous sensitivity tests.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
2786	Cotswold Canal Trust	CCT understands that the TW dWRMP plan must be consistent with the WRSE Best Value Plan. It seems that there is a variance between the aspirations and methodology behind the WRSE Best Value Plan and the projects being advocated by Thames Water where the focus seems to still be least cost and convenience rather than on best overall value which needs to take social and Natural Capital benefits into account. The TW dWRMP promotes the early start of the construction of the	Thank you for your response. In the southeast we face a significant challenge of requiring an extra 1 billion litres of water per day over the next 15 years, and the WRMP24 looks at how best to solve this. Our plan is multi-faceted and includes fixing leaks and decreasing customers' demand, however this alone will not solve the deficit in water. New sources of water will provide resilient supplies more efficiently, for example in a drought scenario, and we consider that the 150Mm3 SESRO option is the best value option for provision of long-term resilient water supplies. If the 110 l/d/h PCC target is achieved, SESRO will provide sufficient resource for ensuring resilient supplies. As outlined in Section 11 or our rdWRMP, there is a surplus deployable output available in the 2040s from SESRO, which gives	Since our draft WRMP further guidance has been received from the Environment Agency, Ofwat and Defra that sets a clear policy pathway to 110 l/h/d by 2050, and 122 l/h/d by 2037/38, and new targets for NHH too. We will aim to achieve these new

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		SESRO option but it will take until 2040 before it comes into commission. Furthermore, this project has been proposed for probably more than 40 years now and has suffered from severe and well organised opposition. In 2010, a public inquiry rejected this option and recommended that a SevernThames Transfer (STT) should be considered instead and the Cotswold Canals Severn – Thames Transfer (CCSTT) option was highlighted for particular attention. Trying to implement the long lead time SESRO project first therefore exposed the supply of water to London and the South East to unnecessary risk and delay. That delay could also cause damage to the environment through the need to resort to drought orders and it will delay abstraction reductions to restore the environment through the delayed availability of the water resources necessary to implement them. A STT can be delivered about 8 years earlier than the SESRO (about 2033) and has about a 50% higher deployable output. It can also be phased in that the additional resources needed to supplement flows in the River Severn can be developed and commissioned in line with the water resources needed in London and the South East.	additional resilience and means we can adapt to possible scenarios of demand management underachievement without the need to make additional investments in new sources. We have completed the required assessments to understand the environmental impacts of our water resource schemes, in line with the Environment Agency's guidelines. We consider that the schemes we have included in our plan are environmentally resilient and appropriate to include in our viable options list.	household and non-household targets in our revised draft plan through some improvement in our reductions and further government led reductions. We made it clear in our draft WRMP that further customer reductions were challenging from the analysis carried out to date. The requirement to plan on the basis of achievement of the 110 l/h/d target has reduced the long-term need for water resources across the WRSE region and as such the STT is no longer selected in 2050. The STT remains an important part of our plan, as a backup to SESRO and as an option which may be required should the

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				PCC target not be achieved. We have revised our programme appraisal between dWRMP and rdWRMP, due to changes in the water resources planning guideline and due to comments on our draft plan from regulators and stakeholders. Revised appraisal is documented in Sections 10 and 11 of our rdWRMP24.
2796	Freshwater Habitats Trust	Clean water is a precious resource and as shown in the WRMP forecasts, demand is likely to increase with a growing population and increasingly erratic and unreliable distribution of rainfall geographically and temporally across the region. Scenarios of flipping from drought to flood in rapid succession are likely to pose increasing threats to water resources and the natural freshwater environment. Given this fact, reducing demand of a scare resource per person must form part of future water resource management in the region. Whilst acknowledging that Thames Water are best placed to determine realistic levels of demand amongst their customers, the OCP	Between draft and final plans the government have confirmed that the national target for PCC of 110 should be applied at company-level. As such our revised draft plan will hit this target. In regard to supply options, the water resource availability and forecasted demand for our region, confirms the need for both demand management and resource development to proceed in parallel. Please also note that the household usage target of 110l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role.	Our preferred plan includes a PCC target of 110 l/h/d and an ambition to reduce non household demand by 15%.

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		feels it is disappointing that Thames Water do not aspire to meet the Government target. The OCP would appreciate in the WRMP summary: i. a concise explanation of why the Thames region is different to the rest of the UK such that an unambitious target for reducing demand has been set ii. insight into why Thames Water think the Government has set the target too high iii. clarity on why this target only relates to individual customers and not business and industry. Are their separate targets for tackling these users? How much water does industry and business use as a proportion of total demand and how does Thames Water evaluate what is a reasonable demand from these sectors? The OCP supports the proposed demand measures. However, it considers that the demand reduction elements in the WRMP should be more ambitious, in particular tackling leakage of clean, treated water from the distribution network. Tackle water usage from business, industry and agriculture by working with these sectors to understand where opportunities for reducing demand exist and coinvesting with business in water efficiency measures. These sectors are perhaps better placed to pilot novel water tariffs to influence water usage than domestic customers. For example rewarding customers who reduce demand during periods of water	Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with wholesalers and retailers and have fed into the metering committee to help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8. Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH smart meter data on a live dashboard. The dashboard includes real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	

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		stress in return for earning future timelimited lower tariffs to be redeemed when supply is secure.		
2796	Freshwater Habitats Trust	Seeking high environmental improvement is welcomed, but it should not be achieved in the Thames Region if it then results in a net loss of biodiversity within or outside the region or a net increase in carbon emissions associated with construction and operation of major infrastructure. These are conceivable outcomes of major water supply solutions e.g. water transfer options from distant regions and major new water storage infrastructure. Substantially increasing financial support and advice to domestic customers to make better use of grey water, reducing flood risk and supporting biodiversity through rain gardens, water storage and increasing the permeability of urban areas on a catchment wide scale. Nature Based Solutions (NBS) could play a much larger role in increasing the landscape's ability to retain and supply water for longer and more resiliently than present, through for example enabling more wetlands to be created and restored and more floodplains to function naturally. NBS needs substantially more investment to achieve multiple goals of reducing flood risk, supporting groundwater recharge, buffering against drought and increasing biodiversity, yet would be an order of magnitude cheaper to deliver than a major new reservoir	Thank you for your response. We note your comments regarding our Environmental Destination scenarios. We are required to demonstrate how we will ensure resilient water supplies for our customers, in line with our duties under the Water Industry Act 1991. In determining the new resources required to ensure a resilient water supply, the Water Resources Planning Guideline states that we should plan to reduce our existing abstractions in line with further guidance which is set out in the National Framework for Water Resources and supplementary guidance. Our plan identifies the best value plan subject to the requirements of this guidance. While there exists a broad body of evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits. In AMP8 we will consider nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions. In addition, it is important to note that the Water Resources Management Plan is not the only area of Thames Water which is	No change has been made to the plan as a result of this response, however changes relevant to this response (as it concerns BNG for the plan) have been made as part of planned work to develop our WRMP24. The change is to include a BNG strategy for our plan, available within revised draft plan Appendix AA (Biodiversity Net Gain and Natural Capital).

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			considering the adoption of nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles. With regards to biodiversity net gain, we are continuing our work in this area within our WRMP24 with the development of our BNG strategy, a holistic delivery strategy to achieve ambitious net gain of at least 10% across our Non-SRO and SRO options as part of our plan. We can confirm that in developing this strategy, we have followed the BNG mitigation hierarchy as is best practice, and we have also looked at opportunities for strategic offsetting sites to deliver more effective net gain for multiple options. Our work since the draft plan in developing our strategy has provided more detail around our plans for mitigation and improvement. This strategy is available as part of our revised draft plan, within Appendix AA (Biodiversity Net Gain and Natural Capital report) and we will continue this work over future planning cycles. Regarding the suggestion to increase grey water use, rainwater harvesting has been considered as a demand reducing measure. We have previously offered water butts for garden usage and continue to promote rainwater capture within our multi-channel customer engagement activity. Scaling up, the difficulty is that retrofitting either	

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			rainwater and/or greywater system technologies into existing properties is extremely challenging and the fittings are not readily market available. We believe there are better opportunities to increase water use systems into new developments, particularly large ones, at the design stage. We have recently launched an industry first Environmental Incentive for developers, offering financial incentives to embed water efficiency fittings, water reuse technologies (RWH/GWR) and deliver 'water neutrality' for any new housing development in our supply area. This incentive model is being promoted to developers, planning authorities and regulators. We have also worked closely with Defra and other government areas, on efforts to strengthen future Building Regulations, so that water reuse technologies and requirements become business as usual.	
2796	Freshwater Habitats Trust	The Ock Catchment Partnership (OCP) welcomes the proposal to aim for the highest level of environmental improvements to sustain flows in groundwater fed springs, headwaters, streams and rivers, especially chalk streams. This will become increasingly important with more frequent and longer droughts due to climate destabilisation exerting pressure on water resources. The OCP supported the closure of the Childrey Warren Water Treatment Works, which ceased abstraction of 4.5 million l/day and has supported sustaining flows on the Letcombe Brook chalk stream. It is difficult to usefully comment on or offer proposals for locations for reductions in abstraction as it is unclear from the data provided in the WRMP and supporting documents what existing abstraction is currently being undertaken by Thames Water from the	Thank you for your support of environmental ambition in relation to abstraction reduction. Section 2 and 5 of our draft plan set out these reductions in more detail. The closure of Childrey Warren WTW is a good example of where this has been successful. We are looking at more nature based solutions within our portfolio of overall options but there are relatively limited opportunities for significant water resource options through catchment based solutions whereas they tend to have more benefits for water quality. Flood resilience is also considered through catchment solutions but again it is difficult to make a significant difference to the very high volumes of water dealt with in flooding through measures to alter recharge rates as they tend to be needed over very large areas to make a difference. However we take the opportunity to promote schemes such as SUDS wherever we can although this is more the remit of our DWMP that our WRMP. We are required to ensure there is no deterioration under WFD as a result of any scheme we promote and this is the case for schemes which have a low impact score of 1 - i.e. it is still the case the deterioration is not permitted under WFD.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		groundwater bodies in the Ock (the Vale of White Horse Chalk and the Shrivenham Corallian Water Body) and from the river network. ii. The apparent omission in the WRMP of current and future water abstraction from nonThames Water activities, for example for agriculture, power and industry licenced by the Environment Agency. This data needs to be factored into the approach to achieve the highest level of environmental improvements. Any new water sources derived from abstraction should be from downstream and not from the headwaters and groundwater aquifers. This would help ensure sufficient water flows in the shallow headwaters which are potentially more vulnerable to low flows than the downstream sections of larger main rivers. We also wish to see a far greater take-up of NBS to support water resource supply, reduce flood risk, tackle diffuse pollution and reverse the ecological collapse of wetland ecosystems in the Ock. This can only be achieved by increasing funding for NBS by an order of magnitude.		
2796	Freshwater Habitats Trust	Thames Water engage very early with the OCP on all these issues if they decide to progress this option for water supply.	We note your comments and we commit to continue to engage with interested stakeholders and local communities as we further develop the WRMP and progress some of the proposed schemes.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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2796	Freshwater Habitats Trust	the damage wrought on the ecology of the Ock's rivers by the continuing discharge of untreated sewage from storm overflows due to inadequate treatment capacity, population growth and the worsening impacts of climate destabilisation. Whilst the WRMP is focussed on water resources, a goal for the highest level of environmental improvements cannot be set without acknowledging that this will not be achieved by abstraction limits alone; substantial and sustained investment in sewage treatment infrastructure is also required. The WRMP needs to clarify how it will achieve its goals in tandem with the Drainage and Wastewater Management Plan and vice versa.	We note your feedback on this point and the need for integrated catchment planning to achieve protection and improvement of our watercourses and the environment. We regard all discharges of untreated sewage as unacceptable and will work with the government, Ofwat and the Environment Agency to accelerate work to stop them being necessary and are determined to be transparent. Thames Water, along with the whole water sector, has made a commitment to cut the total duration of overflows by 2030 by 50% and 80% in most sensitive catchments. Between 2025 and 2030 we will be investing at least £750m to reduce discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at our sewage treatment works. This includes increasing treatment and/or storage capacity at a number of sites. Our plan for the following five years, which is currently being prepared, will include further major improvements towards our goal of eliminating untreated discharges. The discharge of untreated sewage is unacceptable, and it's understandable that the public are demanding that we, and other water companies, improve our performance. Between 2025 and 2030 we will be investing at least £750m to reduced discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at our sewage treatment works. At the beginning of the year we published an online map providing close to real-time information about storm discharges from all of our 468 permitted locations and this continues to be updated with information on improvements being made across our region.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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2796	Freshwater Habitats Trust	Get ambitious with stopping leaks. Even if the 50% leakage reduction target is achieved by 2050, it still means that some 12% of all treated water is forecast to be lost to leaks. If these were resolved it would remove fully the requirement to find an extra 432 million litres/day by 2050 (12% of 3.6 billion litres/day). The amount of energy, embedded carbon and money involved in treating and transporting clean water to customers means that the absolute number one priority of the WRMP should be in minimising leakage. This needs to be of higher prominence and have the first call on investment funding before new water supply infrastructure. Demand reduction and leakage is treated as the most important priority for investment, minimising the amount of additional supply water required. OCP reiterates the need to take a stronger line on reducing leakage to the absolute minimum and working harder with the business, industry and agricultural sector to lower demand.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks. Non-Household (commercial) water use The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role. Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with wholesalers and retailers and have fed into the metering committee to	

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			help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8 (2029-30). Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH smart meter data on a live dashboard. The dashboard includes real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	
2796	Freshwater Habitats Trust	water recycling and water transfer are adopted first in the hierarchy of additional supplies. the adverse impacts of a new reservoir supplying not just the Thames region but other water supply areas would disproportionally affect the Ock's people, agriculture and biodiversity. This is more than just the provision of very substantial financial and	The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction	We have provided information in response to your comments, there are no changes as a result of your representation.

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		biodiversity compensation but also an issue of fairness and equity. The OCP understands there are records of breeding curlews within and around the area proposed for the reservoir within the last 10 years. This protected species is struggling in the Thames region and every successfully fledged chick is important. The OCP is very concerned about the loss of potential Curlew breeding territory associated with a reservoir. Detailed surveying for Curlew needs to be undertaken to identify their locations and breeding success and suitable mitigation provided. Freshwater Habitats Trust (FHT) are coordinating the Curlew Recovery Project in the Ock which aims to find and protect Curlew nests from ground predators using electric fencing and would wish to be engaged in any future work to understand how the area is used by Curlew.	and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The environmental impacts of the proposals have been assessed as part of the Strategic Environmental Assessment (SEA) of the draft WRMP. This assessment allows an environmental 'metric' of positive benefits and negative impacts to be generated, which is used to enable comparison with other options when deriving the best value plan. The more detailed environmental appraisal, which has been used to inform the SEA, forms part of our Gate 2 submission to RAPID and Supporting Documents B1 to B7 provide details of the environmental appraisal of the SESRO options, all of which are	

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			available on Thames Water's website (https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions). Therefore, the potential environmental impacts have been taken into account in weighing up the pros and cons of the SESRO options compared to alternatives. We have started to explore how some of the most significant impacts might be managed and mitigated when the scheme is designed, as part of our Gate 2 submission to RAPID. We will continue to develop our thinking on these issues, and thre collection of baseline field survey data to inform them, in close liaison with regulators, interest groups and the local community as the design of the scheme develops. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. We would be glad to keep the Freshwater Habitats Trust involved as we develop our understanding of the baseline environment of the SESRO site, including breeding bird surveys, and associated impact assessment work.	
2805	National Trust	The Trust expects that the final WRMP would incorporate: • The development of strategic/regional level drought resilience measures in parallel with the new infrastructure programme; the natural environment and in respect of climate change should be fully assessed and minimised and/or mitigated, as appropriate. The Trust would also expect proposed developments to maximise the potential benefits for people and nature.	Thank you for your comments. Our Water Resources Management Plan sets out our component of the Water Resources South East Regional Water Resources Plan, which is a strategic regional drought resilience plan, and so we consider that the infrastructure solutions highlighted in our plan are part of a wider strategic plan. In developing our WRMP, we undertake assessments of climate change impacts to determine the amount of new water resources that we will need to develop. For all of the potential interventions that we consider as 'options', we undertake environmental and carbon emissions assessments, in order to determine those options which are environmentally infeasible (which we then screen out), those which	We have not made changes as a result of this response, for the reasons set out in our consideration

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			would require mitigation measures to be put in place, and overall a plan which provides best value to our customers (as a combination of cost, emissions and envrionmental impacts). As we move forward to more detailed stages of design and consenting, we will consider in more detail the potential for designing benefits to people and nature into the schemes which are developed. The potential for these benefits is incorporated at a high level into our Natural Capital assessment.	
2805	National Trust	The Trust supports spatial planning and environmental management that takes a holistic and planled approach. This includes planning for the longterm, looking at the landscape or catchment scale, and considering the implications for climate change, landscape, heritage and nature. The Trust expects that the final WRMP would incorporate • An environmentally responsible and sustainable approach to development, with clear SMART aims and objectives;	Thank you for your response. We consider that in preparing our plan, we have followed a best value planning process and the Strategic Environmental Assessment process to optimise our plan to consider the long term benefits and impacts of our options on the environment at a landscape scale. This process, via the SEA, has considered benefits and impacts of our plan against a framework of SEA objectives and sub-objectives encompassing a wide range of environmental factors including climate change, landscape, heritage and nature.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.
2805	National Trust	The Trust expects that the final WRMP would incorporate: • A commitment to full and effective engagement and communication with all stakeholders that may be affected. Any National Trust land declared as inalienable benefits from enhanced protection from compulsory acquisition. Such land cannot be the subject of compulsory acquisition against the Trust's wishes, without going through a special parliamentary procedure. The Trust would recommend that any developer of water resource assets which may directly affect National Trust land should discuss their proposals with the Trust at an early stage. Trust land and properties might be affected by emerging proposals it is important that for the development of new physical assets the need and	Thank you for taking the time to respond to the public consultation on the draft WRMP. We note your comments and would like to confirm that we are committed to engage with stakeholders on the WRMP, and proposals contained in the draft plan, in a clear and timely manner.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		justification is clearly set out, in comparison to other options or alternatives. - Where there are areas of National Trust land potentially affected by any stage of the overarching dWRMP options that the Trust has not 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 longterm plan necessitates, the Trust would welcome further engagement on Thames Water's draft WRMP24 prior to its finalisation.		
2805	National Trust	The Trust expects that the final WRMP would incorporate: • The use of the mitigation hierarchy in all aspects of planning and programming – eg leakages of water resources to be addressed prior to new development of assets; • A clear communication and education strategy on management of demand;	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks. Education and campaigns to promote water efficiency	

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			Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	
2820	Thames21 Limited	One area that we feel would significantly improve the clarity of the plan is for Thames Water to provide a detailed explanation of the links between environmental improvements and the development of new sources of water. Currently, it is not possible to identify how new sources of water enable environmental improvements (abstraction reductions), to be undertaken. It is therefore not possible to analyse if further environmental improvements are possible as a result of the development of a new water source. This detail should also include where new sources of water allow water companies other than Thames Water to deliver environmental further improvements. Thames Water should include a WRMP performance review against the targets that were included in the final version of the Thames Water 2019	Our water resources planning programme appraisal is undertaken on the basis of establishing the investments needed to provide resilient supplies under defined supply-demand balance pathways. These supply-demand balance pathways include abstraction reductions identified as necessary in the National Framework for Water Resources. It is not appropriate for us to report the environmental commitments made by other water companies as part of their planning process. We report annually on our performance against the commitments set out in our WRMP19 - this report is available from our website.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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		WRMP. This will show how robust the previous plan was and indicate how much confidence can be placed in the new plan.		
2820	Thames21 Limited	Abstraction Reductions As previously highlighted, it is excellent that Thames Water use the higher figure for abstraction reduction. However, we believe that there must be a greater reduction of abstraction before 2035. 27Ml/day is far too small an amount in comparison to the 417Ml/day needed (even if some of this is associated with the effects of climate change). Within this we support the approach proposed by the CaBA chalk stream restoration strategy that suggests a lower overall reduction in abstraction achieved in a targeted way, rather than a blanket ban on all groundwater use. The latter may not be realistic in a reasonable timeframe. In instances where abstraction reduction is not possible, we support the concept of moving abstraction downstream to points where the environmental impact will be lower.	Thank you for your response, and your support of our high environmental destination proposal. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. We are not able to deliver the programme of reductions sooner than set out in the rdWRMP due to the requirement for significant replacement resources and infrastructure in order to enable reductions to be made across London and the Thames Valley.	Since our draft plan, we received feedback that it is not acceptable to plan for Environmental Destination reductions to be made after 2050, and as such we have moved our Environment Destination scenarios so that all reductions in our high scenario are made by 2050.
2820	Thames21 Limited	Overall, Thames21 is supportive of Thames Water's work to balance the competing and complex priorities of supplying people and communities as well as protecting and restoring our rivers and catchment. The plan sets out several positive developments, however Thames21 has a number of concerns and feel there are areas of the plan that can be improved to deliver greater benefit. Providing Sustainable, Resilient Source of Water	We acknowledge the supportive response and challenges. We note the comments relating to water recycling. We have included within our adaptive WRMP two recycling schemes that could operate from Mogden STW. Teddington DRA has been selected as a best value option through the Water Resource South East regional model. Best value has been determined through the analysis and modelling of cost, resilience, environmental and customer preference metrics. The scheme includes tertiary treatment at this stage and further work is progressing to establish if additional treatment is required to meet the	SESRO – size increased to 150Mm3 The draft WRMP plan selected Teddington Direct River Abstraction (2030), SESRO 100Mm3 (2040) and the Severn to Thames Transfer (2050). We

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		Mogden/Teddington sewage transfer and abstraction, Beckton Water Recycling Centre – The proposals include a Water Recycling Centre at Deephams in 2061. However, Teddington won't have one in 2031 which means that the River Thames will be degraded by the discharge of treated effluent. What is the reasoning for Mogden to not have a Water Recycling Centre (WRC)? Is the issue public perception or is there not enough space at Mogden for a WRC? These are not acceptable reasons to degrade the health of the river Thames when the transfer is in operation. The WRMP needs to account for costs associated with a Water Recycling Centre at Mogden. Given the scale of the issue facing water resources in South East England, Thames Water also need to take an active role in changing public perception of the use of Water Recycling Centres. Currently Thames21 objects to this proposal on the ground of the damage it will cause to the river Thames. Further exploration of Water Recycling Centre's is needed at Mogden that would prevent this damage. If this isn't viable and no other options are available, then additional compensation needs to be provided to offset the damage and support other improvement to the health of the river Thames for people and wildlife. This would include ensuring discharge standards meet Bathing Water standards – the Teddington area is a very popular bathing area and may well receive designation before 2031. Nutrient Neutrality Net Gain options should be explored to ensure the	required discharge limits. Mogden Water Recycling scheme is currently an alternative scheme that is feasible but does not currently represent best value when compared to Teddington DRA. Mogden water recycling includes full advanced treatment and would require a new offsite facility as insufficient space is available at Mogden STW to house the extensive infrastructure required for full advanced treatment. Thames Water has published on its website the environmental appraisal for all water recycling schemes based on the current concept design. Work to date has shown the risk of significant environmental effects during operation are low and where impacts are predicted mitigation measures are available to reduce the scale and magnitude. Our environmental impact assessment work is still at an early stage and further work is required over the next couple of years to refine assessments, the design and mitigation measures to ensure we develop a scheme that does not impact people and the environment. Furthermore, Thames Water's Executive has been open about the significant work that needs to be done in order to improve the ecological health and water quality of our streams and rivers. Protecting and enhancing the environment is central to the water recycling schemes. We acknowledge the supportive comments regarding a new reservoir and Severn Thames Transfer. Our current delivery date for these schemes aligns to the need set-out within the WRSE regional plan.	set out in the draft WRMP24 Section 11 – The overall best value plan how a new reservoir is a better first option ahead of a transfer from the River Severn. For the revised draft WRMP24 we have further examined the range of possible future scenarios and have considered the wide range of risks that we may encounter in the future and given the range of risks which exist, have selected SESRO 150Mm3 in 2040 to provide security for the regions supplies.

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		overall impact of the programme is a positive for the environment. New Reservoir – Thames21 support the establishment of a larger reservoir (150Ml), as this will provide additional capacity if needed and if the additional volume is not required the extra capacity can be used to deliver further benefits/reductions elsewhere or quicker than is currently planned. If the larger reservoir goes ahead Thames Water must plan how the additional capacity is used if needed. Thames21 believe that this reservoir can be brought forward and delivered more quickly than currently outlined. A delivery date of 2035 should be achievable. The Severn Trent Transfer – This option seems to have progressed well and looks to be a realistic solution. Thames21 supports this proposal.		
2826	The Wilts & Berkshire Canal Trust	We understand from the recently published Thames Water WRMP 24 that the SESRO design intention for the emergency drawdown channel would be to align it with the Wilts and Berks Canal for the various sizes of potential reservoir. This excellent solution, with an included walkway and cycle path would provide a valuable connection between the planned enhanced environment for flora and fauna around the reservoir with the natural habitats around the large gravel pits beside the River Thames. This green corridor will provide a through route beside the restored canal for the public between the urban centres of Wantage and Grove with the Thames Path to Abingdon and on to Oxford. We consider the connection between the improved habitats in the vicinity of the reservoir, with the River Thames, together with a through route for the public under the A34, would be significant factors when considering the overall best value solution.	Thank you for your comment. We will continue to consider the positive recreational and biodiversity benefits of the shared use of the Auxiliary Drawdown Channel as we progress the design, assessment and engagement on the SESRO options	We have provided information in response to your comments, there are no changes as a result of your representation.

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2831	Thames Rivers Trust	We understand there is a current operating agreement, but surely this should be subject to negotiation and should be investigated. In any case we understand under the current agreement the EA and Thames Water have to meet regularly when the flow drops to 300 Mld to agree the best way forward.	The amount of water that we can abstract from the Lower Thames is governed by the Lower Thames Operating Agreement (LTOA). The LTOA is an agreement made between the Environment Agency and Thames Water under Section 20 of the Water Resources Act 1991. The LTOA contains a control diagram on which the total storage volume in the Thames Water London reservoirs is plotted on a daily basis. The LTOA includes a termination clause which states "this agreement shall continue until determined by mutual agreement of the Parties [Thames Water and the Environment Agency] or in accordance with [licence changes]" and as such we do not agree that the LTOA should be subject to negotiation/investigation. Explicit in the LTOA is the need to maintain a prescribed flow over Teddington Weir. When storage is relatively healthy for the time of year, a minimum flow of 800 Ml/d must be maintained over Teddington Weir, the point at which the Thames becomes tidally influenced. As London reservoir levels fall, the minimum flow over Teddington Weir, the Teddington Target Flow (TTF) may be reduced in defined bands down to a minimum flow of 300 Ml/d. In conjunction with the changing flow constraint, as storage declines the company must apply progressively more intensive demand management measures and restrictions on water use by customers in order to both preserve available storage and mitigate against over-abstraction from the River Thames and consequent environmental damage. As storage declines, we may/should also trigger various drought sources as defined control curves are crossed. It is true that, the "Teddington Target Flow" drops to levels lower than the usual 800 Ml/d, regular meetings are held to agree the best way forward. Further details on how these arrangements are triggered and operate are available in Section 4 of our draft and revised draft WRMP24 (Supply Forecast).	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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2831	Thames Rivers Trust	it would be helpful to include in the WRMP a performance review vs the targets that were included in the final version of the Thames Water 2019 WRMP. This would show how robust the previous plan was and therefore suggest how much confidence can be placed in this plan.	Thank you for your feedback. We note your comment. We prepare a review of progress against the current WRMP, WRMP19. annually and publish this on our website www.thameswater.co.uk/wrmp	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
2831	Thames Rivers Trust	Thames Rivers Trust understand that the first initiatives to achieve sustainable water resources for Thames Water is a two pronged “attack” on supply and demand. Driving down demand to the Government target is a challenging endeavour. We recognise the work Thames Water has undertaken; however, we recognise the behaviour change needed requires a huge shift in public actions and at this stage we believe it’s a huge gamble that the gains required could be achieved. Thames Rivers Trust would like to see efforts focussed on the highend users of water. Thames Water should step up learning, innovation and testing to ramp up effective demand measures quickly. Reducing leakage by 50% is also a very ambitious target that the Government has set, especially given the already apparent issues of extreme and prolonged dry weather, causing ground movements not previously seen. We understand this is a Government target but believe a better target, that would need to be recognised by the Government to address the longterm climate change conditions for Thames Water, would be a requirement to replace X km of mains pipe work within London every year. If the Government could also place a target on the GLA and the Boroughs to facilitate that target it would be even better, but this is probably not possible.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs. Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in	

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			temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts.	

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2831	Thames Rivers Trust	Given our concerns regarding the likelihood that supply and demand targets can't be met we believe it is absolutely vital that the Abingdon Reservoir Project is initiated ASAP. We know that the plan is an adaptive one, and options should only be started when the need is clear. However, all the main options in the plan for Thames and WRSE require the reservoir to be built. It is obvious that it will be the key option and given it will have a life in excess of 250 years there is no need to delay. Thames Rivers Trust thinks a tenyear plan for the Abingdon Reservoir is achievable, this must be progressed. We would like to see an ambition for its completion by 2035. The shortterm solution of water reuse at Teddington is understandable. However, we do not think the option has been evaluated thoroughly enough. We believe if at least 75 Ml of treated effluent, not necessarily to tertiary levels, was discharged immediately downstream of Teddington weir that could allow up to 75 Ml to be abstracted just upstream of the weir. We understand there may be concerns regarding reduced water levels, but we believe the level maintained by the weir could prevent any longterm environmental harm. We also understand there may be concerns in respect to navigation but given this will only happen in times of severe drought this may be a "price" navigation has to pay. Discharging that amount of effluent in the weir pool may have a detrimental effect on the ecosystem, negatively impacting sensitive wildlife including fish. If this option hasn't already been evaluated, we believe it needs to be. It may reduce overall energy demands and have less effect on fisheries upstream of the weir. Thames Rivers Trust would like to see this option tested to ensure water quality at the weir pool is not detrimental for wildlife. We would also like to know if the fish pass would remain operational.	Noted, thank you. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those	We have provided information in response to your comments, there are no changes as a result of your representation.

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		The Severn Trent transfer option seems to have been progressed well and looks to be a realistic solution. We would much prefer that treated water was transported directly to the new reservoir via a pipeline, rather than in a mixture of pipelines and canal, as we believe this increases the risk of nonnative species finding their way into the Thames.	that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. We also continue to investigate water recycling schemes in London as part of the RAPID process. Our preferred plan includes for a new river abstraction at Teddington supported by water recycling from the early 2030's. The assessments completed to date show that a scheme up to 100 megalitres per day (Ml/d) would meet Environment Agency guidance, although cause some further stress on the environment which was not seen as acceptable. After discussions with the Environment Agency, the Teddington DRA scheme that is proposed in the draft Water Resources Management Plan remains the same.	
2863	London Assembly Environment Committee	As previously mentioned, the average Londoner uses 149 litres of water a day according to the 2018 London Environment Strategy. This is above the draft plan's figure of 141 litres for day, so may imply a small recent reduction in use. Reducing demand to 123 litres a day is a far more challenging reduction and we would like to know if the final plan will still be able to meet this target if Londoners are using more than the plan predicts? It may be	Water usage varies year to year and the figure within the draft plan reflects the latest data that was available at the time of completing baseline modelling (which was 2020). The revised draft plan changes the base year to 2022 and will generate a new baseline using this more recent baseline.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		worth ensuring the GLA and Thames Water have a shared figure for current average water usage.		
2863	London Assembly Environment Committee	We note how the impacts of the work to reduce abstractions will be monitored as set out in Section 11 of the draft plan and hope the monitoring outputs will be shared.	Thank you for your comment, we will be happy to discuss further with you the outputs that you wish to see regarding monitoring of the success of licence reductions.	No changes - none requested
2863	London Assembly Environment Committee	Water is a key resource to the capital and its importance has been identified by both the Mayor and the London Assembly through the work we have carried out here at City Hall. According to the 2018 London Environment Strategy, the average Londoner uses 149 litres of water per day, which is higher than Thames Water's own estimate of 141 litres per day, both well above the 103 litres that is the Environment Agency's target. The water resource gap is likely to increase as we head towards the middle of the century, putting greater strain on our supply and it is crucial that Thames Water's Resources Management Plan prepares London and the wider Southeast for the future. This is even more important given the heatwave and drought that London experienced in 2022. This led to a temporary use ban on hosepipes which lasted from August until November. The effects of the climate crisis are here and now, and it is important that Thames Water takes the necessary steps to secure water supplies for the future.	Thank you for your comments, which we appreciate a great deal. We agree that we need to take action now to ensure a resilient supply for London and the wider South East, in order to mitigate the impacts of the climate crisis and to ensure that our customers receive a high level of protection from drought risk.	No changes - none requested

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2863	London Assembly Environment Committee	The Labour Group is very supportive of Thames Water's approach to go for the highest level of environmental improvements in the draft plan. The Labour Group and the Mayor of London have always sought to have the highest number of environmental improvements. We are particularly keen on your plan for reducing abstractions, which will in turn reduce the environmental impact on our rivers, by finding new water sources to ensure that future demand is met. In times of drought, abstracting too much water from the rivers leads to low flows which damages the rivers and the ecosystem that they support, so taking steps to reduce abstraction impact would be positive.	Thank you for your response, and your support of our high figure for abstraction reductions. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first. We don't know exactly what the future will bring, so our plan is adaptive. We'll monitor the future and adjust our plan accordingly but investing now will means we can: cope with the changing climate; leave around 20% more water in the environment around us and support growth in our communities and our businesses.	Since our draft plan, we received feedback that it is not acceptable to plan for Environmental Destination reductions to be made after 2050, and as such we have moved our Environment Destination scenarios so that all reductions in our high scenario are made by 2050.
2863	London Assembly Environment Committee	We have concerns around the amount household bills are proposed to increase over the course of this plan from the current amount being spent on investment, which by 2030 rises to £14 on the average bill, and up to £100 by 2050. Many Londoners will rightly ask about paying more money if they are still seeing leaking pipes on frequent occasions. Thames Water need to be clear about the justification for the increases and only look to introduce them if they are absolutely necessary. Media coverage of large bonuses and dividends paid to executives and shareholders also upset Londoners, so we would need complete assurance that all the additional sums paid do go into capital investment and not into payouts. We would ask what support Thames Water are planning to provide for the most vulnerable in our city who are unlikely to be able to afford rising water bills. The current energy crisis has highlighted the financial difficulties many face and increasing bills (even gradually) can increase the pressure	We need to invest in our water and wastewater infrastructure to ensure we can provide a resilient service to customers in the future, whilst protecting the environment but we recognise that some of our customers have affordability concerns and support measures for customers who need support are part of our Business Plan. Currently we're putting in £110 million a year in terms of support for vulnerable customers. We did some research last year with our broader customer group to understand how we could cross subsidise and make sure that we're creating as much support as possible and we now have the highest level of support of any water company. We are finalising our Business Plan but we are aiming to enable support to customers with an average value of over £142 million per year, totalling over £700 million during the period 2025 to 2030. Around £500 million of this will be applied to reducing water bills and debt, but we also intend to expand our support beyond the water sector and seek wider benefits for our customers, such as those achieved through Income Maximisation with a value averaging £40 million a	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		many face. Thames Water must deliver a support package to help those Londoners who may struggle to pay these higher costs.	year. We plan to continue with Shareholder support to fund our Thames Water Trust Fund and debt support schemes. The value of these planned contributions is £30 million over the 2025-2030 period. This equates to 6% of the total water bill related support. Overall our money overall comes from a combination of customer bills, the financing we raise, and our shareholders. Our shareholders are putting money into the business, not taking it out. Our shareholders will subscribe an initial £500 million of new equity this financial year, and we're working with them on plans to provide a further £750 million of equity funding, which will be subject to certain conditions. Our shareholders have not taken a dividend for six years, since 2017.	
2863	London Assembly Environment Committee	The London Environment Strategy and the London Plan talk about ensuring the efficient use of water and ensuring supplies are secured. It is positive to see many of the issues identified in the draft Water Resources Management Plan align with these documents. We are concerned about the potential for water tariffs being introduced. We would like more details and information about what these tariffs will be, who will be charged, what they will be charged for and how this will lead to a reduction in water use? The lack of detail around this in the draft plan is extremely concerning. We are aware that reducing the amount of leakage is a key priority for Thames Water. The draft plan notes that 24% of water is still being lost to leakage. While we note the work that is being done and that progress is being made, such as the 10% reduction in leakages on the 2017/18 level, we believe more needs to be achieved at pace to help improve the situation. High profile leaks, such as the one in Islington last	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs. Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Leakage targeting, and it's relationship to household demand Reducing leakage is a priority for us. Right now, around 24% of the water we treat / put into our distribution network is lost through leaks	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		year, which led to several homes being flooded, are highly damaging to public perception of water use. They will question why they should reduce demand voluntarily while such a large amount is lost through leakage. We also recognise the difficulties Thames Water face with aging infrastructure and metal pipes which are prone to crack and are one of the main causes of leaks when there is either hot or cold weather. I have previously written about this issue in my June 2019 report "Running out or Flooded out?" We would suggest that Thames Water considers a more rapid pipe renewal system to switch to the more durable plastic water pipes. We would be interested in hearing about what support would be necessary to speed up this programme, e.g. from OfWat, as this investment could make a material difference to the amount that is lost to leakage. We welcome the draft plan's increased focus on installing smart water meters, so that customers are more aware of how much water they are using and can take steps to reduce their use. While the consultation notes that half of Thames Water customers currently have a smart meter, we hope the other half can have theirs installed as soon as possible. We are also very supportive of labelling all waterusing products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Labelling how much water is used in production can help the public to understand the processes goods go through. The updated standards and regulations can hopefully	from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our	

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		encourage a conversation on water use, which by raising awareness can ultimately lead to a reduction and in turn will help the environment. However, we believe education and awareness is only part of the solution to reducing demand. The bigger part of the picture is reducing the amount lost to leakage. In response to question 3 of the consultation, the Labour Group feel it is a risk to rely on half of the required fall in water demand to not be in the control of Thames Water. In the first instance, efforts should be made to reduce demand for water through measures such as increased smart watermeter coverage, independent water labels and public awareness raising campaigns. The 50% target is ambitious but also necessary to aim for.	regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Government-led water use reduction policies In addition to the actions we can take, the government is planning to	

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			introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	

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2863	London Assembly Environment Committee	We fully understand what the environmental benefits are of bringing the new reservoir online. We note that in Section 5 of the draft plan many of the proposed reductions in abstractions are not due until the 2040s or even the 2050s, which suggests that there is still a fair way to go before the environmental improvements of the draft plan will be realised. We believe bringing the new reservoir online at the earliest possible date will ensure the highest environmental standards, preferably in the early 2030s. The Labour Group believe that having the South East Strategic Reservoir Option (SESRO) would hugely increase London's water resilience in instances of drought. Given the extreme heatwave experienced in July 2022 and the effects of the climate crisis becoming more frequent, the case for constructing the reservoir has only been made stronger. Given it is a crucial part of Thames Water's plans, we support its construction and as I mentioned in my 2019 report, these plans should be accelerated so it is completed by 2035, two years earlier than currently planned. We support the reasons for preferring the reservoir, compared to other methods of increasing the supply of water. As outlined in the draft plan the lower running costs, expense and carbon emissions are all strong reasons to prioritise the reservoir, particularly considering the climate crisis and the potential for customers to face higher bills as a result. The availability of the water in the event of a drought, plus the fact we are not relying on supplies from elsewhere in the country, which are highly likely to need extra water too in times of drought, are further arguments in favour of this option. We further agree that there would be benefits to	Noted, thank you. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those	We have provided information in response to your comments, there are no changes as a result of your representation.

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		the local community such as improved biodiversity and recreational opportunities. Finally, as mentioned above, if bringing on a new water source like the reservoir has knock on effects which benefit the environment by reducing abstractions elsewhere in the network, then that can only be a positive. Regarding the size of the new reservoir, we support the larger reservoir option of 150Mm3 as mentioned in the consultation. This would ensure more resilience is built into the system. The larger reservoir means other projects proposed in the draft plan might become less crucial -for example, the larger reservoir may mean that there would be fewer abstractions across the network. We also note the wider benefits the reservoir would have on other water companies such as Affinity and Southern who would also benefit from the reservoir. This would have the added benefit of securing supplies beyond the area supplied by Thames Water. We are generally supportive of new water sources so long as any potential environmental impact is minimised. But as the draft plan admits, there is a lack of detail on how these plans will work in general. However, the three major schemes that are detailed (Teddington abstraction, the South East Strategic Reservoir Option (SESRO) and the Severn to Thames Transfer) sound positive. Nonetheless, given the consultation earlier refers to reducing abstractions, would the Teddington abstraction be an exception rather than a rule? As I mentioned in my 2019 report, abstraction should be a last resort and not used as a longterm solution to the water crisis.	that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. We continue to investigate water recycling schemes in London as part of the RAPID process. The environmental impacts of the proposed water recycling options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). Our preferred plan includes for a new river abstraction at Teddington supported by water recycling from the early 2030's. The assessments completed to date show that a scheme up to 100 megalitres per day (Ml/d) would meet Environment Agency guidance, although cause some further stress on the environment which was not seen as acceptable. After discussions with the Environment Agency, the Teddington DRA scheme that is proposed in the draft Water Resources Management Plan remains the same.	

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		Regarding the Teddington abstraction, we have concerns that to compensate for the additional water that will be taken from the Thames, the plan would be for highly treated recycled water to be moved upstream from the Mogden sewage treatment works. Thames Water must ensure that this water is of sufficient quality so that it does not impact on the ecosystem of the river. We would be concerned if this plan involves any risk of untreated sewage being pumped into the river, or of higher temperature water being released. Given the stories of raw sewage being pumped into the natural environment in the past year, this proposal must ensure there is no risk of this happening, nor of warm or hot water, and we would like that reassurance. We are also broadly supportive of the Severn to Thames Transfer; however, we agree with the rationale for prioritising the reservoir near Abingdon, as we have set out above. In addition, we would like to know more detail on what other options were considered. For instance, a water recycling scheme in Beckton is briefly mentioned in this draft plan as being a more expensive alternative to the Teddington abstraction. What assessment was carried out that led to this conclusion? This was mentioned as one of the schemes being considered in the London Environment Strategy, albeit by the 2060s. Is this still on the cards or has it been put on the backburner? With regards to another measure which can be used to boost the useable water supply, earlier on in the document desalination and recycling water are mentioned. These are currently helpful in the overall strategic aim of ensuring there is enough water, however as Section 7 of the draft plan recognises, there is a limit to how much water could be desalinated or recycled to meet future demand.		

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2889	Company of Proprietors of the Stroudwater Navigation	The Directors firmly believe that the Cotswold Canals SevernThames Transfer scheme (STT) offers the Best Value Plan (BVP) to meet the rising demands of water in the South East. It can be delivered with the shortest lead time and the least risk to without the extended risks of new reservoir planning and additional abstraction, plus it can deliver far superior environmental and financial benefitsthan any other scheme. Benefits of Canals: A new report (commissioned by the Charity Canal and River Trust (CRT)) was presented1to Parliament in November 2022, this uses the methodology of 2022 HM Treasury Green Book valuation techniques. The combined annual economic and social value of the 2,000 miles of inland waterways in England and Wales was assessed at £6.1 billion. This included £1.5 billion annual economic value from waterbased tourism and jobs, and annual social value of £4.6 billion, which includes £1.1 billion cost saving to the NHS from active use of the waterways and the towpaths. These figures put well researched meaning into the benefits that canals provide to the public, the environment and the wider economic situation. Although the Severn – Thames Transfer (STT) Canal option was considered at Stage 1, it did not go forward to the detailed evaluations undertaken for certain SRO's at Stage 2 and reported in the draft WRMP 24. At present, the entire STT option is "on the backburner" with the pipeline transfer option preferred to the Canal. During the previous assessments, the canal option appeared to fail to satisfy a number of qualitative tests. Some of the failures were the result of subjective views rather than objective evidence. A large number of rejections related to beneficial effects such as environmental improvement, biodiversity gain and health and wellbeing factors. This appears totally counterintuitive. But the most serious error was the extremely low monetary value	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		ascribed to the beneficial effect of the canal restoration from tourism, recreation, and health and wellbeing aspects. In the assessments carried out to date, an NPC of just over £80 million has been used for the canal option. However, based on analysis of very recent data reported by the Inland Waterways Association (IWA) and by the Canal and River Trust (C&RT) referenced above, it is concluded that the "tourism benefits" alone have been underestimated by an order of magnitude. The latest evaluation produces a value with an NPC of £800 million, but even this value is dwarfed by the "health and wellbeing benefits" that are a factor of three higher at £2.2 billion making the total around £3 billion. Our Concerns 1. The current TW favoured approach of a long buried pipeline offers virtually no additional Natural Capital benefit. This revised benefit of using the canals more than offsets the difference in stated cost between the pipeline and canal options. 2. The Cotswold Canals Transfer scheme has in the past received very strong support from ourselves, many Statutory and Voluntary organisations as well as very many members of the public, yet there is no detailed information to justify the statement: "The use of the Cotswold Canals as part of the Severn Thames Transfer rather than a new pipeline, has been explored but is a more costly option"2 We are concerned that this strong public and private support together with the serious omission in assessing monetized benefits are not reflected in the current Draft. 3. The pipeline option for the SevernThames Transfer lacks the environmental and social capital ambition that using the Cotswold Canals SevernThames Transfer scheme would provide. 4. Given the imminent shortage of water supplies and ongoing uncertainties in demand reduction, climate change etc., in our view it makes no sense to build the long leadtime huge reservoir South East		

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		Strategic Reservoir Option (SESRO) near Abingdon first and then the shorter lead time SevernThames Transfer (STT) scheme after it. The Cotswold Canals SevernThames Transfer scheme could be delivered as soon as possible. This would reduce risk and potentially bring forward the benefits of environmental abstraction reduction.		
2889	Company of Proprietors of the Stroudwater Navigation	In deriving the BVP, the financial impact of the benefits associated with each of the schemes must be quantified in monetary terms. The main benefits can be categorized in relation to recreation, tourism, volunteering and land value: carbon sequestration; natural hazard regulation; biodiversity and agriculture. In past work, the regulators have requested a lot more attention be given to quantifying these benefit in monetary terms. CoPSN accepts that this is not an easy task. However, the attempts made to date by TW and used in the BVP assessment appear to fall far short of presenting fair and proper values.	The approach used in quantifying and monetising natural capital impacts and benefits of the options under consideration to derive WRSE's best value plan and our best value plan adheres to industry standard best practice and aligns with the approach recommended by our regulators within the Water Resources Planning Guideline.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.
2897	Lechlade Marina Limited	It makes no sense to propose that the first element to be delivered to solve the water shortage issue is to try and deliver the reservoir proposed at Abingdon when that proposal has been widely fought by the local community for decades and it is a solution that takes much longer to deliver than the Cotswold Canals SevernThames Transfer (CCSTT) scheme which does have wide public support. The wide support expressed for the CCSTT option in the huge number of responses to previous consultations seems to be being ignored as the plans don't seem to be being modified to support the CCST as the first option to reflect the consultation responses. Other water transfer schemes using canals are proposed elsewhere in the country which demonstrate that water companies other than Thames can think outside the box and find ways of using nontraditional solutions to water shortage problems. The plan dismisses the CCSTT solution as more expensive without properly justifying that statement and does not take account of the	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		economic multiplier benefits that would flow from a restored canal solution. What benefits are acknowledged seem to be of an order of magnitude way below those suggested by the recent Waterways for Today report by the Inland Waterways Association. The IWA isn't the only body with evidence in this area and I am well aware that no formal engagement has taken place with the trade body British Marine which represents the whole boating industry including inland marinas, hire boat operators and boat builders. BM have produced a number of economic impact studies of the value of the boating industry, sources of information that have not been taken into account in properly evaluation the value of the CCSTT. There are no social, public health and wellbeing nor nature conservation benefits delivered by a buried pipeline let along additional Natural Capital, carbon sink or other emerging benefits a canal solution could provide. I strongly believe that the Thames Water draft Water Resource Management Plan is unsound as a whole for proposing to deliver first and favouring traditional solutions that are comfortable to the water company, not adequately and correctly calculating the wider social and environmental benefits of the CCSTT over a pipeline and even if the financial cost of CCSTT is slightly more than a pipeline a lack of willingness to find solutions to pay for that through Corporate Social Responsibility of other private Natural Capital funding. It also makes no sense at all to propose to deliver the reservoir first when that has a much longer lead and delivery time than the CCSTT given the imminent shortage of water supplies and ongoing uncertainties in demand reduction and the effects of climate change.	selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	

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2904	Wantage and Grove Campaign Group	This plan affects us as residents of the area within the Vale of the White Horse living very close to the proposed site of the South East Strategic Reservoir. Proper Drought Resilience is delayed until after 2040 because the South East Strategic Reservoir is started first and the Severn Thames Transfer is delayed. -Most of the drought resilience could be achieved by 20345 if the Severn Thames Transfer were chosen first. A Plan which can be adapted: The plan is not adaptive – the Severn Thames Transfer pipeline would be much more flexible to changes in demand and changing population need and should be built first, and in stages, before the reservoir, given the very variations in population forecasts in the last few years. The regulators asked for a plan that could be adapted over time, but this plan proposes construction of the largest infrastructure development (Abingdon MegaReservoir) right at the start so isn't adaptive at all. An infrastructure project like the South East Strategic Reservoir Option is not very adaptable. Unlike flooding a valley, this huge construction would take as long to remove as to install and the cost of removal would be similar to the cost of construction. The consequential damage to the area cannot be undone, without huge cost, once construction has started. Landscape impacts: The landscape impact of the South East Strategic Reservoir Option when compared with that of the Severn Thames Transfer has not been included in the plans and as residents of the local area, we would be severely impacted. Our estimate of the size of the reservoir is that as it would be built above ground it would be contained by bunds between 15 and 25 metres high. That's about the height of an 8storey block of flats and higher than	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		anything else in the Vale. The reservoir embankments would enclose about 4 square miles and be over 10 miles long and be the largest thing visible from the Ridgeway (in the North Wessex Downs Area of Outstanding Natural Beauty) or from anywhere else in the Vale of the White Horse. The population of the Vale of the White Horse has grown by more than a third in the years since the reservoir was first proposed (particularly in OX12 and OX13 close to the reservoir – 20% in the last 10 years) and now the bunds will be within 500m of homes and it will dominate their landscape. The "adaptive plan" is not adaptive because the South East Strategic Reservoir Option (which is such a key component of this plan) will be built before the forecasts are tested. Once built the cost of dismantling the bunded megareservoir will be similar if not higher than the cost of construction so how is this adaptive?		
2904	Wantage and Grove Campaign Group	Outdated Population Forecasts: Population forecasts are overstated and do not take account of the latest government projections which show the slower growth in UK population, so planning for a huge increase in demand doesn't make sense. Using forecasts based on ONS 2014 when ONS 2021 is available also doesn't make sense. If Thames Water can ignore government usage targets, then there is no reason for them to follow outdated Government population forecasts and they should take the lead in using more uptodate (and lower) population forecasts. Given the myriad of options which appear to have been considered as part of the planning process we struggle to understand how the demand for water in the reported pathway is less than 4% lower than the highest option. Population forecasts do not take account of the latest	All growth forecasts used by Thames Water have been produced by ONS or a local authority and we have no reason to consider they have been unduly exaggerated. ONS growth forecast are used for planning purposes across a range of sectors. In the case of local authority plans these are reviewed by Government planning inspectors prior to their approval. The use of these forecasts are required by the Water Resource Planning Guidelines. Given this we consider their use within our plan appropriate and we have a duty to enable the growth with local authority plans by ensuring a secure supply of water for proposed growth to be available. The population forecasts used the most up-to-date evidence that was available at the time that they were developed. Inevitably, since then, revised evidence has become available and updated forecasts of growth will be used within our revised draft WRMP.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		government projections which show that the slower growth in UK population, yet this plan seems to suggest that population migration into the South East will exceed that of the entire country.		
2904	Wantage and Grove Campaign Group	Drought Resilience by the 2030's: "The idea of improving resilience is supposed to be that you do something as quickly as possible. Your plan seems to be business as usual until 2040 and deliberately delays the introduction of schemes that could provide extra water more quickly. This is unacceptable."	The Water Resources Planning Guideline sets out the requirement that we should plan to achieve a 1 in 500-year level of resilience before 2040, and that we should explore the costs and benefits of reaching this level of resilience earlier and later than this date. We have undertaken this 'sensitivity' analysis regarding achievement of a high level of resilience. Plans which deliver a higher level of resilience more quickly do not necessarily present best value to our customers.	No changes - reasons set out in consideration
2904	Wantage and Grove Campaign Group	Where in the plan is technological innovation? After the recent reporting of large numbers of incidents of raw sewage discharges, water companies are going to have to invest heavily in better water treatment. This should reduce the amount of investment required to clean up the water for reuse in the system. Why isn't this acknowledged more in the plan?	You are correct that we need to invest to improve our wastewater network and treatment works to respond to the challenges of growth, adapting to our changing climate and protecting the environment. Our sister plan called the Drainage and Wastewater Management Plan (DWMP) is focused on drainage and wastewater. Between 2025 and 2030 we will be investing at least £750m to reduced discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at our sewage treatment works. In respect of water recycling, this is common practice as part of the existing water supply system and the level of wastewater treatment is defined by the discharge limits set by the Environment Agency. Our current level of treatment aims to ensure we meet the environmental quality standards to protect human health and the environment and provide best value for our customers. The EA will monitor the quality of our waterways and will determine the treatment standards and regulation of abstraction, we cant pre-empt changes in our WRMP.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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2904	Wantage and Grove Campaign Group	True resilience must include more urgently tackling leakage and improving water efficiency. Both are essentially climate independent, and in both cases Thames Water is the worst performer and is planning to remain so.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target.	

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			Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	
2958	Habitats and Heritage	We do support your aspirations to reduce demand to meet the forecast shortfall and support the measures you have outlined to reduce leaks. Whilst we understand the difficulties in reporting and fixing these and in ensuring behavioural change to reduce demand in the first place, we would suggest however, that further measures should be considered that would have a greater impact than you set out in the report. If greater resources were targeted towards education to increase waterwise behaviour, as well as capture and storage by the public, organisations, businesses and in neighbourhoods, we would see this as money well spent.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Grey water reuse and rainwater collection Rainwater harvesting has been considered as a demand reducing measure. We have previously offered water butts for garden usage and continue to promote rainwater capture within our multi-channel customer engagement activity. Scaling up, the difficulty is that retrofitting either rainwater and/or greywater system technologies into existing properties is extremely challenging and the fittings are not readily market available. We believe there are better opportunities to increase water use systems into new developments, particularly large ones, at the design stage. We have recently launched an industry first Environmental Incentive for developers, offering financial incentives to embed water efficiency fittings, water reuse technologies (RWH/GWR) and deliver 'water neutrality' for any new housing development in our supply area. This incentive model is being promoted to developers, planning authorities and regulators. We have also worked closely with Defra and other government areas, on efforts to strengthen future Building Regulations, so that water reuse technologies and requirements become business as usual. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered	We have provided information in response to your comments, there are no changes as a result of your representation.

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			for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	
2958	Habitats and Heritage	However, at this conceptual stage, we are unable to fully support all the proposals. H&H is particularly concerned about the proposal for freshwater abstraction and discharge of treated effluent at Teddington/Ham. Whilst we understand that the proposal is at an early stage, it will be important that TW works with local stakeholders, including local authorities and the Thames Landscape Strategy, more than it has done to date. H&H are concerned if the proposal were to result in any drop in river levels with a subsequent impact in oxygenation levels, a change in temperature, sudden salinity change and/or impact on recreational use. -The quality of the water to be discharged would be of concern particularly if untreated chemicals were to increase the likelihood of algal blooms. Furthermore, we are also concerned by the public record of sewage discharges from Mogden STW (and Hogsmill STW) and the impact an additional entry point into the nontidal Thames and the	As you acknowledge, the scheme is at a very early stage of development (essentially conceptual design) and environment assessment. The early consultation that has been undertaken to date reflects this. Having consultation at this early stage and scheme development and assessment will allow for stakeholder's key issues to be fed into the process and help shape its development. The consultation will expand going forward, including the creation of a River Stakeholder's Forum, which met for the first time in April, and will continue to meet as scheme design and environmental assessment progresses. The 2022 environmental assessment reports (Gate 2 reports) identified that above Teddington Weir river level would not change due to the scheme, the majority of the channel would see a <1˚C change for a 75Ml/d scheme. In the tideway, Gate 2 modelling was based upon a 200Ml/d reduction in Mogden STW final effluent discharge, to provide a worst case scenario that covered both a potential Mogden	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan

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		cumulative impact this would have during low flow periods, when the system is in operation. We also understand that one of the reasons abstraction at Seething Well was discontinued was due to silting up of the abstarction facilities and this issue possibly also affects Hampton abstraction. We feel it would wise for TW to understand more about this issue which would likely affect any proposed abstraction downstream of Seething Wells. If this are the case, surely increasing abstraction at Walton is more logical. We ask for much more information, based on appropriate modelling, on how the ecology, temperature, salinity and flow would not be adversely effected before any scheme could be supported. H&H would therefore ask TW to consider potentially lessdamaging alternatives first and provide greater clarity on the potential risk of the Teddington/Ham proposal and how naturebased solutions could be incorporated, particularly for the outflow point. If delivered, the scheme should not see any deterioration in water quality or sudden changes in temperature to the river water immediately upstream and downstream of Teddington Lock. -The scheme should also help TW and the Environment Agency push the Thames towards 'good' ecological status in the Water Framework Directive, which we don't consider these proposals would achieve. If the scheme is to be progressed, we would like to bring to TW's attention the Thames Landscape Strategy 'Rewilding Arcadia' scheme. This project offers a naturebased approach to manage future flood risk, caused by climate change for the floodplain between Weybridge and Kew. The project has the support of the Thames Landscape Strategy partnership, including riparian local authorities and local community.	Water Recycling Scheme (200Ml/d) and the smaller Teddington DRA scheme (75Ml/d). For this 200Ml/d reduction, low water level was shown to reduce by <6cm local to Richmond Half-tide Sluice, and less further below in the tideway. The Navigation Assessment (Annex B.2.7) assessed this as a minor/negligible effect on navigation. . The true change of a Teddington DRA scheme at 75 Ml/d will be less than the <6cm change identified in the Gate 2 reports. This will be modelled in 2023. Similarly, for salinity modelling was based on a 200Ml/d reduction, which resulted in a <1.5ppt increase in salinity between Putney and Tower Bridge, with less change in the upper and lower tideway. This change was assessed to be within the tolerable range of ecology present and not affect availability of preferred habitat. The true change of a Teddington DRA scheme at 75 Ml/d will be less than the <1.5ppt identified in the Gate 2 reports. This will be modelled in 2023. At this stage we do not foresee the scheme causing a detrimental effect to recreation, but will be working through 2023 to identify the level of water quality treatment required, and confirm any detriment falls in the requirements if the Environment Agency's guidance. The scheme will not provide a pathway for 'untreated chemicals' or 'sewage discharges' to be discharged at a new Teddington discharge. The modelling of the river and tideway already includes existing STW discharges so considers the cumulative impact of multiple entry points. We are committed to ensuring their would be no deterioration of water quality at Teddington as a result of the scheme The 2023 (Gate 3) assessments are specifically designed to provide further detailed assessment of the scheme, based upon appropriate modelling.	while further work is undertaken.

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			To obtain a discharge permit from the Environment Agency, the scheme will not be permitted to deteriorate water quality (including temperature) and must not prevent achievement of WFD 'Good' status. Comments around Seething Well is noted and consideration will be given to any operational experience and relevance to the DRA scheme in due course. Thank you for the reference to the Thames Landscape Strategy 'Rewilding Arcadia' scheme, the project team will consider the scheme and feasibility of links with the Teddington DRA scheme.	
3008	British Horse Society	Neither the network (The proposed reservoir site would result in closure of a wellconnected network of over 16 km of public bridleways) itself nor the impact on the many horse riders who use it has been assessed within the Strategic Environmental Assessment [SEA]. The mitigation measures identified in the SEA are consequently inadequate. This document states repeatedly that "Public rights of way and cycle paths will be reprovided", but the relevant monitoring indicators refer to "Km of new footpath/cycleway created". This makes NO provision for the loss of 16km of bridleways, as footpaths and cycleways do not provide for ridden horses and thus would not be sufficient "reprovision" for current users of those public rights of way. We note that there was no mention of horse riding, despite the substantial number of horses kept in the area whose owners and riders depend on a local bridleway network that would be lost if the proposed reservoir is built.	Thank you for your comments. Our RAPID Gate 2 submission for SESRO (SEA report) does consider the impact of the proposed reservoir on local bridleways, and suggests measures to both mitigate this impact and go beyond restoration to enhance access and provision. We will continue to explore these measures as part of the next stages of reservoir development. We did not report access impacts to this level of detail for our draft plan, we have now reflected the consideration of bridleways made within the SESRO G2 reports within our revised draft plan.	We have included consideration of the impact of SESRO on bridleways (as per the SESRO Gate 2 SEA) within our revised draft plan SEA report.

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3008	British Horse Society	At the Consultation event on 18 February, we noted with interest that Thames Water set out the following under the heading 'Our Community commitments on the proposed new reservoir': • Work with the community to develop a design that delivers opportunities for accessible recreation, leisure and education • Work with local groups to incorporate activities such as sailing, fishing, bird watching, paddle/wind sports, cycling and trail walking. While we welcome the commitment to • Carry out an EIA and develop a code of Construction Practice that shows how we have addressed the concerns of local communities. and • Engage in a continuous dialogue with local communities through a dedicated engagement manager and more formal consultation as part of the rigorous planning process, the Society is greatly concerned that Thames Water does not appear to understand the nature of the local community and the full extent of people and activities on which this proposal will have a substantial, adverse effect. The BHS is therefore keen firstly to help Thames Water to engage with local equestrians, and secondly to support and advise on suitable mitigation. We formally request that Thames Water continues to consult with the Society via access@bhs.org.uk at all stages in the development of these proposals.	We note the comments raised by the Society and welcome the offer to help engage with local equestrians. We have appointed a dedicated engagement manager who will get in touch to consult with the Society.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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3008	British Horse Society	The Society has no formal view on the need for or scale of the reservoir proposed in the WRMP, but is seriously concerned about the impact that it would have on the local horse riding network for the following reasons: 1. The proposed reservoir site would result in closure of a wellconnected network of over 16 km of public bridleways. These currently provide offroad access for the many horse riders in the area, as well as for walkers and cyclists; however, we can find only one reference to horses within the WRMP and no reference at all to bridleways. 2. Horse riding is a significant leisure and business activity in Oxfordshire, which as a rural county has a high horse population. In April 2021 there were 21,931 horses registered to addresses within the county; 4,233 of these are within the Abingdon, Didcot and Wantage postcode districts, representing a value to the local economy within this part of Oxfordshire alone of over £23 million a year. 3. Bridleways provide critically important vehiclefree access for horse riders, to whom only 33.5% of the offroad rights of way (ROW) network in Oxfordshire is legally accessible. This network is fragmented, and horse riders must therefore routinely use roads to connect to and between RoW. They are however increasingly anxious about doing so, with good reason. Out of 2,943 road incidents involving horses reported to the BHS during 2021 (research shows that only about 20% of incidents are reported in this way), 55 were in Oxfordshire. Two horses were killed, and 15 horses and 3 humans injured. The loss of 16+ km of bridleway network within this area would therefore have a significant impact on riding and road safety. If the DCO for the	The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. As noted in our Gate 2 submission to RAPID (section 3 and Figure 3.1), we have developed an Indicative Master Plan for the largest SESRO option. As stated in that document, this is to *"provide a first illustration of how the engineering requirements of the scheme may be integrated with the expected environmental mitigation and with possible recreational uses of the site...This vision will be subject to change and refinement if SESRO progresses through scheme promotion, through future consultation, environmental assessment and associated design iterations, but provides an initial overview of how the largest SESRO option could be conceptualised*." This indicative master plan, and the associated costs, impacts and benefits is based upon a scheme that could enable extensive recreational activity including terrestrial footpaths and bridleways, controlled water-based recreation (e.g. sailing club), a visitor centre, a small education centre and a cafe facility. None of these aspects has been designed in detail at this early stage, but all are included in the concept design at this stage, integrated with the required engineering and environmental mitigation works. This indicative master plan includes explicit inclusion of bridleways around the SESRO site, intended to provide enhanced connectivity with and across the existing network of PROWs. The details of the	We have provided information in response to your comments, there are no changes as a result of your representation.

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		reservoir is to be approved, then mitigation must be provided for horse riders as well as for walkers and cyclists, and it must be effective and adequately compensate for the RoW that would be lost.	proposed footpaths and bridleways would be developed, in close consultation with the local community and interested local groups, as the design of the scheme is developed. Thames Water has committed to the provision of recreation and educational opportunities as part of the development of SESRO and this would be expected to include allowance for bridleways and horseriding.	
3103	Market Operator Services Limited	Please find attached our response to your draft Water Resources Management Plan (WRMP) consultation. I hope our feedback is useful and look forward to working with you as you finalise your WRMP. We will be making this letter publicly available on our website to support transparency across the market. Alongside this letter is a table that summarises MOSL's interpretation of the NHH smart metering and water efficiency commitments in draft WRMPs. This has not been made publicly available, but we plan to publish it on our website in March. If there are commitments in your plan we have not picked up and should include, I would welcome clarification either directly or by email to comms@mosl.co.uk.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Non-Household (commercial) water use The government recently introduced national water targets, of which a 9% reduction in business water demand is required by 2038. This new demand reduction target agenda will drive water efficiency across all business sectors, with water companies playing a key role. Thames Water is leading on smart metering rollout on business properties and water consumption data services for the UK. We have worked closely with stakeholders including MOSL (Market Operator Services Limited) and OFWAT. We have shared our insights with wholesalers and retailers and have fed into the metering committee to help build the UK NHH metering strategy. We are committed to rolling out smart meters to all of our NHH customers and have already installed smart meters to approximately 18%. We plan to proactively replace all meters (small, medium and large) for smart when they reach the end of their asset life and will reach around 75% smart meter penetration by the end of AMP8 (2029-30). Our programme aligns to Option 1 of MOSL's Strategic Panel UK Metering strategy to roll out smart AMI meters to all meter sizes. In addition to this, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access NHH smart meter data on a live dashboard. The dashboard includes real	We have provided information in response to your comments, there are no changes as a result of your representation.

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			time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Our plan includes continued delivery of Smarter Business Visits to help install water saving devices and reduce wastage (fixing leaky loos, urinals etc), and targeting based on smart meter data. We will clarify our NHH plans in the final WRMP up front to highlight the scale of our programme.	
3143	Twickenham Parliamentary Constituency	A concern that has been raised time and again by local people is the definition of “best value” that Thames Water and other water companies are using to develop the WRMP. In the context of the Teddington DRA, it has become clear that Thames Water does not fully appreciate the commercial and recreational value of that stretch of the river. Having met with a varied group of stakeholders – from local residents associations and environmental groups to direct river users – it could not have been clearer how popular and well-used the river is, both upstream and immediately downstream of Teddington, enriching the lives of local residents and many more who travel to our area to enjoy water sports and riverside leisure. I therefore urge Thames Water to produce a full assessment of the level of commercial and community activity on the Thames around Teddington	Thank you for your interest in the best value planning approach. The definition of best value was agreed at regional level through WRSE. The draft Regional Plan for water resources includes supporting methodologies (including criteria and scoring) and specific assessments such as Strategic Environmental Assessment, which are reflected in our WRMP and those of the other regional water companies. We are very aware of the commerical and recreational value of the Thames. Our appreciation goes well beyond its importance as a source of water for our customers across the Thames Valley. That is why we would not (and we would not be allowed to) include any option in our plans that would cause long-term deterioration. The Teddington DRA scheme is one part of a much wider programme of demand reduction and supply enhancement options that are required to increase the resilience of our water supplies to drought, meet growth and climate change and deliver environmental improvements by reducing and re-locating our abstractions.	

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		and clarify what impacts this scheme would have on local residents, businesses and other organisations who use the river or are located on its banks. Any reduction in access to the river – whether that be due to physical constructions, navigational impact or human health concerns – must be factored in when assessing the “value” of this scheme in comparison to alternatives based on other sections of the river. Thames Water must publish the specific criteria and scoring system used to evaluate ‘best value’ for the schemes and explain how they reached these criteria.	It has been identified by regulators as a Strategic Resource Option (SRO) and is therefore being assessed via a gated development process overseen by a regulatory alliance, RAPID. These assessments have reached 'Gate 2' level which are based on outline designs which are suitable for inclusion in a strategic long-term plan such as the WRMP. At this stage, no impacts have been identified that would cause the scheme to be considered infeasible. That is not to say that there aren't temporary impacts (as with all potential options) and that there are some concerns which are subject to ongoing assessment. These have been resolved in due course and our plan is adaptable. We are grateful for the level of engagement received to the draft WRMP and are well aware of the sentiments and sensitivities.	
3143	Twickenham Parliamentary Constituency	The most significant concern here, however, is the lack of completed environmental impact assessments or human health assessments, meaning Thames Water simply cannot offer meaningful reassurance over the impact of this scheme on the local environment at this stage. I urge Thames Water to publish these assessments once completed without delay and communicate the results clearly to local residents and elected representatives. While the commitment to Biodiversity Net Gain is positive, local representatives and the community want to see guarantees that it will be delivered within our area, expanding habitats and increasing biodiversity, both in terms of the river and the land areas that will be developed in delivering the scheme.	All of our strategic resource options are being taken through a multi-stage process to better understand the benefits and impacts of the different schemes, as stipulated by our regulators, with the work getting more detailed as we progress through these stages. At Gate 1 we identified a number of areas where we didn’t have enough information to fully understand the impacts of the different schemes, which led to a series of recommendations for additional monitoring and modelling to provide the required data. During Gate 2, these recommendations have been actioned, which has provided the data required to enable more detailed investigation to better understand the environmental impact of the options we’re considering. For Teddington DRA, this has allowed more detailed analysis of temperature impacts (based on high 3D plume modelling). Following investigations undertaken for the "Gate 2" submission, and following discussion and representations from the Environment	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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			Agency on our dWRMP24, our consideration is that 75 Ml/d is the largest promotable size for the Teddington DRA scheme for consideration in WRMP24. Environmental assessments undertaken to date lead us to consider that there is no reason that a 75 Ml/d scheme would not be feasible, and as such a 75 Ml/d Teddington DRA scheme is included in our preferred programme. We'll be completing detailed environmental assessment (EIA) as part of any planning application for the scheme, and the scheme will also be specifically consulted on as part of this process. We consider that the level of detail of the assessments reported to date for this scheme is appropriate to the strategic nature of the water resources management plan. It's important to note that our work to understand these impacts is continuing into subsequent Gates, to give us more information and certainty on potential impacts, and then types of mitigation that need to be included so that we can ensure that we're protecting the environment in the course of delivering these schemes. If it is found that the Teddington DRA is not environmentally acceptable then the scheme will not be developed, and we will adopt our alternative option for delivering 1 in 200-year resilience, Beckton Water Recycling.	
3143	Twickenham Parliamentary Constituency	Before commenting on some of the detail of the dWRMP, I would like to begin by expressing my dismay at Thames Water's approach to this public consultation period. Whilst recent steps to improve engagement, including through holding further information events, were welcome, I regret that Thames Water had to	Thank you for taking the time to respond to this consultation and we note your feedback. We have received a large number of representations in relation to the Teddington DRA scheme and have responded to the points raised in detail. We would like to reassure you that we are committed to working openly and transparently with all stakeholders, and community engagement and consultation is an important part of this. If the scheme is included in the final WRMP it will then progress through planning and there will be multiple opportunities	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		be persuaded into doing so as a result of media coverage and pressure from local representatives, including councillors and local MPs. Our community is one that is passionate and very wellinformed about the local environment and proud of its river heritage. It is clear that Thames Water initially failed to understand the strength of feeling in Twickenham and Teddington with regards to the river and the proposed plans for the Teddington DRA. Any further consultation events must be announced in a timely, transparent manner to address some of the damage done to trust in Thames Water locally. In order to reassure local residents, I urge Thames Water to commit to clearly communicating the decisionmaking process for the dWRMP, including its criteria for assessing the viability of the DRA as further data is collected, as well as which bodies are responsible both for the decisionmaking and scrutiny at every stage. I also regret that the Q&A document which was promised to respond to the many unanswered questions of local residents from the webinar held by Thames Water in February has not been published in time for this round of public consultation closing. It is disappointing that local people and stakeholder groups did not have	for scheme-specific engagement and consultation. We have recently appointed a dedicated engagement manager for the scheme which will help to ensure we engage effectively with the local community going forwards.	

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		the opportunity to read Thames Water's responses to their queries before responding.		
3143	Twickenham Parliamentary Constituency	With regards to Thames Water's approach to the environment and protecting the unique and precious ecology of the River Thames and its tributaries, there is a significant lack of trust amongst local residents that the environment is a priority. This lack of trust is a natural consequence of repeated raw sewage discharges into the Thames in our area, most significantly at Isleworth Ait. With 530 hours of sewage discharges along our stretch of the Thames in 2021 alone, it is crucial that Thames Water demonstrates action in preventing raw sewage discharges locally if trust is to be rebuilt. Assurances must also be given that any construction works at Mogden Sewage Treatment Works will not increase the likelihood of sewage discharges.	The discharge of untreated sewage is unacceptable, and it's understandable that the public are demanding that we, and other water companies, improve our performance. Between 2025 and 2030 we will be investing at least £750 million to reduce discharges of untreated sewage to sewers, and over £1 billion to improve treatment processes at our sewage treatment works. . Upgrading the Mogden Sewage Treatment Works site will reduce the number of storm discharges which will have a significant beneficial impact on the river. Our overall aim is to reduce the total annual duration of discharges by 50% by 2030 compared to a 2020 baseline, with an 80% reduction in discharges in particularly sensitive catchments. At the beginning of the year we published an online map providing close to real-time information about storm discharges from all of our 468 permitted locations and this continues to be updated with information on improvements being made across our region, the transparency of information is vital if we are to start to rebuild trust with local communities. There are no quick fixes. Population growth will increase the strain on our sewage network and treatment centres. And because of climate change, the south east of England is experiencing heavier downpours, which can overwhelm some sewage treatment works. The scale of the challenge demands systemic reform with a shared undertaking from all stakeholders.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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			Specifically in relation to the proposed Teddington DRA scheme there is no route for raw or untreated sewage to be discharged in the River Thames, upstream of Teddington Weir.	
3143	Twickenham Parliamentary Constituency	In terms of the measures included in the draft plan to reduce the demand for water, I welcome the steps Thames Water are taking to fix leaks – however, these are not nearly enough. As the need for the WRMP makes clear, water is a precious resource, yet Thames Water continues to lose a quarter of its supply every single day due to leaks. I strongly believe that there should be a greater focus on fixing leaks or else a clear explanation as to why this is not a viable pathway for increasing London's water resilience. Local residents have also pointed out that Thames Water's target for water use reduction per head is significantly less ambitious than the national target issued by Defra. The national plan is to reduce water usage per person to 110 litres per day by 2050, whereas Thames Water's dWRMP reduction goal is 123 litres. I am therefore concerned that the measures to reduce demand in the WRMP are unambitious and urge Thames Water to explain this discrepancy.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this	

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			target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	
3143	Twickenham Parliamentary Constituency	In particular I wish to comment on the proposed Teddington direct river abstraction (DRA). As Member of Parliament for Twickenham, I cannot lend my support to this proposed scheme in view of the lack of data on human health impacts and environmental impacts, and without clarity on how it will be monitored, or how strict standards on water quality will be enforced. I have held discussions with both representatives of Thames Water and local community groups and businesses who regularly use the river, largely for recreational activities. I have also been contacted by a large number of local residents who are not members of any local group. I recognise the crucial importance of producing a strategic plan to mitigate future drought, particularly given the accelerating impacts of the climate crisis, and understand that a range of options need to be considered. However, no options	The scheme is at an early stage of development (essentially conceptual design) and preliminary environment assessment. We are committed to understand subjects such as any impats to human health. The assessment of human health requires a robust water quality dataset, which has been the focus of 2021-2023. Now that the dataset is near completion the health assessment will commence through 2023-2024, along with more detailed reappraisal of the full set of Gate 2 topics (Physical Environment, Water Quality, Ecology and Navigation) as well as wider topics required for Environmental Impact Assessment (such as, recreation use, noise, air quality, landscape etc). The water quality monitoring programme is extensive, covering >350 different chemicals (including >50 different PFAS substances) and has been collecting data on a monthly basis at a number of sites since 2021. The proposed tertiary treatment plant (TTP) will have real time monitoring of the key water quality parameters on both the input flow (from the final effluent stream at Mogden STW) and the output (advanced treated water) from the TTP prior to conveyance for discharge at Teddington by Thames Water. We will monitor the input flow against the concentrations the plant is design for, if levels are close to exceedance the system will stop	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		should be progressing without rigorous and fulsome impact assessments or without adequate scrutiny and accountability to the communities they will impact. In Twickenham and Teddington, the River Thames is woven into the very fabric of our area. It is a part of our area's history, identity and its beauty as one of the greenest boroughs in London. Local residents are particularly concerned over the level of monitoring around the impact of pharmaceuticals, socalled forever chemicals (PFAS) and microplastics that may be discharged into the river if the scheme were to be built. Alongside modelling and preemptive studies of the river environment, I therefore urge Thames Water to commit to realtime monitoring of the impact on water quality as part of the Teddington DRA scheme, should it be approved. At this very early stage of this project, the lack of impact assessments on human health and the environment, and the sheer number of unanswered questions that remain, I cannot consider supporting the Teddington DRA scheme, regardless of any drought mitigation measures it may provide to London. Continued/...	feeding the TTP and only recommence when levels are back down. This will ensure the TTP is able to always treat the flow to the required standards. We will also monitor against the discharge permit parameters on the outflow (advanced treated water) prior to passing this forward in the pipeline to Teddington, if levels are close to exceedance of the permit concentrations the flow would be diverted back to the final effluent channel and not passed forward to the pipeline and on to the river. This will ensure that recycled water would not pass forward to the river if it close to exceedance of the permit parameters. Once concentration levels can be returned to within tolerance the plant would run again and run to waste until demonstrated all quality parameters are back in range prior to passing advanced treated water to the pipeline to the river. This online monitoring and control of discharge is undertaken to protect from the risk of flow not treated to the permit requirements being passed to the pipeline conveyance to the river in the first place. The overtopping of Teddington Weir during spring flood tides is understood and will be investigated further in 2023 to fully quantify the nature of these events and factor these into the operating philosophy of the scheme. The operating philosophy of the scheme will be designed to cease discharge and abstraction during these events to 1) prevent the scheme from contributing to any greater flood risk to local receptors and 2) prevent abstraction of tidal water into the new intake.	

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		Beyond the environmental and broader design process concerns of residents, a number of local groups have also highlighted what could be a significant operational flaw. Residents of Trowlock Island and the Broom Residents' Association have highlighted concerns surrounding backflow of the Thames above Teddington Weir. They point out that during periods of high flow, the river can – and regularly does – top Teddington Weir, resulting in the river flowing inland along the stretch of the river where Thames Water are proposing to build the river abstraction and effluent discharge points for the Teddington DRA. The inland flow would result in effluent from the discharge flowing upstream towards the abstraction point, which presumably represents a risk of that effluent being abstracted to the Thames Lee Tunnel and ultimately into the reservoir – resulting in a drinking water quality issue. This may also be impacted by works to be carried out under the River Thames Scheme which would expand capacity at Teddington Weir. I therefore urge Thames Water to urgently clarify what assessments they have made of the frequency and volume of backflow of the Thames at Teddington Weir in an average year and an explanation of how this would impact the Teddington DRA. Additionally, if Thames Water choose to discharge the DRA's		

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		sweetening flow above Teddington Weir, as opposed to at Isleworth Ait, explanations must be given as to how inland flow of the river would impact on the quality of the water entering the Lee Valley Reservoir all year round.		
3147	Wantage Parliamentary Constituency	I have received many objections to these plans and there are consistent themes running through them, including what they feel has been a lack of engagement and transparency that has been shown throughout this process. There have been several issues, from consultations not being as accessible as they could be to redacted figures being used in them, which has led me to have to engage directly with Thames Water or the WRSE on a number of occasions to ensure that these are resolved.	We note your comments and would like to confirm that we have endeavoured to engage effectively with local authorities, parish councils and local communities who could be affected by proposals in our draft WRMP. We have published tiered documentation including a non-technical summary alongside detailed technical documents, to ensure the draft plan is accessible to everyone who is interested, and we ensured that a multi-disciplinary team was present at all the community events to explain the draft plan and answer questions. We are committed to working openly and transparently with all stakeholders, and community engagement and consultation is an important part of this.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
3147	Wantage Parliamentary Constituency	It is the case that Thames Water has a poor record when it comes to preventing leaks, which many feel would make the reservoir unnecessary in the first place if it was resolved. According to their own website: 24% of the water that Thames Water supplies, leaks. This must be dealt with as a priority if the aim is to increase the resilience of our water supply and should be a key part of any Plan.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the	

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			need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks.	
3147	Wantage Parliamentary Constituency	I am writing on behalf of my constituents to express their concerns about the reservoir proposal. My constituents are concerned about several aspects of these plans and have outstanding questions about the data that is used to justify the proposed reservoir; the environmental impact of this proposal; the flooding risks; whether or not it will provide leisure amenities; the costs involved; and the disruption that it would cause to local people. In particular, many are concerned about the lack of consideration of alternatives, notably the Severn Thames Transfer which they feel would be less expensive and less disruptive but equally or more effective in resolving the water supply issues that the reservoir purports to address.	The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in	We have provided information in response to your comments, there are no changes as a result of your representation.

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			drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. The SESRO options will result in areas of existing floodplain being removed. In line with prevailing legislation and best practice, this would be mitigated through the development of level-for-level	

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			floodplain compensation, as part of the reservoir proposals. This would be designed to ensure that the flood risk to areas upstream and downstream was not worsened by the SESRO proposals. All such work would need to be reviewed and agreed by the Environment Agency before consent for the scheme is allowed. Our initial findings at RAPID Gate 2 are that the scheme could result in a slight betterment to the flood flows passing downstream to Abingdon and negligible impacts on groundwater flooding. This will be subject to further modelling, appraisal and scrutiny as the design progresses. Detailed information on the landscape impacts, environmental impacts including biodiversity and heritage impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID, and agreed with the Environment Agency. As noted in our Gate 2 submission to RAPID (section 3 and Figure 3.1), we have developed an Indicative Master Plan for the largest SESRO option. As stated in that document, this is to "provide a first illustration of how the engineering requirements of the scheme may be integrated with the expected environmental mitigation and with possible recreational uses of the site...This vision will be subject to change and refinement if SESRO progresses through scheme promotion, through future consultation, environmental assessment and associated design iterations, but provides an initial overview of how the largest SESRO option could be conceptualised." This indicative master plan, and the associated costs, impacts and benefits is based upon a scheme that could enable extensive recreational activity including terrestrial footpaths and bridleways, controlled water-based recreation (e.g. sailing club), a visitor centre, a small education centre and a cafe facility. None of these aspects has been designed	

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			in detail at this early stage, but all are included in the concept design at this stage, integrated with the required engineering and environmental mitigation works. Local and regional opportunities: The reservoir has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer.	
3183	Water Level	The volume of source water available to EDRS is currently limited to 45 Ml/day from the Tysso II hydropower station. This can be increased to 180 Ml/day at this source following limited additional investment and subject to confirmation of demand. An evaluation of issues affecting security of supply from this source to EDRS, confirms the risk of supply interruption is extremely low (see Annex to this document). Alternative sources from other Norwegian hydropower plants are being evaluated with two others in an advanced stage of discussion. However, EDRS being the first proposal of its kind, evidence of first adoption and uptake initially by UK customers, whilst keenly anticipated, is required before infrastructure at other sites will be built to divert discharged water to seatankers for overseas shipment.	We have screened this process out as we consider it excessively costly due to the relatively long lead-time leading to significant abortive use of the option. We have fully explained our rationale for it's rejection within Appendix Q - Scheme Rejection Register in section Q.6. It is acknowledged that as of July 2023, the notice period has been revised down to 6 weeks. This revision will need to be taken through the same analysis to understand the impacts on utilisation and abortive use for this option.	We have provided information in response to your comments, there are no changes as a result of your representation.
3183	Water Level	The variable OPEX of bringing water from Norway is high relative to other water resource options. However, this can be mitigated by ensuring that utilisation is minimised, with water sea-tankered from Norway only when necessary. This cost can also be defrayed by adopting an accompanying drought	Thank you for your response. While Thames Water is open to further engagement regarding this option, the evidence obtained so far raises doubts around the overall feasibility of sea tankering as a water resources option, notwithstanding that it remains a potential action within the Drought Plan for extreme drought situations. Sea tankering continues to be excluded from optimisation in the investment	We have provided information in response to your comments, there are no changes as a

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		insurance / assurance product being developed by Parhelion Underwriting Ltd. A draft terms sheet has been tested with the insurance market where annual premiums are established based on an assessment of risk from exposure to extreme drought and likely OPEX costs of providing agreed quantities of water. Very little time has been Page 6 of 7 devoted to understanding the nature and benefits of this product – particularly the benefit of off-balance sheet financing using insurance capital to pay for OPEX. EDRS is set up ready to undertake these discussions and would be pleased to invite Thames to participate and in help progress the development of this first-of-a-kind drought insurance. Conclusion We would like to conclude this response to your consultation with a final observation namely, that EDRS aims to bring alive an option that has been included for many years in the water resources and drought plans of several water companies. Without pre-planning and the know-how equivalent to that accumulated by EDRS, the cost and lead-in time to sea-tanker water from Norway would prove to be considerably higher and longer, rendering it out-of-reach and therefore an option offering	modelling as there continue to be significant uncertainties, including around DO benefits, costs and deliverability that would require further development to demonstrate its feasibility. We have summarised below areas of uncertainty which remain for this option and would require further engagement with yourselves to address prior to concluding if this option could be feasible in the future. 1. Operation of sea tankering would need to be linked to drought control curves included on the Lower Thames Control Diagram and as set out in the Thames Water Drought Plan. The notice period required to mobilise sea tankering of approximately 3 months means that notice would need to be given when the Level 1 control curve is crossed if tanker deliveries are to be available when the Level 3 control curve is crossed. It is estimated that the Level 1 control curve will be triggered approximately once every 5 years, and the Level 3 control curve will be triggered approximately once every 20 years. This means that the requirement for tankering would be triggered approximately once every 5 years but would be cancelled before deliveries were made 3 times out of 4. There would therefore be a requirement to regularly mobilise fleets of appropriately sized tankers, ensure that appropriate tanker cleaning has been undertaken and obtain regulatory approvals – when in most cases the tankers would not actually be required. There is therefore likely to be significant aborted effort and cost associated with this option which it is understood was not reflected in the proposals previously put forward. It is acknowledged that as of July 2023, the notice period has been revised down to 6 weeks. This revision will need to be taken through the same analysis to understand the impacts on utilisation and abortive use for this option. 2. Due to the significant raw water storage available for London the critical period for water resources planning is not the peak demand,	result of your representation.

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		only theoretical resilience.	but it is the annual average volume of Deployable Output. Additional resources only deliver benefit during periods when London storage is drawn down, meaning that a substantial notice period impacts how much of this drawdown period the tankering supplies would be available for. 3. Updated information on the costs of a sea tankering scheme, including the aborted mobilisation costs described above, and the costs of onshore treatment and conveyance infrastructure would be required to more fully evaluate the option. 4. The notice period and associated uncertainty also means that sea tankering would contribute significantly less to operational flexibility and resilience than other resources that can rapidly be brought online in the event of infrastructure outages.	
3183	Water Level	ANNEX – Security of Supply The resources of the catchment have been estimated as 2,250 Ml/d calculated from observed flows and as 1600 Ml/d calculated from the catchment area (420 km2) and a rainfall record. The discrepancy is due to rainfall being measured near to sealevel at Tyssedal whilst the average altitude of the catchment is 1,300m above sealevel. There is no drought susceptibility to the supply because: • The water is abstracted downstream of the hydrogeneration therefore there would be no conflict between the two activities should water resources become limited in a drought. • Average catchment resources are at least 10 times the proposed maximum yield and 40 times the 45 Ml/d being discussed with Thames Water at present.	Thank you for your consultation response. We acknowledge that you have put forward an option for new supplies involved tanker transport from Norway. We will consider this option through the relevant planning processes as the option is considered through the Bid Assessment Framework process.	Option has been considered as is detailed in Section 7 of our WRMP.

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		• The storage in the catchment is very large, 400,000 Ml in Ringedalsvann alone. • Summer inflows will be buffered by snow melt. As a backup arrangement water can be extracted from the pipeline just above the hydrogeneration plant and sent direct to the chamber. This would enable deliveries to be maintained when the generators are not working (planned or unplanned outage, electricity load balancing). The key infrastructure is shown schematically below.		
3183	Water Level	Early in 2023 Waterlevel was encouraged by Thames Water to submit our proposal for consideration under the Bid Assessment Framework. The proposal is now at the PQQ stage and proposes to deliver 45 Ml/d to a Thames Water site such as at Beckton. As discussed in the following sections, water could be used both as a water resource option and if necessary, as a “more before 4” option in the event of an extreme (1in200 to 1in500 year) drought occurrence. We have already proposed this option in our responses to WRE and WRSE’s regional water resources plans and will be doing so for the Anglian and Essex and Suffolk draft plans too. Although this response is to Thames Water’s plan, bringing new water from Norway to the southeast of England in a drought would have beneficial consequences to the region’s resilience.	Thank you for your consultation response. We acknowledge that you have put forward an option for new supplies involved tanker transport from Norway. We will consider this option through the relevant planning processes as the option is considered through the Bid Assessment Framework process.	Option has been considered as is detailed in Section 7 of our WRMP

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3183	Water Level	Continuing work on each of the above key aspects will be shared with Thames Water and other concerned regulators and the EA.	We note your comments and welcome the ongoing engagement.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
3183	Water Level	We refer to our proposed water resource option that involves tankering high quality raw water from Norway to a point on the network (such as Beckton) in the event of an extreme drought. This option is mentioned briefly in the Plan, based on limited discussions between Waterlevel (known previously as Albion Water), and both Thames Water and WRSE. These early discussions centred on an exemplar proposal submitted to WRSE in July 2020, being applicable to many of its members, and to those of WRE. A review by WRSE consultants was conducted in January 2021, released to Waterlevel mid2021 with limited discussions since then. The option therefore has not been developed to the same extent as other comparable options such as Beckton reuse, Mogden reuse, and the proposed Teddington Direct River Abstraction (referred to in your Annex A5). Recent initial discussions with Thames Water have identified Beckton as an ideal point for an EDRS shipment delivery to enter the Thames Water network for the following reasons: • The presence of an existing jetty • An existing treatment works that is currently underutilised by 50 Ml/d • An existing treated water pipeline that is underutilised by 50 Ml/d that connects Beckton to the Lee Valley treated water system. The water from Norway being of excellent quality is unlikely to require any further treatment beyond disinfection, either at source or at Beckton. Comparison with the Teddington DRA scheme.	Thank you for your response and for providing further information on the INNS risk related to this option. While Thames Water is open to further engagement regarding this option, the evidence obtained so far raises significant doubts around the overall feasibility of sea tankering as a water resources option, notwithstanding that it remains a potential action within the Drought Plan for extreme drought situations. Sea tankering continues to be excluded from optimisation in the investment modelling as there continue to be significant uncertainties, including around DO benefits, costs and deliverability that would require further development to demonstrate its feasibility. We have summarised below areas of uncertainty which remain for this option and would require further engagement with yourselves to address prior to concluding if this option could be feasible in the future. 1. Operation of sea tankering would need to be linked to drought control curves included on the Lower Thames Control Diagram and as set out in the Thames Water Drought Plan. The notice period required to mobilise sea tankering of approximately 3 months means that notice would need to be given when the Level 1 control curve is crossed if tanker deliveries are to be available when the Level 3 control curve is crossed. It is estimated that the Level 1 control curve will be triggered approximately once every 5 years, and the Level 3 control curve will be triggered approximately once every 20 years. This means that the requirement for tankering would be triggered	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		Waterlevel's EDRS proposal will: o Have a significantly lower capital cost than the £229m proposed for Teddington DRA. There is not expected to be any capital cost at the Norwegian end of the supply chain, rather a cost for reserving capacity and remaining on Standby to deliver ondemand. o Have a similar fixed operating cost. o Require minimal new Thames Water assets at it makes use of currently underutilised treatment works and treated water pipelines. o Restore the deployable output of the Beckton infrastructure to the 150 Ml/d that the desalination plant was designed to achieve. o Be available well ahead of 2031. Supplies from Norway could be in a position to commence by late 2023 and ramp up in 2024 on demand. o Be a reliable resource with no susceptibility to climate change or extreme (1in500) droughts. o We are not familiar with the Teddington scheme however it appears that this proposal will: • Reduce flows downstream of the current discharge location for Mogden wastewater treatment works. • Result in a short, 150m, deprived reach between the new abstraction point and the discharge of the tertiary treated water just upstream of Teddington Weir. • Require new or varied abstraction licence and discharge consents • Not provide the same quality of effluent discharge to the Thames as is proposed for the Mogden / Walton scheme • Have numerous risks as identified in Table 36 of your Annex A5. One of these risks is INNS a potential issue for the EDRS scheme, particularly in the context of Salmon Fluke. However, following eradication, regular surveys by the Norwegian Veterinary Institute have issued the allclear since 2019 and all but 8 catchments are now officially fluke free (no flukes for five years). Our catchment is not one of the 8.	approximately once every 5 years but would be cancelled before deliveries were made 3 times out of 4. There would therefore be a requirement to regularly mobilise fleets of appropriately sized tankers, ensure that appropriate tanker cleaning has been undertaken and obtain regulatory approvals – when in most cases the tankers would not actually be required. There is therefore likely to be significant aborted effort and cost associated with this option which it is understood was not reflected in the proposals previously put forward. It is acknowledged that as of July 2023, the notice period has been revised down to 6 weeks. This revision will need to be taken through the same analysis to understand the impacts on utilisation and abortive use for this option. 2. Due to the significant raw water storage available for London the critical period for water resources planning is not the peak demand, but it is the annual average volume of Deployable Output. Additional resources only deliver benefit during periods when London storage is drawn down, meaning that a substantial notice period impacts how much of this drawdown period the tankering supplies would be available for., however due to the notice period (estimated at 3 months) for mobilising tankering, for a significant proportion of the drawdown period tankering supplies would not be available. For this reason, the Deployable Output benefit of sea tankering is estimated to be only 20% of the nominal tanker supply volume. Based on this a 45Ml/d tanker supply is estimated to deliver a Deployable Output benefit of only 9 Ml/d. 3. Updated information on the costs of a sea tankering scheme, including the aborted mobilisation costs described above, and the costs of onshore treatment and conveyance infrastructure would be required to more fully evaluate the option. 4. The notice period and associated uncertainty also means that sea tankering would contribute significantly less to operational flexibility and resilience than other resources that can rapidly be brought online	

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			in the event of infrastructure outages. 5. Information provided in the consultation response around the risk of Salmon Fluke is noted and this would require further review in conjunction with the Environment Agency, who decide whether mitigation for Invasive Non-Native Species (INNS) will be necessary for schemes on a case-by-case basis to ensure they do not significantly increase the risk of INNS transfers.	
3186	Waterwise	Many thanks for the opportunity to comment on the draft plan. We have focussed our response on the demand management elements of the plan. - Overall we are pleased to see significant detail in the draft plan and supporting appendices on how future demand has been calculated and the demand management options that have been considered when it comes to household demand, non-household demand and leakage. The appendix document presenting the experience of the company in AMP6 and AMP7 was also very insightful. We are really pleased that Thames continues to be actively involved in a range of national water efficiency fora, including those organised by Waterwise. Reference could be made in the final plan to the new UK Water Efficiency Strategy to 2030 which the company very much helped to develop. - We fully support the AMP8 water efficiency programme presented which builds on the company''s experience of the largest and most comprehensive AMP6/7 water efficiency programme in the sector. - However, in the longer term implementing the WRMP24 plan is predicted to only achieve 125 lppd PCC by 2050 (123 lppd with policy support), which is higher than almost all other English water companies and significantly above government, regulatory and stakeholder expectations. What stands out in the Thames forecast of PCC is the very limited further reductions in PCC achieved between 2037/38 and 2049/50 including in comparison to other companies, with Thames achieving one of the smallest reductions in PCC lppd in that period (3 lppd without policy or 5 lppd with policy) - see table below. The plan	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised with our Statement of Response document. In response to the areas of concern you have raised, please see below. **Household water use and the national target** Between draft and final plans the government have confirmed that the national target for PCC of 110 should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement, along with innovation and tariffs, will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water company action is required to meet the target. Please also note that the household usage target of 110l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. **Government-Led Position** For our final plan, we plan to clarify the timing and savings of expected government interventions and outline their importance to the delivery of PCC targets. As part of these interventions the government is expected to introduce some of the highlighted measures to support	

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		attributes this significant tail off to having smart metered the vast majority of properties by 2040 and “exhausting” traditional water efficiency options/target properties. Further longer term savings due to new tariffs and innovation are flagged but are predicted to deliver just 1.4 lppd and 1.2 lppd respectively by 2050 based on Technical Expert opinion. Although both figures seem very low we agree they are uncertain at this stage. - Given the supply demand challenges that the company faces, the ultimate level of PCC reached in 2050 in the draft plan is disappointing. It would therefore be useful if the final plan could also provide an alternative glidepath that gets nearer to 110 lppd highlighting what additional actions are required by government, regulators and by the company. We also need to be confident the company has considered all opportunities in its control to go further. For example the company has undertaken around 330k home visits to date since 2015 but from Table 8-11 in Section 8 appears to only be planning a further 320k visits & 26k wastage fixes in the next 25 years, focussing on households as they are metered and on high water users. We would like to see the final plan explore what more could be achieved by significantly scaling up and broadening out the longer term SHV programme (x2, x3) to include “normal” water users. Elsewhere the draft plan does indicate that savings of circa 37.94 litres a day per property can be achieved from normal level water users albeit we accept that this will not be as cost effective as targeting high users only. - We are pleased to see that Thames Water recognises the potential contributions to demand reduction from government policies such as water labelling of products and have highlighted this in the plan. Thames has been actively involved in helping develop and share the evidence base needed to highlight where policy needs to be improved or to support new policy initiatives and this is very welcome. - We are asking all companies to include a budget in their final plans to support/promote the roll-out of water labelling in AMP8 helping to	long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be able to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. **Innovation and Tariffs** As noted, the innovation and tariffs option savings were expected to drop off significantly by AMP11 (2040-45) in our draft plan. For our final plan, we expect to increase savings in AMP11 and AMP12 to assist with the 110l/h/d PCC target. This is expected to be at least in part supported by further work into high user targeting, to build from the high-user study provided by Artesia as mentioned within the draft plan. **Sharing of meter consumption data** All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the non household user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to	

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		explain to their customers why it is important and how they can use the label. The trial of a linked incentive scheme could also be considered. - There are further policy-led opportunities to secure additional savings through more ambitious policy with regards to linking the water label with minimum standards and through new regulations for new build development and retrofit. We would urge Thames Water to continue to work with Waterwise to advocate for more supportive policies to add to what the company can deliver itself. - It would be useful to set out what specific policies are included in Government Options A to G presented in Table 8-9 including specifically in Option B which has been adopted by WRSE. - It would be useful to see Figure 8-24 extended to cover the full period through to 2050 and we query why in this figure under the Government B scenario there are no further PCC savings from water labelling shown after 2040 on the graph when in Table 8-9 there is an additional 5 lppd post 2040. - Table 8-10 indicates that between 2040 and 2050 improvements in device efficiency using the Thames trend analysis deliver an additional 7.6 lppd saving in PCC (see below). This does not seem to be reflected in the PCC dWRMP out-turn between 2040 and 2050 which in the dWRMP data-tables goes from 127 to 123 lppd in the with policy pathway, a 4 lppd reduction which, as highlighted above, is largely down to tariffs and innovation. - Given the above challenges in delivering household consumption reductions post 2040 it is very important that Thames sets aside significant funds in AMP8 to fully explore new additional opportunities for further savings in AMP9 onwards. Anglian Water has included a £5m AMP8 Water Demand Discovery Fund in their plan and we are pleased to see Thames including an AMP8 Water Efficiency Innovation Trials work programme. Although the scale of it is not clear in the plan document we would expect it to be at least twice the size of the Anglian programme given the relative size of the companies.	access NHH smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. **Non household Improvements** As you have noted, we are anticipating there is likely further scope for our SBV programme. As such, for our final plan, we are planning to extend this programme and its consumption saving expectations into AMP9-AMP12. Additionally, we will further consider new commercial options in our final plan and provide further commentary on business use expectations from our regulators.	

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		- One area that should be considered to deliver further PCC savings is the use of relatively inexpensive flow controllers/regulators which in small scale trials (Affinity, Sussex, NWL) have been found to deliver 35-64 litre savings per property with further larger scale trials planned in Sussex and by UU, Severn Trent Water, Yorkshire Water and others. One cost effective option Thames could consider that other companies are exploring is fitting these devices when you fit smart water meters focussing on known high water pressure areas. Alternatively in all new homes and on change of occupancy in those areas. - We fully support the continuing smart meter roll-out to HH and NHH properties through to 2035. Our research coupled with the experiences that Anglian and Thames Water have shared with the sector have shown that smart metering is a game changer when it comes to reducing leakage and engaging with customers on water use and water wastage. It is very useful to see the data in Section 8 of the plan which sets out the savings that smart metering is achieving in a range of properties through a combination of behavioural change and reduced water wastage. We also support Thames Water's plan to undertake tariff trials during AMP8 to inform potential roll-out by 2035. - We are pleased to see the inclusion of an additional programme element in AMP8 around the sharing of consumption data with water users through a digital portal. We encourage Thames to initially undertake customer research to determine how customers want to access consumption data (i.e. whether customers prefer an online platform they can log into or a phone app as with Octopus energy – see image); what sort of data they would find most useful and what would prompt them to save water (i.e. resolution, benchmarks, alarms). However, the budget set aside in AMP8 to set up for this welcome programme seems very small (£200-250k) given it is earmarked to deliver around 10 Mld of savings and represents a new, major, opportunity to engage with customers using smart meter data to help them reduce wastage and save water. We would like to see Thames		

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		Water significantly increase the budget in AMP8 for this important new programme element. - Thames Water has been actively involved in a number of fora exploring how demand reduction for NHH users can be better supported and delivered including through wholesalers playing a more active role in the short to medium term. This is welcome given the government's Environment Act target (which includes NHH demand reduction) and Ofwat's planned performance commitment (which also includes NHH demand reduction). The dWRMP24 plan indicates that there is potential for significant savings in NHH water use based on data from smart meters and the company's sector leading SBV programme. However, the final plan could provide more detail in terms of AMP8 NHH options and Thames Water's proposed NHH programme. We believe there is scope to significantly scale up the SBV programme. - A portion of the potential deficit in the Thames Water area is driven by future decisions on the type and location of future development. We believe that water hungry developments in a region with such a large water deficit and especially in areas where the companies' abstraction licences are being capped or reduced to protect the environment, should be water demand neutral….in much the same way as regulators require new developments in flood prone areas to be flood neutral. This could be achieved through proactive collaborative work with planners and developers at a WRZ or catchment level in these sensitive areas. We were pleased to see Thames Water launching its developer incentive to help minimise or avoid the additional water demand footprint of new development and will be encouraging other water companies to adopt a similar approach. - At Waterwise, we're committed to driving equity and preventing discrimination at work and in the work we do. A great deal of our impact is delivered through challenging others through consultations such as this to ensure equity, diversity and inclusion has been considered in all policy and planning decisions. We encourage as you develop the final		

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		plan to consider the impacts on social wellbeing and how you will understand impacts of decisions, including in the long-term following trade-offs, on the diverse members of the Thames Water customer base.		
3197	Stroud Parliamentary Constituency	This is a matter of national, regional and local importance. I understand that the Thames Water Resource Management Plan (TWRM), with which the WRSE must be consistent, does not favour the Cotswold Canals SevernThames Transfer (STT) and as such the STT is not included in the WRSE Draft Best Value Plan. This is despite the STT proposal delivering so much more than traditional solutions like reservoirs and pipelines. This is something that WRSE acknowledges. This is also despite the STT proposal having the capacity to be delivered 8 years earlier than the favoured alternative. The STT proposal, being put forward by the Cotswold Canals Trust, could see up to 300 million litres of water per day being transferred form the River Severn to the River Thames via the canal. The adoption of the canal for this dual purpose is by far the best prospect of restoring the whole canal in a relatively short timeframe whilst addressing the region's increasing vulnerability to serious water shortages. There are two key issues I wish to outline, in support of the STT proposal: Firstly, The South East Strategic Reservoir Option (SESRO) -otherwise known as the Abington Reservoir -has a much longer lead time, delivers less water and is highly controversial. Despite this, it has been prioritised over the STT options. In doing so, additional water resources to London and the South East will be delayed. This exposes the capital to a very real risk of running out of water and delaying the implementation of reducing the amount of water being taken out of the	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		environment. Secondly, the STT proposal, which is entirely feasible, has not been chosen on the grounds of it not being the lowest cost. This is no longer the criteria that is supposed to be used in these plans. Instead, it should be 'Best Value'. I have been made aware that it is understood that the TWRM is based on an assumed monetisation benefit to society which is only 10% of what multiple other studies suggest it should be. That is an 80 year N.P.V difference of approximately £720million -this is arguably more than enough to switch the preference, on the basis of 'Best Value', from the proposed Deerhurst Pipeline to the canal. I offer my support to bringing forward the STT proposal for early implementation. Doing so would demonstrate true 'Best Value' and be a noteworthy example of innovation with wide benefits.	policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
3276	North Wiltshire Parliamentary Constituency	Thank you for supporting us when the Water Resources South East emerging plan consultation took place about a year go. The outcome of that was that WRSE were impressed by the level of support for the Cotswold Canals SevernThames Transfer scheme and made some very positive noises as a result. The TW dWRMP does not prefer the Cotswold Canals SevernThames Transfer so is not included in WRSE draft Best Value Plan either even though it delivers so much more than traditional solutions like reservoirs and pipelines; something that WRSE acknowledges. The proposal, being put forward by the Cotswold Canals Trust, could see up to 300 million litres of water per day being transferred from the River Severn to the River Thames via the canal. The adoption of the canal for this dual purpose is by far and away the best prospect of restoring the whole canal in a relatively short timeframe.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		There are two main issues that perhaps should be considered in addition to general support for the Cotswold Canals SevernThames Transfer scheme. These are: 1. The South East Strategic Reservoir Option (SESRO otherwise known as the Abingdon Reservoir) has a much longer lead time, now delivers less water and is highly controversial yet it has been prioritised over the Severn -Thames Transfer options. In doing this, additional water resources to London and the South East will be delayed exposing the capital to the risk of running out of water and delaying the implementation of reducing the amount of water being taken out of the environment. Frankly it makes no sense. 2. The Cotswold Canal scheme, which is entirely feasible, has not been chosen on the grounds of it not being least cost. This is no longer the criteria that is supposed to be being used in these plans; it is supposed to be "Best Value". We believe that that the Thames Water dWRMP is based on an assumed monetized benefit to society which is only 10% of what multiple other studies suggest it should be. That is a 80 year N.P.V. difference of about £720million and that is more than enough to switch the preference, on the basis of best value, from the proposed Deerhust Pipeline to using the canal.	under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	
3276	North Wiltshire Parliamentary Constituency	Unfortunately WRSE's aspiration to end up with a best value plan is heavily influenced by the individual water companies own statutory Water Resource Management Plans and Thames Water are still set on their proposed huge and controversial reservoir at Abingdon and don't seem to have fully understood the difference between a "Best Value" and "Least Cost" plan.	It is the WRSE plan that has the lead, which is endorsed and split out into Water Company plans. 'Least Cost' and 'Best Value' are defined in the plan. We accept that stakeholders have differing views on what they would consider to be best value and how they would balance cost, environment and resilience factors. SESRO is a strategic regional option that would serve customers from	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and

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			Thames, Southern and Affinity Water. It would not solely be a Thames Water project, it would be joint or third party developed, potentially with allocations of water to each company based on need.	Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.
3465	Water Resources West	3.1 Our draft regional plan and Thames Water's WRMp24 draft plan include the selection of the Severn Thames transfer (STT), with supporting options, to meet needs of Thames Water and support onward transfer to other companies in the South East. 3.2 The agreed outcome of reconciliation 2 included the selection of the following options in the reconciled plans: · Severn Thames transfer (STT), 500 Ml/d interconnector operational in 2050 · STT support from Netheridge, 35 Ml/d in 2050 · STT support from the North West transfer, 135 Ml/d in 2060 · STT support from Minworth, not included in reconciled plan 3.3 An alternative pathway was also noted in reconciliation, covering the situation should new Thames Valley reservoirs not be available: · STT, 500 Ml/d interconnector operational in 2040 · STT support from Netheridge, 35 Ml/d in 2040 · STT support from the North West transfer, 25 Ml/d in 2048, increasing to 105 Ml/d in 2050 · STT support from Minworth, 58 Ml/d in 2050, increasing to 115 Ml/d in 2055 3.4 These selections were reported in a summary document agreed by all regions1. 3.5 The regions also agreed a change control mechanism, to maintain	Many of the points made in this representation are explanation of the regional planning process and are not relevant representations to our draft WRMP. There are also comments which are directed at the WRSE Regional Plan, and these are not comments on our WRMP. As such, we have not addressed these points in detail. This applies to Sections 3.1 to 3.11. The Thames Water draft WRMP reflects the WRSE Regional Plan, and it is our consideration that the WRSE Regional Plan correctly included the combination of STT options agreed through regional reconciliation. We would, however, add that we are disappointed in the tone demonstrated in WRW's representation given how constructively the regional groups have worked together during the strategic planning process. Our consideration is that all companies' WRMP development processes now necessarily involve complex methods which involve significant time inputs. The complex processes adopted by WRW necessitated 'locking down' STT assumptions well in advance of when it was feasible for WRSE to have a 'locked down' option selection. This is demonstrated by the request from WRW that WRSE confirm STT option selection in the final WRSE Regional Plan (and revised draft WRMPs) prior to the end of the TW consultation period, a request which could clearly not be facilitated. It is our consideration that there is potential for misalignment given the tight timescales on which WRMPs have been developed, and that added agility/flexibility in the WRW planning process could facilitate better alignment. A more constructive, flexible approach to regional reconciliation (which we	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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		alignment between plans should new information come to light between completing the reconciliation and finalising the draft plans for consultation. The agreed process in documented in “Interregional reconciliation – change control process, Final v1.0”, dated 20 July 2022. The change control process document makes reference to immaterial changes that might be identified: “Immaterial changes would result in unnecessary rework, diverting resource away from finalisation of plans and preparations for highquality public consultation. Therefore immaterial changes to plans should not be expected to be made, i.e. all regions plans would be expected to remain at the previously reconciled position. This would include a region that might request a change that is subsequently agreed to be immaterial.” 3.6 A potential change to STT was identified by WRSE and assessed by WRW following this process. The outcome was recorded on a change control form. WRW assessment was that there was not sufficient time to include this change in any detail in the plan. Both WRW and WRSE agreed at the time, and recorded on the change control form that this change was immaterial. It was therefore agreed that this potential changes would be noted but not included in the plans as per the agreed process. 3.7 The selection of STT schemes in the WRW draft plan is consistent with the reconciliation and the agreed outcome of the change control: · Severn Thames transfer (STT), 500 Ml/d interconnector operational in 2050	believe has been reached in reconciliation round three as a result of direct contact with WRW company representatives) is welcomed. We acknowledge that Vywnwy reservoir is further away from London than the proposed reservoir near Abingdon (SESRO). Deployable Output calculations have been carried out for both SESRO and the STT using robust, assured methods, and stochastic datasets. It is our consideration that the results of Deployable Output assessments carry more weight than generic statements about drought coherence, given that drought coherence is built into the assessments which have been undertaken, but that other factors (e.g., the HoF on the River Severn) are built into Deployable Output assessments. Flows in the River Severn were below the HoF throughout 2022 and as such minimal water would have been available for transfer under an unsupported transfer regime, demonstrating significant ‘operational’ drought coherence between the Thames and Severn catchments last year. The WRW representation fails to recognise the importance of water available for unsupported transfer in the Severn when considering the resilience and cost of the STT overall. We find the tone of WRW’s representation disappointing when extensive, proactive discussion was held regarding these topics prior to the submission of the WRW’s representation. Regarding paragraph 4.8 of the WRW response, our consideration is that the STT is subject to higher operational risks than SESRO and that, as such, discussion of the specific resilience benefits of the STT is not warranted. While the STT includes a range of support sources as described in WRW’s consultation representation it also involves single points of failure including the River Severn (which could be subject to pollution), the River Thames (which could be subject to pollution), a treatment works prior to pipeline transfer (which would need to treat a range of raw water quality parameters), and a pipeline	

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		STT support from Netheridge, 35 Ml/d in 2050 · STT support from the North West transfer, 135 Ml/d in 2060 · STT support from Minworth, not included in reconciled plan 3.8 The precise selection of the STT support options is not clear in the WRSE or Thames Water draft plans. The table in Paragraph 6.10 of Technical Annex 2 to the WRSE plan states 130 Ml/d of Severn Thames Transfer (STT) (additional resource) in the period 2050 to 2060. Paragraph 6.16 states that “After 2050 new water sources could be developed and transferred using the STT, including the Minworth water recycling scheme and enhancements to Lake Vyrnwy in Wales. By 2060, it could provide up to 500 million litres of water per day in total to South East England from a combination of sources.” It was not possible to check the detailed planning tables, as they were not published by WRSE at the time of preparing this response in January 2023. 3.9 We are concerned that WRSE companies are reporting a selection of STT support options in their preferred plan that is different from the reconciled position. For example, the Thames Water Draft WRMP Table 4 reports the preferred plan selection of Vyrnwy 105 Ml/d with first year of use 2049/50 and Minworth with first year of use 2049/50. Table 112 in Appendix 11 of the Thames Water draft WRMP shows these same options but with different dates: ranging from 2053 to 2060 for Vyrnwy and being 2060 for Minworth. 3.10 For the Statements of Response, we would ask Thames Water, WRSE and the other WRSE member water companies to present a clear and consistent preferred plan selection of	transfer. We consider that we have given adequate explanation of the resilience of the STT in our dWRMP. The WRW representation fails to recognise that the STT is heavily reliant on the availability of water from the River Severn, and does not involve direct transfer of water from water trading schemes. Regarding point 4.9, while it is true that the River Thames supply system will be different in the future, wholesale re-optimisation of the supply system around the STT is not warranted. The Lower Thames reservoirs are large and have space for water to be transferred into them during the long-duration drought events to which the system is most vulnerable. Deployable Output benefit for the Lower Thames reservoir system is generated via transfers being made over a long period, and the existing assumptions around control curves and scheme triggers ensure that this is achieved. Generation of additional Deployable Output would involve additional utilisation of the support sources, which would increase the cost of the scheme. We have advised WRW that, if there are patterns of support availability/unavailability that would significantly reduce the cost of the STT support, the Deployable Output impacts of these altered patterns of availability could be explored, but WRW have not provided such information . Section 4.3 of your representation, regarding the availability of STT support options, is understood, being part of the STT SRO project team.	

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		transfer schemes, aligned to the outcome of the third reconciliation that we will undertake. 3.11 In our review of the WRSE and Thames Water draft plans, we noted the selection of an Oxford canal option in some scenarios. This option utilises a surplus of 15 Ml/d in the Birmingham Canal Navigations. Other options to use the same water have been offered by the Canal and River Trust to companies within WRW. It hasn't been part of reconciliation discussions to date, but we think it should be included in the scope of reconciliation 3 to mitigate the risk of two parties selecting options which use the same source water. 4.9 The SESRO reservoir is located in the Thames catchment, as are existing reservoirs that supply Thames Water and others in the South East. A transfer option which uses Vyrnwy reservoir refilled from a catchment nearly 200km away, will always have lower drought risk (measured in terms of event coincidence) than a reservoir refilled from the same catchment as existing sources (which would by definition have 100% drought coincidence). The sources used to support trading in the North West are located even further away than Vyrnwy. STT support using effluent from the Midlands will also have lower drought risk. Experience of the 2022 dry weather event also supports these findings. Whilst conditions in the North West were drier than usual, the level of severity was much lower relative to other parts of the UK.		

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		4.10 Pollution and other operational risks. Some WRSE member companies, including Thames Water, state in their WRMPs that the SESRO reservoir will be particularly beneficial in the management of operational risks, with pollution cited as an example. There are a variety of operational risks that water resources face. Sources which rely on rivers can be subject to pollution incidents, which could restrict abstractions for certain periods of time. Reservoirs may need to be drawndown occasionally for reservoir safety works, restricting their output. The STT being a system with a mix of source types: river, reservoir and effluent reuse is particularly resilient to such risks. We think it would be helpful to explain in your plan the resilience benefits that the STT system could provide. 4.11 Optimisation of the River Thames system. There does not appear to be a full assessment in the WRSE or Thames Water draft plans for how the River Thames system could be optimised with the STT in a noSESRO scenario. There are a number of existing reservoirs linked to the Thames which could be optimised to supply Thames Water, Affinity Water and others. The current operational rules (e.g. in the Lower Thames Operating Agreement / Control Diagram) may need to be reviewed with an injection of up to 500 Ml/d into the supply system from the STT, plus new rules could be required to maximise the effectiveness of onward transfers to other companies. Such an optimisation could lead to improved benefits in your plan. Crosssystem optimisation between the Thames operating rules and the STT support options might result in lower utilisation of the STT and lower cost in a noSESRO scenario. Equally, crosssystem		

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		optimisation might lead to better sharing of existing Thames storage between Thames Water and Affinity Water, combined with the STT system to bring improved deployable output and resilience benefits to Affinity Water as well as Thames Water. This would be a benefit to all customers. 4.3 Availability of STT support options. The purpose of reconciliation is to confirm the selection of interregional transfer schemes based on the needs of all regions. STT support options could be used to meet needs within WRW region or in WRSE. This is a benefit in terms of the flexible, adaptive nature of the STT system. There is a limit to the total amount of support options and therefore a risk that selected options may not be available. Reconciliation 2 considered this and this constraint was not met. WRSE could have selected more STT support options. We are concerned that this may not be well understood amongst WRSE members. For example, Affinity Water's draft WRMP incorrectly states that the number of support schemes for the Severn Thames Transfer were limited to 154Ml/d due to Water Resources West's own regional need. No such restriction was applied. WRSE only identified a need for 35 Ml/d from Netheridge and 135 Ml/d from Vyrnwy in reconciliation. More could have been requested from Vyrnwy and from Minworth. Going forwards we expect that WRSE will work with us through reconciliation 3, and reflect that into the WRMPs of its members. Once reconciliation has confirmed the availability of resources, this risk should not be used to discount the selection of transfer schemes.		

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3465	Water Resources West	4.4 Operating Costs. The WRSE draft plan (Annex 2 paragraph 14.53) and the Thames Water draft plan (paragraph 11.63 of Overall Best Value Plan report) state that STT attracts higher costs and carbon emissions than SESRO. Cost comparisons should only be made on a wholelife NPV basis using standard discount rates and it would be helpful to explain this clearly to stakeholders in your plan. 4.6 Carbon costs. The WRSE draft plan (page 10) and The Thames Water draft plan (paragraph 11.63 of Overall Best Value Plan report) state that the STT is a more carbon intensive option than the SESRO option. Additionally, the Thames Water Programme Appraisal and Scenario Testing report paragraph 10.192 states that the embedded carbon associated with building SESRO is around the same as that needed for STT scheme but that STT has an ongoing higher operational carbon emissions than SESRO. 4.7 Transfers are sometimes cited as high carbon because of energy use associated with pumping. However, such pumping in the case of STT would be provided by net zero electricity. This is confirmed by the statement on page 36 of the WRSE that says carbon assessments account for decarbonisation of the UK electricity grid. We therefore suggest that, to aid transparency, a clear assessment of the carbon costs for the STT are shown in your plan.	All cost and emissions comparisons in our dWRMP have been made at the programme level, rather than at the scheme level, recognising that schemes selected must work together to solve the regional planning problem. All programme-level cost comparisons are made using net present value, and this has been made clear in both WRSE and Thames Water documentation. Interpretation of programme-level outputs is required and we consider that our draft plan provided a robust explanation for the differences in costs and emissions between different programmes in the dWRMP. Regarding scheme cost and emissions comparisons, this data is provided transparently through documentation produced for the RAPID SRO Gated Process, acknowledging that several separate sets of SRO documentation need to be examined to get the full picture for the STT, as carbon emissions associated with component schemes which make up the STT option are present in three distinct sets of SRO documentation (Minworth, UU sources, STT). Regarding WRW's assumption that programmes which incorporate the STT are high-carbon due to assumptions around pumping, we do not consider that this criticism is valid as carbon emissions associated with electricity are considered as varying across the planning process (acknowledging decarbonisation of the grid). Carbon emissions are higher due to the requirement for chemicals needed to treat water. We provided data to WRW on this topic before this consultation response was made and so find it disappointing that WRW felt it necessary to query this as part of the representation tothe public consultation. Table 5a of our WRMP Tables provides detail required regarding carbon emissions and we would suggest that SRO submissions would be a better location for the very detailed breakdown suggested. We encourage proactive, constructive engagement between all parties given the complex nature of the strategic planning process and its	We have not made changes to our dWRMP following this consultation response as we consider that our WRMP24 and the SRO documentation already provide the information required.

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			supporting data to ensure a correct understanding of information being presented.	
3465	Water Resources West	4.8 Climate resilience and drought coherence. Another concern that has been raised by WRSE is about whether droughts could occur in the Midlands and North West at the same time as the South East, and whether this could result in supplies to the South East being restricted in such events. The STT system has been designed to mitigate such risks. The transfer scheme would include contractual provisions in bulk supply agreements to protect the recipient, and this is backedup by Ofwat powers to regulate bulk supply agreements. Moreover, the water made available to the South East is offset by the development of new sources in the North West. The selection of these sources has been made using the best available assessments of future droughts, taking account of the coherence between the South East, the Midlands and the North West. Drought coherence has been shown to relatively low between the North West and the South East in multiple studies: · The Environment Agency's National Framework for Water Resources4 reports that coincidence of the drought reduces rapidly over distance. It's modelling suggests that the combination of the change in the nature of resources, plus meteorological variability means that storage systems are unlikely to experience critical drought risk at the same time once they are	The concern that we have expressed around the resilience of the STT is not associated with water from the support sources, but rather from the unsupported transfer, which makes up a significant proportion of the benefit from the STT, and the presence/absence of which has a significant impact on the total cost of the STT. Year-to-year, and in different drought events, there is a significant risk that water from an unsupported STT may not be available. Analysis of data from the 2022 drought event demonstrates that, without support, the Severn-Thames Transfer would have been ineffective in providing a meaningful amount of water to the South East, with only 7 Ml/d available during the 2022 drought. The knock-on concern is that, if we have underestimated the coherence of drought events in the Severn and Thames catchments, or if climate change serves to increase the coherence of drought events between these two catchments (as has been shown to be likely), we will need to rely more heavily on support from support sources, raising the prospect of unexpected vulnerability of the scheme as a whole. We consider that there is further work required to ensure we have fully considered the issue of drought coherence between the Thames and Severn catchments, particularly under climate change scenarios, and to further consider the requirements that would be placed on the North West should the STT be constructed, in order to ensure that the nation's water supplies would be resilient. The Environment Agency have questioned the viability of the STT in their representation to TW's	We have not made changes to our dWRMP on the basis of this consultation response as our consideration is that the representation of the STT in our dWRMP was appropriate.

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		separated by more than 100 to 150 km. This suggests that there is scope to increase drought resilience by developing longer transfers, such as the Severn Thames transfer. · Data sets produced by Atkins and commissioned by WRSE and the other four regions for use in regional planning show a relatively low correlation between droughts in the North West and the South East. The correlation coefficient is typically in the region of 0.5 or less, as shown in Figure 1 below. · Work by the UK's Centre for Ecology and Hydrology cited in WRW's regional plan5 shows that the UK can be divided into North West and South East regions which each experience very different drought characteristics. This shows that when the South East is in an extremely severe drought, very rarely is the North West also in a drought at the same time, and viceversa. · RAPID's National System Simulation Modelling6 looked at the impact of the proposed transfers on drought risk (level of service impacts) within United Utilities' and Severn Trent's supply systems. It concluded that operationally there would not be more days in water use restriction observed in those source areas. This means that the scheme is well designed to protect the resilience of the source companies and they would not therefore need to restrict supplies through the transfer relative to the design assumptions factored into WRMP and regional plan deployable output assessments.	public consultation with respect to performance of the scheme during drought events and we will look to continue this investigation as a priority, as part of the STT SRO studies in conjunction with WRW and its member companies - United Utilities and Severn Trent Water. These points were discussed with WRW prior to the submission of its consultation response. We are again disappointed that WRW felt the need to raise these points in their representation following these conversations.	

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3465	Water Resources West	4.5 Adaptability. We are pleased that the STT is recognised as an adaptable scheme, which can provide the additional water needed to meet the environmental ambition challenges. It's not clear from the published information how this adaptability has been assessed and factored into the decision making, e.g. through best value planning metrics. We think it would helpful to explain these benefits and how they have been factored in to your decision making.	We agree that the STT can be an adaptable scheme. As is described in the Section 10 of our draft WRMP, adaptability is one of the resilience sub-metrics considered in the development of the Best Value Plan. Please refer to Section 10 and Appendix W for more detailed information	We have not made changes to our dWRMP following this consultation response as existing material provides sufficient explanation. Please see Appendix W and Section 10 of our draft WRMP.
3465	Water Resources West	2.1 We wish to thank Thames Water for working collaboratively with us as part of WRSE, through the Regional Coordination Group and the reconciliation process. The reconciliation was the means by which the strategic (i.e. large or interregional) schemes could be selected consistently in our draft plans, i.e. the same dates and volumes are proposed in both sets of plans. WRW, WRSE and the other regions did work together in reconciliation to develop evidence about which transfers were be to be included in the regional plans and the WRMPs of our members as part of best value plans that their boards could assure. 2.2 The publication of the draft plans is a substantial achievement for regional groups and water companies alike. Much work has gone into the draft plans, which required close collaboration between water companies in both WRW and WRSE regions through two rounds of reconciliation in 2021 and again in 2022. We want this close collaboration to continue through the next year as we develop our updated regional plans. Together we have an opportunity to build on the lessons learned so far through the process and implement these to improve our approach in future planning rounds. 2.3 We therefore encourage Thames Water to continue working	We thank WRW for feedback to the public consultation and confirm our commitment to ongoing collaboration with the other regional water resources groups and partner water companies to plan ahead to ensure a secure and sustainable future water supply. As noted above we are committed to work collaboratively but the dates outlined in your representation of 16th Feb 2023, 28th Feb 2023, 2nd March 2023 were all before the end of TW's dWRMP consultation and that the request for a confirmed position by 24th March 2023 was 3 days after the TW consultation period ended as such, and as highlighted in previous communications, that a confirmed position on the TW selection of STT options by this date was not feasible. The content of the WRW representation in this regard has been superseded by communication regarding the third round of reconciliation which is ongoing. We are committed to work with WRW, and other regional groups, proactively and constructively to ensure an efficient, flexible process that works for all parties within the overall regulatory timetable for the statutory WRMP. Each company has its own agreed timetable with	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		collaboratively with WRW via existing WRSE links. 2.4 The regulatory timetable for producing the final plans is relatively tight, especially given that a third round of reconciliation between regions must also be accommodated. Our principal ask of Thames Water and more widely, WRSE, is therefore to work closely with WRW and our member companies to ensure fully consistent selection of transfer schemes can be included in the Statements of Response for WRMPs and regional plans. 2.5 It is good that the close working on the third reconciliation has already started and some key dates have been agreed between the regions: · Model results shared by WRSE with updated transfer scheme selections (16 February 2023) · Checks against WRW/WRSE regional plan consultation feedback and available company WRMP feedback completed and shared (28 February 2023) · Final regional view of selected transfers confirmed (2 March 2023) · Check and confirm final transfer selection once United Utilities and Thames WRMP consultations close (24 March 2023) 2.6 Sticking to these dates is important. The WRMP Statements of Response require extensive governance and board assurance with the water companies and companies which provide the source water for transfers cannot even select options until the transfer need is confirmed. 6.1 WRW welcomes the collaborative working we have had with Thames Water and the reflection of that in Thames Water's draft plan. We are committed to the continuation of the collaborative working for the Statements of Response andfinal plans. We expect that Thames	Defra and it's important that the timeline works for all companies given the inter- regional nature of some of the strategic resource options.	

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		Water will make a similar commitment, particularly in respect of the third interregional reconciliation and its assessment of transfer schemes		
3465	Water Resources West	Minor Point of Inconsistency 5.1 Thames Water's WRMP24 Summary document (page 7) and Figure 102 of the introduction to your draft plan show incorrect maps which omits parts of WRW in Wales and in Nottinghamshire and is therefore misleading for stakeholders. Parts of Wales that are part of WRW, should be displayed given the Vyrnwy support element of STT. The correct boundaries are shown to the right. We request that these errors are amended in your final plan and any further stakeholder communications that Thames Water or WRSE might undertake.	We note and thank you for your comments and will review the maps referred to and make amendments as required.	Water resources regional map revised to accurately reflect the regional boundaries. Section 1 of the rdWRMP.
3465	Water Resources West	4.2 Ethical buying, social equity and public value. The WRSE plan highlights this as an important area of the assessment for WRSE, with a note that states "we believe water transfers or shared infrastructure with other regions should meet the same principles and standards which form the basis of our plan." We support this ethical stance. WRW's regional plan provides evidence of social wellbeing and public value benefits of the interregional transfers, and how equivalent environmental improvements to the WRSE plan are being delivered alongside transfers in WRW's region. United Utilities and Severn Trent, the two providers of water for transfer, show their respective commitments in Responsible Sourcing Principles and a Sustainable Supply Chain Charter.	We agree with WRW's stance on ethical buying, social equity and public value	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
3473	Forestry Commission	Indeed, one of the fundamental drivers identified for needing this plan in the first place relates to increased pressure from climate change which is directly connected to how human activity, including development, is delivered, and strategies on this scale can have a lasting legacy for generations to come. The advice in this letter intends to help strengthen these plans in their protection, enhancement and expansion of our	Thank you for providing a consultation response - we agree that climate change is a significant pressure that we are considering in our WRMP.	No changes - none requested

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		invaluable trees and woodland as part of delivering the plans' objectives. This advice relates to the WRSE regional plan, and the Water Resource Management Plans also out for consultation for: • Affinity Water • Portsmouth Water (we have also sent separate comments regarding the Portsmouth Water WRMP) • SES Water • South East Water • Southern Water • Thames Water		
3473	Forestry Commission	Comment 1: Development associated with the plans are expected to result in the direct loss and impact on ancient woodland. The Plans should exhaust efforts to avoid impacts on ancient woodland, ancient trees and veteran trees. Ancient woodlands, ancient trees and veteran trees are irreplaceable habitats which have established over centuries that can act as key parts of complex and connected ecosystems. They are part of our cultural heritage that are the legacy of the past and for future generations. We would like to highlight our concern regarding the risk of loss and detrimental impacts to ancient woodland sites from other development proposed by the Plans. Paragraph 180(c) of the NPPF sets out that development resulting in the loss or deterioration of irreplaceable habitats should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists. In considering the impacts of the development on Ancient Woodland, Ancient and Veteran trees, the planning authority should consider direct and indirect impacts resulting from both construction and operational phases. Likewise, for developments covered under the Planning Act 2008, the draft Development Planning Statement for Water (2018) states:	Thank you for your response. As part of planned further work to develop our options to minimise environmental impacts as we finalise our plan, we have reviewed our options for opportunities to re-route to avoid impacts on ancient woodland. We are pleased to confirm that this has been possible for the vast majority of the options selected in our best value and alternative plans which impact ancient woodland - further details are available in Appendix AA (Biodiversity Net Gain and Natural Capital report). In this Appendix, it is highlighted that the design of the SESRO scheme would result in the loss of some ancient woodland. We acknowledge the legislation which you have highlighted in your response. Development of the SESRO scheme will continue through the RAPID Gated Process and a DCO for the scheme will be sought. Relevant legislation will be followed, and an Environmental Impact Assessment will be undertaken as a matter of course. Our draft plan is clear that it has been developed in line with Government and local Government expectations regarding environmental gain, and that a biodiversity net gain of at least 10% will be mandatory under law for relevant schemes. In our draft plan we committed to achieving at least 10% biodiversity net gain across our plan as required and to go beyond this as feasible. We have since built	As a result of this comment, and following discussion with Natural England, as part of ongoing option development we have undertaken re-design/re-routing of options in order to minimise loss of ancient woodland under different options' proposals.

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		"4.3.14. Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of ancient or veteran trees found outside ancient woodland, unless there are wholly exceptional reasons, for example where the need for and other public benefits of the development, in that location, would clearly outweigh the loss or deterioration of the habitat, and a suitable compensation strategy exists." Please refer to Natural England and Forestry Commission joint Standing Advice for Ancient Woodland and Ancient and Veteran Trees, updated in January 2022. The Standing Advice can be a material consideration for planning decisions and contains advice and guidance on assessing the effects of development, and how to avoid and mitigate impacts. It also includes an Assessment Guide which can help planners assess the impact of the proposed development on ancient woodland or ancient and veteran trees in line with the NPPF. We would encourage the specific reference for development to have regard to the standing advice, highlighting direct and indirect impacts and the Assessment Guide that is available to help. Based on the broad locations being proposed by the plan, this includes, but is not limited to, potential loss and impacts from Broad Oak Reservoir, Blackstone Reservoir (depending on location) and SESRO. These projects should be considered in the context of the substantial direct loss of Ancient Woodland already occurring as a result of the Havant Thicket Reservoir. The Strategic Environment Assessment does not appear to be adequately acknowledge this loss in relation to biodiversity flora and fauna impacts on the Best Value option (table 5.2). It is unclear why this	on these commitments to provide further detail on how we will achieve this, by developing a BNG strategy for our plan. We can confirm that in developing this strategy, we have followed the BNG mitigation hierarchy as is best practice. We have also looked at opportunities for strategic offsetting sites to deliver more effective net gain for multiple options, and also at how the strategy can support Local Nature Recovery strategies. This strategy is available as part of our revised draft plan (within rdWRMP24 Appendix AA), and we will continue this work over future planning cycles. As part of the appraisal of our options and plan (at draft and revised draft), we have carried out BNG and NC assessments for all feasible options considered; this has allowed us to compare options as part of the WRSE investment modelling process to derive a plan that offers the maximum benefit for people and the environment (our best value criteria). Impacts on ancient woodland have been considered specifically under the Biodiversity objective within our SEA for our draft and revised draft plans. This is both at option level and plan level. We do not consider that it is appropriate that a WRMP includes a tree cover target - the drivers for our plan are specified by regulatory guidance which does not currently include this.	

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		has been omitted as this could skew the baseline for appraising options. The construction of Havant Thicket Reservoir is resulting in the direct loss of 15.2 ha of ancient woodland. While we appreciate the public needs for this reservoir we are particularly concerned by the additional indirect loss of further ancient woodland for access to establish and then maintain the site (especially as routes which could have avoided this loss were available). While we support the compensation package which is being delivered we must advise that the importance of full canopy ancient woodland does not seem to be recognised and the package includes management of existing woodlands already owned by water utilities which have been neglected for decades. We would strongly encourage the Plans to exhaust all reasonable options of reservoirs and other development associated with the Plans, in terms of their location, design and construction/operation, to: avoid and minimise any loss of ancient woodland, avoid indirect loss of ancient woodland, ensure that any indirect impact on adjacent ancient woodland is fully evaluated and mitigated. The standing advice also makes reference to a robust compensatory package of full canopy woodland for any loss of ancient woodland. We would advise that such a compensatory package should be substantial, seeking to buffer and connect nearby ancient woodland to enhance the overall resilience of the wider woodland infrastructure and treescape to climate change and deliver a multitude of public benefits (including biodiversity, water quality and public health benefits) in designs which are selfsupporting. As part of this, we would welcome a clear commitment to avoid impacts on ancient woodland. Veteran Trees are also irreplaceable so their loss should be avoided and treated the same as Ancient Woodland. We would welcome within the plan the statement to establish the next generation of veterans.		

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		We welcome the Plans' reference to achieving environmental gains, including biodiversity net gain. Before this can be achieved, existing habitats need to be protected as far as possible, with irreplaceable habitats being among the highest priorities to protect. This is needed before overall environmental gains are possible to achieve. Comment 2: Establish a clear commitment to being nature positive and delivering targets for measurable environmental gains, including biodiversity net gain (BNG), on all development associated with the plan. The reference to the plan being able to contribute to environmental gains and BNG is welcome. However, we question the consultation document's claim that 'The best value plan creates more natural capital, improves biodiversity, has less overall impact on the environment' due to the overall loss expected, including irreplaceable habitat. For example, we note that Technical Annex 2 states: 'Many of the infrastructure options in the best value plan (pre2050) result in a net loss of BNG as a result of temporary and permanent loss of habitats as a result of the construction of the options. However, the BNG results for the draft regional plan are an indicator of each options' impact on BNG as their overall net unit change for BNG does not include the catchment management options which have the potential to provide BNG and additional benefits'. This suggests that there is some uncertainty on how or if BNG will be delivered overall, which we appreciate is likely to be developed as part of the next stages of the plan's development. For development covered by the Town and Country Planning Act, Paragraph 174(d) of the NPPF sets out that planning (policies and) decisions should minimise impacts on and provide net gains for		

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		biodiversity. Paragraph 180(d) encourages development design to integrate opportunities to improve biodiversity, especially where this can secure net gains for biodiversity. A requirement for most development to deliver a minimum of 10% BNG is expected to become mandatory from November 2023. The WRSE partners should consider the wide range of benefits trees, hedgerows and woodlands provide as part of delivering good practice biodiversity net gain requirements. For development covered by the Planning Act 2008 (NSIPs), the draft Development Planning Statement for Water (2018) states: 4.3.15. Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design or delivering environmental net gain. When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such benefits are delivered. We also highlight that it is difficult to truly achieve environmental gain if irreplaceable habitat is being permanently lost, As acknowledged in 'Technical Annex 2: Our draft regional plan proposals' (November 2022), Ancient woodland loss cannot be accounted for in the Biodiversity Net Gain Metric. The Biodiversity Net Gain Metric User Guide, Rule 3 states that ''Trading down' must be avoided. Losses of habitat are to be compensated for on a 'like for like' or 'like for better' basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost. Losses of irreplaceable or very high distinctiveness habitat cannot adequately be accounted for through the metric" and 'Bespoke compensation needs to be agreed with the relevant decision		

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		maker for any losses or impacts to these habitats.' We ask that we are consulted on this to help develop compensation that is meaningful, targeted and of optimal value. Given the above, we encourage the following be considered in the next stages of the Plans' development: • A direct commitment for plans to be nature positive or to contribute to leaving nature in a stronger position than we found it, in line with the Government's 25 Year Environment Plan • Commitments within the plan to achieve a specific minimum net gain target in line with good practice regarding Biodiversity Net Gain Design (ie about the overall design, not just the metric results), in consultation with Natural England and complements local priorities including local nature recovery strategies and in consultation with local authorities/LNRS groups. • Ensure alignment with other strategic landuse plans including local nature recovery strategies which water companies are well placed to positively contribute to and align with as part of any mitigation/compensation efforts. We welcome the commitment to explore this in more detail as part of of the water companies' WRMP24 SEA process" (SEA page 115). Comment 3: -We encourage the exploration and adoption of specific measurable targets associated with woodland/tree cover to contribute to meeting the national tree canopy target being considered by Government. We welcome the consideration of BNG and Natural Capital assessment as part of the decision making for the Plans options. As part of the Environment Act, there is a proposal being considered by Government to set a legally binding target to increase national tree cover from 14.5%		

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		to 16.5% by 2050. A largescale regional plan like this can lead by example to ensure overall gain of tree/woodland cover. We appreciate this target is still emerging and the consultation document will have been prepared before release of this. As part of the next stages of developing the regional plan and WRMPs, we encourage the WRSE to anticipate this by directly committing to a tree canopy cover increase up to 2050, with appropriate management in place to ensure this is delivered in practice. As part of this, the supporting assessments including the Strategic Environment Assessment (SEA) and Environment Assessment could be improved to directly consider tree canopy cover to inform the options being appraised. Comment 4: All efforts should be taken to avoid loss of other trees and woodland, especially where they complement the wider network of ancient woodland, and we encourage maximising the use of trees and woodland (and other naturebased solutions), to deliver multifunctional benefits. Trees and woodlands provide many benefits to society such as storing carbon, regulating temperatures, strengthening flood resilience and reducing noise and air pollution. Paragraph 131 of the NPPF seeks to ensure new streets are tree lined, that opportunities should be taken to incorporate trees elsewhere in developments, and that existing trees are retained wherever possible. Appropriate measures should be in place to secure the longterm maintenance of newly planted trees. The Forestry Commission may be able to give further support in developing appropriate conditions in relation to woodland creation, management or mitigation. We encourage the Plans to maximise the multifunctional benefits provided by trees and woodlands, including for water quality improvements and sustainable flood management. We would welcome		

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		direct consideration of this within the Environment Assessment and SEA to ensure these benefits are fully regarded. A good example of maximizing the value of trees and woodlands is in the Friston forest on the South Downs was created to avoid nutrients entering Eastbourne's water supply (the water derived from this chalk 'block' does not have the nitrate levels now so common in the wider chalk aquifer). While it's unlikely we will see the scale of woodland creation demonstrated by Friston Forest in South East England, the benefits of targeted woodland creation in improving water quality and managing flood flows are significant. Carbon neutrality: Many organisations, including WRSE partners, are seeking to make their operations 'net zero' by a particular date. We suggest there are dual benefits of using trees and woodland to help improve water quality while also sequestering carbon. The Forestry Commission remain happy to work with the industry to encourage the establishment of multifunctional woodland. Comment 5: We are aware that a considerable proportion of South East drinking water resources are derived from chalk aquifers. We are surprised that none of the plans mentioned the challenge of nitrate levels within these aquifers and how they will be addressed into the future. We would like to draw your attention to work we have done in partnership with Portsmouth Water regarding: Nitrate 'spikes': for several years to explore how targeted woodland creation could help address the 'spikes' in nutrients and clay particles in water received at some bore holes shortly after heavy rain. Portsmouth water's geologist at the time highlighted how heavy rain can result in surface water flowing across chalk downland, especially where there is a 'clay cap', in doing so this water collects nitrates and clay particles		

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		and can reach boreholes within days (or less) via dry valleys or Karstic features in the chalk; one water engineer described the impact as 'turning his Evian into ginger beer'. This creates 'spikes' of poor water quality meaning this water has to be treated to meet drinking water standards. Such treatment is expensive in both capital investment and running costs. Hence we were exploring how targeted woodlands can act to filter such 'surface water flows' before they enter Karstic features. Base level of nitrate in chalk aquifers: fertiliser has been applied to a significant proportion of the chalk downs for several decades. Some of this has leached into that aquifer, and other than via Karstic features outlined above, has been percolating very slowly through the aquifer. Hence, enhanced nitrate levels are likely from chalk aquifer water sources for several decades. It would be helpful to consider the challenges posed and outline how these can be addressed in the Regional and WRMP. Strategic Environment Assessment: We welcome the consideration of impacts on ancient woodland and priority habitats, and nature recovery, within the SEA Framework (table 3.1). We welcome the commitment in the SEA regarding the consideration of: 'Opportunities for habitat creation and habitat enhancement will be further investigated through WRMP24 and options design' and 'Opportunities for BNG and links with nature recovery networks will be further investigated at the WRMP24 level' As part of future iterations of the Regional Plan, we advise that the SEA Framework could be strengthened by considering the following:		

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		• Appraise options against their potential to actively contribute to nature recovery and enhancement, not just to avoid impacts • Specifically consider veteran and ancient tree impacts as these are not mentioned. Policies within the Regional Plan/WRMPs to avoid impacts on these irreplaceable features as far as possible are encouraged • We welcome the mention of carbon sequestration within the Climatic Factors SEA Topic and its consideration of whether it is affected. This could be stronger by specifically considering how plan options could make it worse (eg from woodland loss) and how efforts to achieve environmental gains could contribute to increasing carbon sequestration. For example, through woodland creation: Woodland Creation Case Studies: Helping local authorities respond to the climate emergency -GOV.UK (www.gov.uk)) and the Woodland Carbon Code: The Woodland Carbon Code scheme for buyers and landowners - GOV.UK (www.gov.uk) In particular, we would encourage that this is considered as part of mitigation required in table 5.2. • “Increase resilience and reduce flood risk” could be improved by using net gains that are targeted at flood risk benefits, using nature based solutions • “Reduce vulnerability to climate change risks and hazards” could be improved by considering net gains and nature based solutions that contribute to resilience • Consider impacts and provision of green infrastructure, including trees and woodlands as part of other factors such as population and health We note that the Post 2050 Best Value Option table 5.6 doesn’t mention ancient woodland or woodland more generally. We appreciate		

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		that there are some unknowns with the plan but we would be surprised if there wasn't a risk to impacting woodland sites so suggest this is included here. We also highlight the above comments regarding environmental/SEA assessments for each WRMP where they are relevant. The SEA makes reference to: "Use of directional drilling under sensitive assets such as river, motorways, railway lines and certain designated sites." This option should be one considered for Ancient Woodland to avoid open trenches or damage to the soil profile of the ancient woodland. There will need to be consideration for root depths on any potential sites, particularly of veteran trees.		
3473	Forestry Commission	The delivery of this plan can have a very significant effect on nature and climate, for the worse or for the better depending on how it is designed and delivered. We are encouraged by the plan's consideration of how the plan can deliver environmental gains but are concerned by the potential loss and impacts on ancient woodland and non-ancient woodland/trees that could be caused by the infrastructure proposed as part of delivering this plan. The delivery of this plan will take place during crucial decades for confronting the climate and ecological emergencies required to minimise irreversible impacts on people and the environment at every scale. We encourage that any development, particularly at this widespread strategic scale and those in the public interest, to actively deliver a meaningful contribution to meeting this challenge.	Thank you for your response. Since our draft plan, we have further reviewed opportunities to alter the design of our options to minimise impacts on sensitive habitats, with a particular focus on ancient woodland. This has resulted in alterations in particular to pipeline routes – further details can be found in Section 9 of our revised draft plan and the environmental appendices accompanying our plan. We have also updated the narrative in our plan to more clearly describe the environmental gains that the plan achieves as a whole. This narrative is available in Section 11 of our revised draft plan.	Since our draft plan, we have further reviewed opportunities to alter the design of our options to minimise impacts on sensitive habitats, with a particular focus on ancient woodland. This has resulted in alterations in particular to pipeline routes – further details can be found in Section 9 of our revised draft plan and the environmental appendices

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				accompanying our plan.
3866	River Thames Boat Project	I would like to have a meeting with Leslie Tate and others from Thames Water so that I can understand the scheme more but also so that Thames Water can understand what we do and where we do it. If this scheme goes ahead through planning and to completion, which I truly hope it does not, then you can be assured that we are going to be answering thousands of difficult questions from local school children for the next ten years and well beyond	We note your concerns about the proposed Teddington Direct River Abstraction scheme and would like to reassure that the scheme will not be permitted to proceed if it would cause detriment to the environment. We are working closely with the Environment Agency, Natural England, and the Drinking Water Inspectorate as we develop our proposals. This includes assessing a range of factors including water level, velocity and water quality as well as ecology and biodiversity surveys, focusing on the river and the riverbank. The assessments completed so far have shown that there are some minor impacts, but these are not significant and can be addressed without causing any environmental harm. Following the assessments so far, we have reduced the scheme size to ensure we protect the environment. We will do more detailed assessments through 2023 and 2024, including studies on other issues such as noise, air quality and landscape. We will engage with local communities throughout this work and have set up a River Users Forum to brief interested stakeholders on the project and ensure we understand and take account of feedback as we progress studies. We would be happy to arrange a further discussion with the River Thames Boat Project.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
3866	River Thames Boat Project	I attended the consultation session at Richmond Old Town Hall with others from the charity. We are shocked and concerned to hear of your basic plans for the "river abstraction at Teddington" and the return of treated sewage to the river. As a local charity that teaches about the water environment right where this proposed scheme will operate, we are committed to ensuring that the river remains and is enhanced as a	Thanks you for your response to the consultation and the points you raise, which are noted. The treatment of sewage and discharge of treated wastewater back into rivers occurs throughout the country. Upstream of Teddington Weir numerous sewage treatment works discharge treated wastewater into the River Thames and its tributaries. This process is vital in ensuring rivers and tributaries keep	Thames Water's WRMP sets out the vision to address the predicted deficit in water across London and includes a number of different

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		flourishing ecosystem. This scheme is not welcome on this stretch of the river or anywhere else on the Thames: It is not accepted that the scheme will work. California will not agree to such a scheme, even into reservoirs, and every ecosystem is different. • Urban London and a vibrant river resource for all at Teddington is not the place for radical experimentation. • There can be no way of knowing all the effects of treated sewage back into the river on all organisms or the unintended consequences. The impact on fish and eel ladder usage is just one example but there will be many, many others. • Government has voted to remove the Retained EU Law, which has implications for the 'Water Framework Directive' which controls sewage and pollution. Representatives at the consultation made it clear that they would meet British legislative requirements but given that these requirements are becoming less stringent doing the minimum is not sufficient to protect the river environment sufficiently. • Due to heat/oxidisation differences between the river and Mogden the process will need to be turned off at certain times of the year. Thames Water will not want the	flowing and wildlife thriving. The Teddington scheme would provide a higher quality of water than many of the existing discharges owing to utilising the latest treatment technology and meeting the latest environmental standards. A Water Quality Assessment has been completed which concluded that the scheme will have a negligible impact on the majority of WFD chemicals, EQSD chemicals and Olfactory water quality. There are some WQ parameters which require further assessment to understand the level of additional treatment that might be required to ensure that the discharge water quality is appropriate. This work is still underway. The design of the scheme will be for a set size that we consult on and that we gain planning consent for. The conditions of planning permission will not allow a scheme to be increased over time unless we seek a new planning application and build an additional treatment plant and new intake. Thames Water has stated in its Gate 2 reports that the maximum size scheme would 100 Mld and that schemes at 150Mld are likely to have some significant environmental impacts. Schemes over 100 Mld have therefore been discounted by Thames Water. There is no expectation that adopting more UK standards in place of EU standards in the future will mean less environmental protection. Many of the standards we have today are based on robust scientific evidence and that will continue to be the foundation of standards in the future. As highlighted in the WRMP, the Teddington DRA scheme is a drought resilience scheme. It would not be fully operational all the time. We would need agreement from the Environment Agency to use the scheme and this would be following an extended dry period when the amount of water in the river and the water stored in reservoirs reaches	measures to generate new sources of water.

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		process to be shut down even temporarily as it causes maintenance and efficiency problems. Who makes this call? • Trust with water companies is at an all-time low. There are hundreds of examples of negligence and poor systems causing sewage and other toxic water to flow into our streams and oceans. Mogden also has had a poor reputation locally for many years. • What happens if the process fails even on just one occasion? Or are we to believe that this scheme will be the only example in the UK of an infallible water treatment process? • The Thames is a key feature and landmark in London and South England. Given that it is already one of the worst rivers in Europe for plastic pollution, does Thames Water really want to be responsible for polluting the river further? It was not so long ago that it was classified as biologically dead as a result of the pollution pumped into it. • There are other alternatives - please use them.	a set threshold. Typically, the scheme would operate late summer through to late autumn on an intermittent basis. One of the objectives of the scheme is to minimise depletion of flows in the River Thames and reduce the impact of abstractions at times of low river flows. Even when operational however it will not be continuous. Our current prediction is that as a worst case in a 1:50 year drought the scheme would be operational up to 12 days every 30. Operation over a 47 year period is shown on page 16 of the scheme report here – Final-G2-report---LWR.pdf (thameswater.co.uk) A sweetening flow is required when the treatment plant is in a stand-by mode. This ensures the processes in the treatment plant at Mogden remain 'active' and available when a scheme is required. We have assumed that this sweetening flow will be at a maximum of 25% of the system's capacity. We will continue to assess what the best reduced flow is during our design phase and will try to reduce this as the design develops. At all times it will produce higher quality water that will improve the water quality within the Thames Tideway when it is discharged.	
4079	Darent Valley Trout Fishers Limited	I am writing on behalf of the Darent Valley Trout Fishers, a fishing club that that holds long term licences to fish 5 stretches of the Darent between Shoreham and Farningham. More than 70% of our 55 members live in properties serviced by Thames Water and are therefore your customers. Both the Club and our members, as individual customers) are concerned about the impact of water overuse on the rivers in our area, including the Darent, and beyond across the region. Your draft Water	There is enormous pressure on our water resources and our forecasts show that we face a shortfall of over 1 billion litres of water per day by 2050.To meet this shortfall we plan to make the best use of the water we've got through tackling leakage and reducing demand, as well as investing in new sources of water. In response to feedback to this consultation and updates to regulatory guideline we have extended our focus on tackling leaks, and are	Our propsoals to make the most of the water we have got have been revised and extended - please see Section 8 and 11 of our revised draft WRMP24.

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		Resources Management Plan recognises these threats but in our view does not go far enough towards resolving them. The plan must commit to greater action to tackle excess use and its causes. This is vital to ensure that future water supplies are sustainable in the face of a changing climate and growing population, and are secured with minimal impact upon local rivers, lakes, wetlands and wildlife. The Club and its members add their voices to the calls for more sustainable water use. We want to see your plan: 1. Prioritise nature: Ensuring that having enough water in our rivers to support healthy and abundant wildlife is a top organisational priority. 2. Reduce water use: Helping households and businesses save water and supporting vulnerable customers, and significantly reducing leakage. 3. Use win-win natural solutions: Prioritising nature-based solutions - like wetland creation - to help tackle flooding, pollution, and replenish water supplies, making sure every project improves wildlife. The Club is also responding to the Regional Plan Consultation for this area to let the Regional Water Resources Group know that we want to see greater ambition on ending the harm from overuse, and that we expect a bold regional plan to set the framework for that. we trust you will reflect the above points when refining and publishing your final Water Resources Management Plan. Bringing our waters back to health can wait no longer.	aiming to reduce leakage by at least halve by 2050, and helping our customers to reduce their water use. These measures will make up around 80% of the water shortfall by 2050. This scale of activity is very ambitious and has not been achieved previously. It will take concerted, collaborative activity by government, stakeholders and water companies and a transformation in how companies work with customers to help them reduce their water use.	
4150	The Inland Waterways Association	IWA supports the use of restored canals and new waterways for open water transfer (such as is being considered for the Severn Thames Transfer). We encourage water resources planners to consider the much broader, longterm environmental, societal and economic benefits waterways can provide. These benefits include: Increased spend in the local economy: A 2011 report for Defra “The	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we

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		Value of Inland Waterways. Final Report", Jacobs/Inland Waterways Advisory Council, 2011] found that each mile of inland waterway contributes between £175,000 and £1,175,000 a year to the local economy. Improved health and wellbeing: Waterways can open up multiple opportunities for outdoor activities such as walking, running, cycling, fishing, sailing, canoeing, paddleboarding and volunteering. Protecting and improving the natural environment: Waterways are bluegreen corridors that allow opportunities for reconnecting disparate habitats, biodiversity net gain and improvements for wildlife. Connecting communities: Access to the paths that run alongside our waterways is free. These inclusive, flat, linear routes can be used as active travel corridors to connect communities and provide passage between urban and rural areas However, there are a number of issues which do need to be considered when combining water transfer with navigation. These also apply to schemes using existing navigations (such as the Grand Union Water Transfer scheme). Flow rates: -Increased flow could cause some issues in tunnels and narrows such as aqueducts and bridges. Needs to be monitored and controlled. Airdraft / level changes: These could impact navigation in tunnels and other structures such as bridges, leading to craft and infrastructure damage. Needs to be monitored and controlled. Priorities during times of high demand – would priority be for water transfer or navigation? It is not clear from the plans. Responsibilities for operation and maintenance of both new and existing structures. eg If the flow causes a bridge abutment to erode who is liable for the rebuild cost? Bywash positioning: Will there be room to build bywashes around all the	submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	received about the Severn Thames Transfer.

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		locks that will need them? They need to be positioned in such a way as to avoid making navigation unsafe due to flow rates. Pump failure: This could have negative impact on levels unless tightly controlled with failsafes built in.		
4201	Old Chiswick Protection Society	In summary: While we understand the requirement of Thames Water to create a resilient water supply as we move into a period of greater climatic uncertainty and population growth, we strongly object to this plan in its current form.	We note your dissatisfaction with the draft plan. We have a statutory duty to prepare a WRMP to ensure we can continue to provide a secure and sustainable water supply. We engaged with regulators, stakeholders and our customers throughout the development of the draft plan and have ensured the plan complies with legal requirements and the regulatory guidelines. We appreciate that some consultees do not like aspects of our draft plan but we do need to progress measures to ensure we can continue to provide a secure water supply for the next 50 years. We have considered all the feedback we receive to this consultation and have revised our draft plan in response to several issues raised, where we have not revised our plan we have explained why.	We have provided information in response to your comments, there are no changes as a result of your representation.
4201	Old Chiswick Protection Society	The data currently provided do not demonstrate a reassuring level of investment or intent to protect the local wildlife. Rather the focus is on providing the best value for the customer rather than safeguarding the important habitats in and around the Thames.	Our definition of best value includes a balance of cost, environmental and resilience metrics. We appreciate different stakeholders would perhaps weight different metrics differently and our plan offers up alternatives to inform that debate. The WRMP is a strategic, long-term plan that establishes need and proposes solutions. We would not receive consents to develop and operate schemes if they caused deterioration.	The Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written following comments received and updates to the input data.

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4201	Old Chiswick Protection Society	We accept the need to ensure sufficient water supplies in the future and we appreciate that this is a complex issue with multidimensional solutions.	Thank you for your comment, which is welcomed.	No changes - none requested
4201	Old Chiswick Protection Society	The river also supplies water to two important local nature reserves in times of drought, the WWT London Wetland Centre and the smaller but much treasured Barnes Leg o'Mutton Nature Reserve. Any consequent damage to the water quality and ecology of these two wildlife sanctuaries would be an environmental disaster	When assessing the impact of potential water resources schemes in detail, we will ensure that full consideration of potentially impacted sites is given.	No changes - level of detail is appropriate for current strategic plan
4201	Old Chiswick Protection Society	Our residents all live in close proximity to the river and many live on it, at three residential mooring locations. We are home to a sailing club, three rowing clubs, a canoe club and an enthusiastic community of wild swimmers. Residents -and the many visitors who flock to the area -enjoy the beauty of the river and its wildlife. A large variety of waterfowl and other birds are resident in the area and it provides food and sanctuary for migrants in Spring and Autumn. Seals – even the occasional harbour porpoise – sometimes swim upstream to fish. Our residents are therefore very protective of the river, so any activities which alter its nature in any way are extremely troubling. We currently live with unacceptably high levels of raw sewage being released into the river on a regular basis. And we are home to the	We note your comments in relation to the proposed Teddington DRA scheme and concerns about the affect of the scheme on the river itself and river users. Protecting and improving the ecological health and water quality of our streams and rivers is central to our Water Resource Management Plan (WRMP). We are working closely with the Environment Agency, Natural England and the Drinking Water Inspectorate as we develop our proposals to ensure the scheme would not cause any detriment to the environment. The quality of water discharged into the river would meet the environmental standards set by the Environment Agency and the scheme would be safe for swimmers and river users, it would have physical safety features to minimise the impact on aquatic life, boats, water activities and swimmers and the design would be similar to intake systems that are already in safe operation on the River Thames and elsewhere and would comply with all relevant health and safety requirements. In respect of the public consultation, during the consultation we held nine community information events in the localities of proposed new infrastructure, these events were widely promoted and aimed to give attendees the opportunity to hear about our draft plan and proposals	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		infamous 'wet wipe island' on the Barnes shore upstream of Hammersmith Bridge. We note that Thames Water's Environmental & Third Party policy requires projects to have customer and stakeholder acceptance. So we are extremely disappointed that customer information about the plan and consultation appears to have been negligible for many Thames Water customers. Our members – all Thames Water customers -only found out about the current consultation through articles in newspapers. London customers appear not to have received any direct communications from Thames Water about the proposed scheme, despite the fact that the river is the lifeblood of our city. The only consultation event in London was a popup event held at Paddington Station on 18th January 2023, with seemingly zero publicity. This is simply not good enough, so we look forward to receiving more adequate information and consultation opportunities as Thames Water's plans develop.	and ask questions. The consultation and the events were promoted through a range of channels including national and local newspapers, social media and the local authority local community channels. We also met local MPs, Councillors and the Council Officers.	
4201	Old Chiswick Protection Society	Our society covers the Old Chiswick Conservation Area which has for centuries been deeply connected to the Thames. Today the area hosts hundreds of thousands of walkers, cyclists and runners throughout the year. Residents moor boats on the river and use it regularly for recreational purposes. The Thames and Chiswick Eyot nature reserve are crucial to maintaining a delicate environmental ecosystem. For this	The Teddington DRA scheme is designed to operate when river levels are low and storage reservoir levels are low. It is designed to then operate to provide additional abstraction, while still maintaining river flows over Teddington Weir, inThe Teddington DRA scheme is designed to operate when river levels are low and storage reservoir levels are low. It is designed to then operate to provide additional abstraction, while still maintaining river flows over Teddington Weir, instead of drought plan measures being required.	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date

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		reason, OCPS strongly objects to the Teddington Abstraction and Mogden Reuse Scheme, which has the potential to have an adverse impact on our conservation area. We would also like to make known our full endorsement of the objections from our neighbours the Hammersmith Mall Residents' Association (HAMRA) in their letter to you dated the 19th March 2023. We also endorse Thames 21's response published on their website on 4th March 2023. We consider the Thames River an essential amenity for the people of West London and therefore, strongly oppose and object to this scheme on recreational and ecological grounds. We strongly object to the proposal to remove fresh water from the Thames at Teddington and replace it with treated water from Mogden Sewage Treatment Works. The proposed scheme would operate at times of extremely dry weather when water levels in the Thames are likely to already be low. Consequently, the introduction of treated water is likely to have a much greater impact on the river water composition and quality than a same volume introduced when the river is in flood. Thames Water's 'Gate One Submission for: London Effluent Reuse SRO July 2022' identified the Teddington DRA and Mogden ERS schemes as having the potential to cause: changes to water temperature, flow and salinity; changes to freshwater and estuarine fish community structure and	The scheme has been assessed on the basis that it will operate, with all the assessments based on suitable low to very low conditions, so that we can assess the effect of the proposed discharge into the river Thames at flows down to 300 Ml/d. The scheme will treat and discharge water to a higher standard than is either currently present within the River Thames at Teddington, therefore it will not deteriorate water quality, or the scheme will not go ahead. The 'Gate One' assessments you reference are the early environmental risk screening of the initial conceptual design of the scheme of varying sizes from 50Ml/d – 150Ml/d, which are then used to shape the refinement of scheme design going forward. They do not consider the effectiveness of effectiveness of the Tertiary Treatment Plant or wider mitigation measures. These early assessments led to the reduction of the maximum scheme size to 100Ml/d on environmental grounds, with 100Ml/d being the point that environmental impacts were no longer significant. During 2023 all of our Gate 1 and Gate 2 assessments are being reassessed in light of the refined design information available, the effectiveness of the Tertiary Treatment Plant and the wider mitigation, so will provide a realistic view of impacts from a 75Ml/d or 100ml/d DRA scheme. The water quality monitoring programme is extensive, covering >350 different chemicals (including >50 different PFAS substances) and has been collecting data on a monthly basis at a number of sites since 2021. We are using this data to identify the chemicals in the source water that will pose a risk to the receiving water at Teddington (as per the Gate 2 Water Quality Assessment), which will now drive refinement of the treatment processes required from the Tertiary Treatment Plant in 2023 (Gate 3) work.	shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		migration patterns; alteration of lifecycle and quality of macroinvertebrates; impact on navigation from reduced water depth in Thames Tideway In addition to this, no mention has been made of the potential for treated waste water to contain a rich cocktail of chemicals and microplastics which can cause irreparable harm to fish and other aquatic and marine life. All of these changes, however small would have a consequent impact on the ecology of the river Thames further downstream from Teddington and Mogden. As such they are totally unacceptable. Similarly, impacts on navigation would adversely affect current leisure and transport use of the river, to the detriment of communities along its length.	Annex B.2.7. provides the Gate 2 Navigation Assessment, which identified that a 200Ml/d reduction in Mogden STW discharge (noting a DRA scheme would only have a 75Ml/d or 100Ml/d reduction) would cause a <6cm reduction in water level of spring low water level and considered this in the context of the known shoaling areas as agreed with the PLA. The report concluded a minor/negligible impact to navigation at these locations. This assessment will be reassessed in 2023 for the 75Ml/d or 100Ml/d reduction in discharge to quantify the lesser impact of the DRA scheme size.	
4406	Worshipful Company of Water Conservators	Customer demand management : I note that by your own admission the per capita target is somewhat higher than the government target and no doubt this will be acceptable to the Ofwat and EA. There is a need to recognise the role of consumers in meeting consumption targets. The Water Conservators have suggested that more needs doing than just leaving the principal focus of changing consumer habits to Water Companies and there needs more national leadership and, possibly' more ancillary regulations; the Water Conservators supported the Defra proposals for water efficiency, with some adjustments. Phil Stride's presentation highlighted an issue which has been of	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		growing concern which is customer leakage. This occurs in two ways, within premises and in the supply pipe. Water Fittings Regulations were enacted in 1999 to deal with the impact of internal fittings on the quality of drinking water at the sampling tap and to protect customers, as compared to the responsibility of water companies for water quality at the property curtilage. The focus has evolved and now embraces more issues about within premises leakage. 'Leaky loos' was mentioned. Leakage from supply pipes is dealt with separately under S75 of the Water Industry Act. And these are in juxtaposition with Part G of the Building Regulations for new build. It is my view that this whole area needs to be reviewed. At the least Thames should have a strong 'axis of delivery' with Local Authorities. I was intrigued by the focus on smart water meters. In principle these are a great idea. But my experience in Anglian Water in the 1990s in delivering the most provocative metering programme at the time, is that the switch to metering in itself saves about 1015% consumption. So what extra cost benefits are there for going from dumb to smart metering?. We have all experienced customer resistance on metering, but the introduction of more etechnology into homes (smart phones etc) might just be the final factor in resisting the installation of metering .So it might well be that some customers with fitted smart metering might use them as dumb meters pro tem . I am pleased that this project has gone well, so far, and I support the initiative. Distribution Leakage: I compliment Thames for its programme. The Water Conservators have sought to highlight the practical issues of closing roads for mains replacement (along with those for resewering). And there is a lot of experience stretching right back to the immediate post privatisation schemes to address S20 Undertakings. These include the New Roads	increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the	

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		and Street Works Act , commercial compensation for affected businesses (under the Water Industry Act)), and the disposal of excavation waste (many golf course were remodelled in the early 1990s !) There has been a more away from Lowest Economic Levels of Leakage because there was insufficient recognition of environmental costs, but there is still room for an evolved approach. Nevertheless, if the arguments about LEL are set aside , what does Thames think that, in realistic practical terms, is the lowest rate of leakage achievable ? Of course, this will vary according to the average asset age, but even with modern assets, it might not be possible to get below about 8%. This is a very important media message	need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Government-led water use reduction policies In addition to the actions we can take, the government is planning to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation.	

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			"Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Better metering data for customers All household customers that have had a smart meter installed	

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			currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix.	
4406	Worshipful Company of Water Conservators	New river abstraction at Teddington: A new abstraction would be sited on the River Thames close to Teddington Weir. Abstracted water would be transferred via an existing underground tunnel to the Lee Valley reservoirs in East London. Highly treated recycled water would be moved from Mogden sewage treatment works upstream to compensate for the additional water taken from the river to protect the environment and wildlife. - This is a proposal which draws on a lot of experience. -It is a reversal of a general rule of modern resources planning that effluent discharges must be made below abstractions. But times change. This recalls plans which were put into place for the Great Drought of 1976, but never activated because the weather changed suddenly in the August.	Thank you for your response to the consultation and the information provided. In terms of concept, the treatment of sewage and discharge of treated wastewater back into rivers occurs throughout the country. Upstream of Teddington Weir numerous sewage treatment works discharge treated wastewater into the River Thames and its tributaries. This process is vital in ensuring rivers and tributaries keep flowing and wildlife thriving. The Teddington scheme would provide a higher quality of water than many of the existing discharges owing to utilising the latest treatment technology and meeting the latest environmental standards. The abstraction would be located upstream of the discharge to avoid	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred

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		However, the key factor in the recycling model was the build up of chloride and the need to avoid an asymptotic value which caused meringue dezincification of brass fittings . Philip Stride reported that chloride might now be joined by other 'forever chemicals' and no doubt will need modelling. It might be worth revisiting the 1976 Plans -if they are still available. Direct river abstractions require a period of bankside storage for seven days (a working criterion developed after the River -Dee/ Huntington WTW pollution in the 1970s). I assume that the reservoirs -to which the abstraction is pumped act as the safety break in terms of water quality , but is anything planned for storage of the Mogden effluent before discharge in the event of a disaster .This is a about risk management. Abington Reservoir : I noted that pressure group opposition is of concern and there might be some value in taking those people with major concerns about the impact of the reservoir, to see how other regions have coped with this in the past …. and, of course, other Thames reservoirs. I understand that there is concerns about the actual construction, but I am sure that Thames will be following the 'considerate constructor' route .	the recirculation or build-up of chemical constituents. A Water Quality Assessment has been completed which concluded that the scheme will have a negligible impact on the majority of WFD chemicals, EQSD chemicals and Olfactory water quality. There are some WQ parameters which require further assessment to understand the level of additional treatment that might be required to ensure that the discharge water quality is appropriate. This work is still underway. The level of treatment proposed as part of the Teddington DRA scheme would improve the quality of the water in the Tideway section of the River Thames, downstream of Teddington Weir. The treatment parameters would be defined by the Environment Agency, but our current proposal is a level of treatment that balances the spatial constraints that we have at Mogden Sewage Treatment Works, best value for our customers and water quality. We feel that our current proposal effectively balances these factors without significantly increasing the risk of environmental impacts. The is insufficient space to provide storage for the treated effluent and this is not current practice. In In terms of risk management of the effluent stream, the Teddington DRA scheme would have no direct connection to the storm overflow at Mogden STW. The new treatment facility would have real time monitoring at a number of points for required WQ parameters and will initiate an auto shutdown of flow in the event of a failure in water quality meeting set thresholds. Any failure would trigger an automatic 'fail safe' via a run-to-waste back to Mogden STW. There is no risk for untreated sewage, storm overflow or even treated effluent to be released at Teddington. It is understandable that those located close to proposed major infrastructure projects will have concerns and we want to work with them to understand and take measures to mitigate them.	schemes in our Water Resource Management Plan while further work is undertaken.

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			Consultation forms a central part of major development, and we will consult fully with a wide range of people including the local community as we develop our plans taking their views into consideration so that we can deliver a facility which brings benefits to the community economically, socially and environmentally.	
4467	British Marine	British Marine regularly engages with Government and its agencies, including the Environment Agency. The comments we now make reflect those that we submitted to WRSE on its draft regional plan on the understanding that those plans (and Thames Water's own strategic plan) should "fully explore all opportunities for water transfers within and between regions and of different scales and lengths". We do not underestimate the challenge of meeting water supply pressures in areas such as Thames but agree with the WRSE's Independent Chairman, Chris Murray, saying that water companies should be ambitious in their strategies to deliver longterm benefits that will bring sustainable benefits of the greatest magnitude. With that in mind British Marine would urge Thames Water to consider bringing forward the STT canal option. At the very least we ask that that Thames Water continues to explore the social, environmental and economic value of restoring part of the Cotswold Canals as part of the Severn Thames Transfer project and to make its findings publicly available to stakeholders. British Marine strongly endorses the Inland Waterways Association's call to take full account of the broader economic, social and environmental benefits that the Cotswold Canal and pipeline option would bring, as evidenced by previous reports, including: • Defra's commissioned report 'The Value of Inland Waterways' (2011) which found that for each mile of inland waterway between £175,000	Response to consultation representations on Severn to Tames Transfer (STT) is summarised in the Statement of Response Technical Appendices Appendix J	

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		and £1,175,000 is added per year to the local economy. This would suggest the financial value alone of restoring the Cotswold Canals for the Severn Thames Transfer could reach £800m over the next 80 years; • CRT & British Marine's jointly commissioned report, produced by SimetricaJacob (2021) measuring the economic and social impacts associated with inland and coastal boating, underpinning the importance of restoring canal networks. We have shared a summary of that report with consultants working for Thames Water in the hope that such evidence will inform the 'back checking' for the project's gateway process and that Thames will keep the two options for the STT under review as further evidence comes to light. It appears the pipeline option for the Severn Thames Transfer (which excludes the part restoration of the canals) has been identified as the preferred option on grounds it is the least costly option but has not provided stakeholders with detailed analysis of the two alternative STT options. Faced with a worsening climate emergency and the need for industry and government to maximise sustainable solutions, we ask that Thames Water keeps its approach to the STT under review and considers all emerging evidence that supports the economic, social and environmental case for delivering the STT through part restoration of the Cotswold Canals in combination with a pipeline.		
4909	Richmond Park Labour Party	Thames Water customers may well feel that fixing leaks 600 million litres are lost daily and educating people to be less wasteful of this precious resource would be a better investment	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite	

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			this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water	

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			Efficiency activity and assist to increase the take up of our specific water saving initiatives."	
4909	Richmond Park Labour Party	During periods of drought 75-100 million litres of water would be taken daily from the Thames about 400 metres above Teddington Weir and sent through the existing Thames Lee Tunnel to Affinity Water's Lockwood pumping station in the Lee Valley. To maintain flow in the Thames an equivalent amount of effluent from Mogden Sewage Treatment Works would be released between the abstraction point and the weir. A new tertiary treatment plant at Mogden would have to be built to bring the effluent up to Environment Agency standards for release into non-tidal water Although treated sewage is deemed safe, tertiary treatment does not provide the same water quality as advanced water treatment. The DRA Teddington plan could significantly impact the river's ecosystem by raising the water temperature and oxygenation. This could lead to a bloom of blue green algae, poisonous to both humans and dogs and render the river an out of bounds area for many. Also, it appears that the effect of flows on recreational river users and passenger boats in this busy stretch has not been considered.	Thank you for your response to the consultation and for raising your concerns, which are noted. You are correct in stating that the Teddington DRA scheme is a drought resilience scheme. It would only be fully operational during drought periods, to help maintain water supplies – typically during late summer through to late autumn on an intermittent basis. There would be strict rules guiding when and how we could use the scheme and we would need agreement from the Environment Agency. The Teddington DRA scheme proposes discharging recycled water into the freshwater section of the River Thames upstream of Teddington Weir, requiring a greater level of treatment than would be required if the water were to be discharged into the Tideway section of the River Thames, downstream of Teddington Weir. The level of treatment proposed as part of the Teddington DRA scheme would improve the quality of the water in the Tideway section of the River Thames, downstream of Teddington Weir. The treatment parameters would be defined by the Environment Agency, but our current proposal is a level of treatment that balances the spatial constraints that we have at Mogden Sewage Treatment Works, best value for our customers and water quality. We feel that our current proposal effectively balances these factors without significantly increasing the risk of environmental impacts. The need for the sweetening flow in order to keep the equipment and	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		It is likely that lots of small insects will be drawn out of the river, so that the living river is replaced with treated effluent, and biodiversity is lost. This will lead to further harm to freshwater and estuarine fish already at risk. There may well be damage to the lifecycle of aquatic organisms which “clean” the river . WE are concerned about the physical disruption of the building of the plant to the Thames Path and surrounding Ham Lands. Many will consider this an eyesore , and not just the local residents but the many people who come to visit this stretch of the river It is an area used by many people from a wide area of London. An additional matter Thames Water gave scant attention to was that this is not a droughtonly operation. A “sweetening” flow of 25 million litres per day (not 10 million as quoted by one of their representatives) is required daily to keep the tertiary treatment plant operating correctly. A previous version of the scheme, put forward in 2019, for abstraction of 150 million litres per day was dropped following objections from the Environment Agency, Historic England and Natural England, as well as river and angling-related organisations, the Port of London Authority, the River Thames Society, the South East and Thames Rivers Trust, and environmental campaign groups.	pipeline in good working condition, has been highlighted in the conceptual design reports and during the presentations; we would need to run the system at a low-volume – known as a “sweetening flow” -during normal conditions so that the scheme is ready to be used when it is needed. The actual operation and timing and location of the discharge of the sweetening flow is still be decided, but our modelling has shown that the level of treatment proposed as part of the Teddington DRA scheme would improve the quality of the water in the Tideway section of the River Thames, downstream of Teddington. Lockwood Reservoir is a Thames Water asset, and is where the TLT currently terminates in North East London. We are aware of the algae bloom issues in the lower Thames. We have commissioned a specialist company to undertake monitoring and investigations. The monitoring started in 2021 and needs to continue for a minimum of three years to enable trends to be assessed. The output will be used to inform the full Environmental Impact Assessment During environmental evaluation a previously proposed larger scheme was indeed ruled out as part of the iterative design process. We have undertaken detailed 3D hydraulic modelling and 1D fluvial water quality modelling to understand the risk to both the freshwater and estuarine Thames. (Gate 2 Report, Annex B2.2). The assessments completed to date show that there is a significant risk of exceeding a 2oC temperature change across greater than a 25% cross sectional area of the river for a 150 Ml/d scheme. For a scheme of 75 to 100 Ml/d show a very low risk of breaches to thermal plume characteristics and therefore, based on the requirement to not exceed EA guidance, the size of the scheme would be capped at a maximum of 100 Ml/d.	

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		Thames Water customers may well feel that fixing leaks - 600 million litres are lost daily - and educating people to be less wasteful of this precious resource would be a better investment	There would be two structures on the riverbank. The discharge, or outflow, facility would be a discreet structure, largely submerged beneath the surface of the River, with a small timber wharf. The abstraction, or intake, facility would be upstream of the discharge facility and more visible, incorporating fish and eel screens, pumps and control units. The design would be similar to the intakes already in safe operation on the River Thames and elsewhere. There would be opportunities to screen and landscape the facility and design it in consultation with regulators, local communities and other stakeholders. As the scheme develops, we will engage with any landowners and businesses that we think might be impacted during the construction or operation of the scheme and agree appropriate measures. The design of the scheme will also include significant local biodiversity and environmental net gain creating a beneficial legacy for local communities.	
5054	The Zoological Society of London	Thames Water's Net Zero Reverse Osmosis and UV are being proposed as tertiary treatments, yet both are hugely energy intensive processes.1 We would like Thames Water to provide more detail on how building this treatment system helps with Thames Water's plan to 'Reach net zero carbon emissions from our operations by 2030'.	While we acknowledge that some treatment processes associated with new options can be energy intensive, with reverse osmosis being particularly so, these treatment processes are only incorporated where necessary. In the case of effluent reuse schemes, the Drinking Water Inspectorate have indicated that direct effluent reuse would require the use of membrane treatment (reverse osmosis) in order to mitigate drinking water risks. When determining our plan, we have looked to see whether we could solve our supply-demand balance problem in ways which result in lower emissions or more beneficial environmental outcomes, and consider that our Best Value plan is a balance between affordability and environmental outcomes, while providing the drought resilience required.	Greater detail on carbon emissions assessment is included in Section 7 of the WRMP, including commentary on future decarbonisation. Our revised programme appraisal is detailed in Section 11 of the WRMP

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			Our commitment to reaching net zero operational emissions by 2030 stands	
5054	The Zoological Society of London	Migratory Fish Assessment In reference to section 4.5.2 'There, is no evidence to suggest that sea lamprey, smelt and twaite shad access this freshwater reach of the River Thames". This assertion raises concerns about Thames Water's (TW) commitment to nature recovery. While this statement may be accurate, it suggests that TW are only interested in maintaining the current poor baseline and not in working to restore these once common species to the river. Under the water industry's Code of Practice on Conservation, Access and Recreation 2000, TW have a statutory duty to protect and, where possible enhance, biodiversity, so should be working on the assumption that sea lamprey, smelt and twaite shad, that once did use the Thames, will come back, not that they are lost so we can discount them. Furthermore, footnote 55 states that Teddington fish pass upgrade is being designed to allow the migratory passage of twaite shad therefore the environmental impact assessment of these schemes should include this protected fish species throughout as per Thames Water policy. Further page 68 states that: 'impacts to fish behaviour may also extend to migratory species such as Atlantic salmon and sea trout, where avoidance of warmer waters may prevent upstream migration due to the extent of crosssectional impacts at the discharge location'. TW's own analysis shows there will be a thermal problem with the proposed scheme that could well see the end of sea trout spawning in	As commented, the statement referenced is accurate. Many of the key factors dictating the presence or otherwise of sea lamprey, smelt and twaite shad above Teddington are no longer water quality related, but instead due to fish pass issue, suitable physical habitat availability and a biology of the species, which the scheme will not directly affect. As part of the Gate 2 assessments for this scheme, we carried out detailed 3D plume modelling to understand impacts on temperature within the river. These assessments indicate that Atlantic salmon and sea trout will be impacted by the Mogden water recycling scheme of 150 Ml/d and above for limited periods of time under rare flow conditions. Please note that the Gate 2 report referenced is a high-level environmental risk assessment upon a conceptual design of a scheme, it is not a full impact assessment, which will be completed as the scheme's design is developed in support of the planning application process. In due course, as the scheme progresses towards planning, the scope of the EIA will be set out in an EIA scoping report. Page 68 is summary for Mogden Reuse not Teddington DRA. The modelling and assessment of temperature change for Teddington DRA identified that the Teddington DRA scheme at 150 Ml/d would not be compliant with WFD thermal plume guidance, and as such the 150Ml/d scheme size was deselected, with it recommended that only the 75Ml/d and 100Ml/d scheme sizes, which had lower temperature effects compliant with the guidance, should be progressed through to Gate 3 assessment.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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		the tidal river. This action is prohibited by the Salmon and Freshwater Fisheries Act 1975.	Sea trout do not spawn in the tidal river. They move into freshwater to spawn on golf ball to tennis ball sized substrate. Temperature may influence the migration of salmon and sea trout through the tideway to the river for spawning, which is why we are undertaking the thermal plume modelling. At present the modelling has led to the de-selection of the 150Ml/d sized scheme, with current modelling outputs show that 75Ml/d and 100Ml/d are compliant with WFD thermal plume guidance around the discharge location at Teddington. In addition, due to the reduction in final effluent discharged from Mogden STW there will be a reduction in water temperature around Isleworth Ait in the upper tideway. These issues will be reassessed in greater detail through Gate 3 and beyond (where a full EIA will be produced). As per our Gate 2 report for the London recycling SRO (Annex B23 fish assessment report) discussions with the Environment Agency have indicated that the recent findings of the juvenile twaite shad within the Middle and Lower Thames Tideway mean that shad species should be considered further within the SRO fish monitoring programme. As such, twaite shad eDNA was added to the last two months of the Gate 2 surveys and consideration for twaite shad will form part of future London Recycling SRO monitoring. Records of sea lamprey and river lamprey are inconclusive within both the River Thames and River Lee catchments. Future investigations via eDNA of Lampetra sp. and Petromyzon sp. will be carried out within the Thames and Lee catchments and existing European smelt eDNA fish monitoring expanded to include twaite shad as part of the further development of schemes under this SRO as relevant.	
5054	The Zoological Society of London	Water Quality Modelling Insufficient detail on the tertiary treatment system has been provided, raising significant concerns about the accuracy of the water quality modelling undertaken. For example, Ricardo's prediction of a	**Water Quality Modelling** The aspect of the temperature assessment referenced is based on mass balance modelling using long term data on temperature in the River Thames at Teddington and temperature of the final effluent at Mogden STW. At this Gate 2 conceptual design stage it is considered	We have provided information in response to your comments, there are no changes to the

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		1.1°C thermal uplift in the freshwater River Thames raises questions about the nature of the specific treatment methods employed, such as nitrifying sand filters, mechanical cloth filters, UV treatment, or Reverse Osmosis (RO). The modelling conducted by Ricardo is contingent on the tertiary process functioning effectively. However, given the historical precedence of pollution from other sewage treatment works (STWs) and poorly maintained assets, it is reasonable to question whether there is a risk of process failure, and whether appropriate safeguards have been put in place. Furthermore, standard STW discharge permits allow a 10% exceedance of water quality targets. It remains unclear whether this same allowance will be applicable in this case, and if so, how it may impact the modelling. Thus, there are legitimate concerns about the reliability of Ricardo's modelling results considering these potential factors. Screening intakes We are concerned that no mention is made of the screening required to prevent intake of Critically Endangered European eel and other fish species in this section (3.1.2.4 River Abstraction Construction). Screening will be a requirement to comply with The Eels (England and Wales) Regulations 2009 (legislation.gov.uk) Salmon and Freshwater Fisheries Act 1975 (legislation.gov.uk) Poisonous matter and polluting effluent.	a precautionary assessment, not taking account of any cooling effect that may take place during the tertiary treatment processes nor conveyance through the 4-5km below ground conveyance. The tertiary treatment plant design will be refined through Gate 3, which will include bench testing of the proposed treatment processes. The environmental assessments (including temperature) will then be refined as the refined detail of the tertiary treatment plant becomes available. The Teddington DRA discharge is not a waste water discharge, and is considered as a 'Planned Discharge' by the Environment Agency so will be held to higher standards than a waste water discharge. The scheme does not provide a physical pathway for storm overflows to be discharged through the new discharge. The new Tertiary Treatment Plant at Mogden STW will have live monitoring which will enable diversion of the recycled water back to the head of the STW plant if water quality approaches the permitted limits. As additional scheme detail is developed through Gate 3, the modelling is being re-run to provide a more detailed dataset to support the environmental assessments in relation to EIA and permitting. We are currently discussing environmental permitting with the Environment Agency's National Permitting Service and it is for them to set the compliance standards (e.g. in terms of concentrations) and compliance rate (e.g. average (which is typically used for nutrients), 90 percent of the time (as you note, and which is typically used for oxygen demand, ammonia and suspended solids)and/or maximum values (which are typically used for chemicals, and also often applied as an additional standard for oxygen demand and ammonia)). These standards will be set by the Environment Agency to provide what the Environment Agency consider to be an appropriate level of environmental protection, and will be informed by the extensive water	plan as a result of your representation.

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		(1)F20... any person who causes or knowingly permits to flow, or puts or knowingly permits to be put, into any waters containing fish or into any tributaries of waters containing fish, any liquid or solid matter to such an extent as to cause the waters to be poisonous or injurious to fish or the spawning grounds, spawn or food of fish, shall be guilty of an offence Evaluation of harm Numerous instances in the reports presume that if there is no evidence of harm (in the scientific literature) then there is unlikely to be a risk (e.g., pg 45 There are no examples of literature available that document the effect of mercury on the olfactory response of European eel specifically…' and 'Impacts to European eel and lamprey are not as well understood, however, until such a time that updated research becomes available, it is assumed for the purposes of this report that the impact of olfactory cue dilution will be in line with those recorded for salmonids.'). This is a causal leap in the absence of a formal assessment since further research may very well uncover evidence of risk. In addition, page 38 states '…the significance/magnitude of the impact on freshwater fish cannot be assessed and it is only possible to note an increased risk for potential impacts for the determinants listed. When considering the potential increase in load against the context of the reference conditions, the risk is not considered to be discernible (low confidence).' This is repeated in other sections. More research should be carried out to quantify these risks.	quality dataset we have been collecting since January 2021. Ricardo's modelling to date has reviewed the extent of environmental risk that needs to be reduced by the tertiary treatment plant, noting this assessment of treatment needs will be superseded by the draft permit standards when received from the Environment Agency. **Screening intakes** At the time of Gate 2 reporting, the design was at conceptual design stage, and screening design would feature in latter design stages. Screening requirements are currently being progressed in consultation with the Environment Agency. A comment on Salmon and Freshwater Fisheries Act 1975 noted. **Evaluation of harm** It is not stated in the report that there is no evidence of harm or that there is a presumption of no evidence of harm and therefore unlikely to be a risk. The report makes clear reference to where the literature/research is sparse or non-existent, such as the effects of mercury on European eel and lamprey, and where this is the case then assumes that the impacts of olfactory cue inhibitors/dilution will be in line with those recorded for salmonids as a precautionary approach due to the availability of literature/research on salmonid species and their documented high sensitivity. This is detailed further in the accompanying Olfaction Technical Note which summarises the available and most recent literature. The LWR project is not in a position to facilitate ecotoxicological trials for the migratory fish species associated with the Thames catchment due to current UK live-testing trial upon vertebrate animals. The report therefore assumes a high level of risk where evidence is lacking. Further, page 38 is describing the potential impacts of WFD	

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			chemicals, not olfactory determinants, though there is some overlap, which are detailed in Sections 3.7.2 and 4.7.2 of the report. The WFD impact assessment is acknowledging that the concentration at which individual or groups of chemicals may be disruptive to individual fish species are under researched, and in-combination effects of groups of chemicals has been highlighted in several forums recently as an area to which research efforts should be directed. It is due to this research gap that at this stage the significance/magnitude of the impact on freshwater fish cannot be assessed, but assuming an increased risk for potential impacts is considered to be precautionary. The conclusion of non-discernible risk is against the potential increase in load against the context of the reference conditions as detailed in the London Effluent Reuse SRO Gate 2 Annex B.2.2. Water Quality Assessment Report and provides the evidence for this assessment. It is also noted in Section 3.7.2 of the report that 'This assessment is intended as a guide for future investigations, see Section 6 of the London Effluent Reuse SRO Gate 2 Annex B.2.2. Water Quality Assessment Report, as the olfactory suite for monitoring was updated at Gate 2 and that data will be made available for Gate 3.' There are on-going discussions with the Environment Agency, the laboratories and other parties to strengthen the olfactory suite for monitoring due to its later addition to the Gated requirements.	
5054	The Zoological Society of London	As an organisation we do not support the proposed river abstraction at Teddington and have the following concerns in addition to those detrimental effects described in the Fish Assessment Report: Prioritise Reservoirs In regard to the claim that "employing water reuse schemes in the	Reservoir development forms part of the WRMP, but would not be able to provide water for many years. Therefore alternatives compatible options need to be considered in the to provide additional water resources in the interim. The DRA scheme is one of those options being assessed and considered. We are part of the way through a thorough assessment of water temperature and its potential ecological effects. This is to assess potential effects associated with the scheme and where appropriate	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme

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		region, Thames Water can avoid reliance on additional river abstraction thereby protecting local rivers and reservoir habitats." (see section 2.1.2). This is a false dichotomy as reservoirs have not been considered. This scheme being proposed is justified as an 'easy' lowcost option, with the main risks being to the ecology of the Thames, as outlined below, and our climate if energy intensive tertiary treatment is used such as reverse osmosis, neither of which impact Thames Water profits. Water Resources South East (WRSE) plan states that population growth, climate change and the protection of fragile ecosystems are all putting increasing pressure on the South East's water resources. ZSL supports the development of new reservoirs as a priority over Water Recycling Schemes. Reservoirs store water in times of plenty thereby reducing the need for abstraction, pose no threat to the ecology of the river and can be beneficial to some freshwater species if designed to maximise benefits to nature. Therefore, we believe new reservoirs designed for nature should be built as a priory, rather than this proposed scheme. mpacts of thermal change The report states on page 51 '1.1° C may occur, achieving a maximum modelled temperature of 19.8°C.' We seek to understand what climate change scenario the model has used. In The State of the Thames7 , ZSL analysis revealed a 0.19°C annual increase in water temperature in the Upper Tidal	mitigation or an operational management strategy to nullify water temperature effects. If this cannot be achieved then the scheme will not go ahead. In Gate 2 the modelling assessment was undertaken for representative river flows of the 2030s and a 2050s future version of the modelling is currently being developed. This futures timescale represents longer than the maximum timescale of an abstraction licence that the Environment Agency can currently grant. There would be a need to re-review the effects of the scheme for further futures at time of application for an abstraction licence extension. The 2030s modelling at Gate 2 included a representation of River Thames water temperatures from measured data from 2010. Earlier data are available but were not included as they are not representative of current climatic conditions. Mogden STW treated effluent temperature data show that within the pattern of seasonal differences in temperature, there are differences in effluent temperature related to flow at the STW. This is conceptualised as due to the residence time on-site in the STW processes – lower sewage flows give more time in the STW, with more time for warmer influent raw sewage to adjust down to ambient temperature. The planned 2050s modelling will include a temperature increase for climate change. We have not yet completed a review of an appropriate temperature uplift to apply to the river temperature seasonally. At this stage we do not consider that the STW final effluent temperature would change in the future as this is driven by the influent temperature, which is controlled by other factors not linked to climate change, such as domestic use of hot water. We also include water temperature in the Tideway modelling, with the	poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		Thames. We would expect to see presented the modelled water temperatures in the lifetime of the proposed scheme. Additionally, we would expect to see the model using water temperatures in the drought, low flow, extreme weather conditions when the water recycling scheme is likely to be used. Moreover, further information should be provided about the interrelation between the water temperature and dissolved oxygen levels (e.g., was the DO modelled at the maximum water temperature and low flow scenario?). If so, these results should be presented. It is stated on page 56, 'Temperature increases close to the discharge outfall of up to 6.1°C are likely to result in impacts to the behaviour of fish species dependent upon the temperature of the wider River Thames, during colder periods a warmer effluent may act to attract species whereas in warmer periods increase temperatures at the outfall may elicit avoidance behaviours. Temperature changes of 1.1°C overall will result in changes to metabolic rate, embryonic development and hatch rate of most species. Temperature changes within this scale have been shown to impact gonad development, spawning timing, egg incubation, fry size and over winter mortality for a number of species present within the reach. For more thermophilic species such as bleak or chub these relatively minor temperature changes may result in competitive advantages when compared to species such as perch or pike. The majority of species typically spawn between March and June and therefore the scheme is not likely to operate	model parameterised using the Environment Agency's data from their network of barges in the Thames Tideway. For the 2050s modelling we will include a temperature increase for climate change – both for the freshwater River Thames contribution and for the outer estuary contribution. Modelling of the Tideway in the 2030s scenarios undertaken to date is interesting in that the baseline shows a clear influence of the current Mogden STW discharge at Isleworth Ait on estuary water temperature, with that influence reducing under the DRA scheme with less STW effluent at that site. The impacts identified in relation to fish will be reassessed through the course for 2023 and further through EIA beyond that. The reassessment will make use of updated monitoring data, more detailed scheme and operational design (including treatment plant performance) and updated modelling reflecting these scheme updates. Based on the impacts identified, mitigation will be identified and consulted upon with regulators and stakeholders in due course.	

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		during peak spawning periods for most species, however several species are known to spawn later in the year such as barbel, bream, chub and minnow. In summary the scheme may be detrimental within the area of the thermal plume to cold water species such as brown trout, minnow, perch, pike and roach but beneficial to species belonging to warm water guilds such as bleak, common bream, chub and tench.' These impacts are potentially significant and would need clear mitigation. Further, we would suggest not referring to changes as 'beneficial' as this could be misconstrued as being as a result of positive intent. mpacts of thermal change The report states on page 51 '1.1° C may occur, achieving a maximum modelled temperature of 19.8°C.' We seek to understand what climate change scenario the model has used. In The State of the Thames7, ZSL analysis revealed a 0.19°C annual increase in water temperature in the Upper Tidal Thames. We would expect to see presented the modelled water temperatures in the lifetime of the proposed scheme. Additionally, we would expect to see the model using water temperatures in the drought, low flow, extreme weather conditions when the water recycling scheme is likely to be used. Moreover, further information should be provided about the interrelation between the water temperature and dissolved oxygen levels (e.g., was the DO modelled at		

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		the maximum water temperature and low flow scenario?). If so, these results should be presented. It is stated on page 56, 'Temperature increases close to the discharge outfall of up to 6.1°C are likely to result in impacts to the behaviour of fish species dependent upon the temperature of the wider River Thames, during colder periods a warmer effluent may act to attract species whereas in warmer periods increase temperatures at the outfall may elicit avoidance behaviours. Temperature changes of 1.1°C overall will result in changes to metabolic rate, embryonic development and hatch rate of most species. Temperature changes within this scale have been shown to impact gonad development, spawning timing, egg incubation, fry size and over winter mortality for a number of species present within the reach. For more thermophilic species such as bleak or chub these relatively minor temperature changes may result in competitive advantages when compared to species such as perch or pike. The majority of species typically spawn between March and June and therefore the scheme is not likely to operate during peak spawning periods for most species, however several species are known to spawn later in the year such as barbel, bream, chub and minnow. In summary the scheme may be detrimental within the area of the thermal plume to cold water species such as brown trout, minnow, perch, pike and roach but beneficial to species belonging to warm water guilds such as bleak, common bream, chub and tench.'		

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		These impacts are potentially significant and would need clear mitigation. Further, we would suggest not referring to changes as 'beneficial' as this could be misconstrued as being as a result of positive intent. Finally, the disruption of sediment during construction could remobilise pollutants (particularly heavy metals) that are trapped in the sediment and cause an increase in pollutant burdens in wildlife.6 This does not appear to have been accounted for in any of the impact assessments.		
5061	Tetsworth Parish Council	While we acknowledge the four pressures on future water demand, we believe that your inflated projections exaggerate the need and present an unrealistic scenario. As an example, you have selected the third highest population growth projection rather than more believable and much lower ONS data. This factor, with other biased estimates has resulted in a grossly overestimated projection of water demand. More realistic assumptions would halve the projected requirement.	All growth forecasts used by Thames Water have been produced by ONS or a local authority and we have no reason to consider they have been unduly exaggerated. The growth scenario to be used is stipulated within the joint Defra, EA, Ofwat and NRW Water Resource Planning Guidelines and is not a "choice" made by Thames Water. ONS growth forecast are used for planning purposes across a range of sectors. In the case of local authority plans these are reviewed by Government planning inspectors prior to their approval. The use of these forecasts are required by the Water Resource Planning Guidelines. Given this we consider their use within our plan appropriate and we have a duty to enable the growth with local authority plans by ensuring a secure supply of water for proposed growth to be available.	Our preferred plan includes a PCC target of 110 l/h/d.
5061	Tetsworth Parish Council	You have chosen to base your climate change implications on the most dramatic of future emissions outcomes rather than a more realistic median trend expected from global action on the issue.	Within our planning we have considered a wide range of climate change evidence. As described in Appendix U, we have undertaken extensive modelling based on scenarios other than RCP8.5 (we have considered RCP2.6, RCP4.5, RCP6.0 and RCP8.5) - the scenario initially considered RCP8.5 due to the importance of considering a coherent climate change scenario across the WRSE region. We have	No changes as per our consideration

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			mapped the climate change impact pathways which we have adopted and have found that our 'high', 'medium' and 'low' scenarios represent approximately 75th, 50th, and 25th percentile trajectories respectively. While our preferred programme has adopted a pathway which follows a 'High' climate change trajectory, it is important to recognise that our plan is adaptive, and we will be able to adopt a different investment programme in the future should we find that climate change projections in the future are lower than those in our preferred programme pathway.	
5061	Tetsworth Parish Council	Achieving ambitious targets in reducing both leakage and consumption would significantly reduce the need for new water sources. Thames Water's proposals to reduce leakage by 50% by 2050 and consumption to 123 litres per person per day are not ambitious enough. The timescales for leakage reduction should be brought forward by many years, and target consumption should be set at 110 litres per person per year in line with Government policy. Additional capacity from new water infrastructure may only be called upon during drought conditions. Given such intermittent use, Government and Thames Water should work together on developing more effective public awareness campaigns to reduce water consumption at critical times.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not	

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			falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water	

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			Efficiency activity and assist to increase the take up of our specific water saving initiatives." Hosepipe bans and non-essential use bans (drought measures) All water companies have a Government approved Drought Plan, which includes a robust sequence of demand reduction and customer engagement actions that are implemented according to water resource status and demand forecast. Our Drought Plan includes the use of Temporary Use Bans (hosepipe bans) and Non-Essential Use Bans (a set of further water restrictions). These measures are put in place only in periods of extreme drought, following a legal process and customer consultation period, to reduce the amount of additional discretionary water use (e.g. outdoor, garden), which contributes to peak demand periods. The hosepipe ban and range of other demand reduction activities are all aimed to help reduce household and business water use, protecting water availability for more essential services and the local environment.	
5061	Tetsworth Parish Council	Given that the extent of future demand for water is uncertain, new sources of water should give priority to schemes which are adaptable, scalable and minimise environmental impact. New reservoirs, like the SESRO (South East Strategic Reservoir Option), fail to satisfy these criteria. On the other hand, alternative new water sources such as river transfer, recycling and desalination do have these characteristics. In particular, the priority being accorded to the proposed Abingdon reservoir is totally unjustifiable.	We've looked at a wide range of potential solutions – both measures to manage demand for water and provide new water supplies. WRSE considered over 2,000 options including national and regional water transfers, desalination, recycling treated wastewater, reservoirs and catchment schemes - all are viable, potential options which could form part of an overall plan for the South East. We'll need a combination of measures to address the shortfall. The selection of options for our best value plans takes into account a wide range of factors, including environmental impacts of programmes, resilience to drought and other outage events, the needs of other water users and future generations, and customer water management preferences, in addition to cost. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess	We have provided information in response to your comments, there are no changes as a result of your representation.

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			winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the	

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			Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. We also continue to investigate water recycling schemes in London as part of the RAPID process. Our preferred plan includes for a new river abstraction at Teddington supported by water recycling from the early 2030's.	
5066	Hammersmith Mall Residents' Association	While we understand the requirement of Thames Water to create a resilient water supply as we move into a period of greater climatic uncertainty and population growth, we strongly object to this plan in its current form.	Thank you for your comment	No changes - comment not specific in changes sought
5066	Hammersmith Mall Residents' Association	We note that Thames Water's Environmental & Third Party policy requires projects to have customer and stakeholder acceptance. So we are extremely disappointed that customer information about the plan and consultation appears to have been negligible for many Thames Water customers. Our members – all Thames Water customers -only found out about the current consultation through articles in newspapers. London customers appear not to have received any direct communications from Thames Water about the proposed scheme, despite the fact that the river is the lifeblood of our city. The only consultation event in London was a popup event held at Paddington Station on 18th January 2023, with seemingly zero	We note your feedback. Our approach to the consultation was designed to reflect the strategic nature of the draft WRMP and the purpose of the consultation, which is to seek feedback on our proposed water resources strategy, not on the detail of individual projects. We recognise there is a lot of interest in the proposed scheme near Teddington and frustration that at this stage we could not fully answer all the questions that were raised, as the work completed to date on the scheme has been to determine the feasibility and conceptual design of the scheme. If the scheme is included in the final WRMP it will then progress through planning and there will be multiple opportunities for scheme-specific engagement and consultation with local communities. We would like to reassure you that we are committed to work openly and transparently with all stakeholders, and community engagement and consultation is an	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		publicity. This is simply not good enough, so we look forward to receiving more adequate information and consultation opportunities as Thames Water's plans develop.	important part of this. We have recently appointed a dedicated engagement manager for the Teddington DRA scheme which will help to ensure we engage effectively with the local community going forwards.	
5066	Hammersmith Mall Residents' Association	We currently live with unacceptably high levels of raw sewage being released into the river on a regular basis. And we are home to the infamous 'wet wipe island' on the Barnes shore upstream of Hammersmith Bridge.	The discharge of untreated sewage is unacceptable, and it's understandable that the public are demanding that we, and other water companies, improve our performance. Between 2025 and 2030 we will be investing at least £750 million to reduce discharges of untreated sewage to sewers, and over £1 billion to improve treatment processes at our sewage treatment works. . Upgrading the Mogden Sewage Treatment Works site will reduce the number of storm discharges which will have a significant beneficial impact on the river. Our overall aim is to reduce the total annual duration of discharges by 50% by 2030 compared to a 2020 baseline, with an 80% reduction in discharges in particularly sensitive catchments. At the beginning of the year we published an online map providing close to real-time information about storm discharges from all of our 468 permitted locations and this continues to be updated with information on improvements being made across our region, the transparency of information is vital if we are to start to rebuild trust with local communities. There are no quick fixes. Population growth will increase the strain on our sewage network and treatment centres. And because of climate change, the south east of England is experiencing heavier downpours, which can overwhelm some sewage treatment works. The scale of the challenge demands systemic reform with a shared undertaking from all stakeholders.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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5066	Hammersmith Mall Residents' Association	We are confining our response to our strong objections to the Teddington Abstraction and Mogden Re-use Scheme, which has the potential to have an adverse impact on our conservation area (The Hammersmith Mall Conservation Area). The Thames forms the entire southern boundary of the conservation area between Chiswick Mall and Hammersmith Bridge in West London. It is thus an integral and extremely important part of our lives – and of the thousands who enjoy the area's parks, walks, views and amenities every week. The river itself is used every day, famously so in the boat race season. A large variety of waterfowl and other birds are resident in the area and it provides food and sanctuary for migrants in Spring and Autumn. Seals – even the occasional harbour porpoise – sometimes swim upstream to fish. Our residents are therefore very protective of the river, so any activities which alter its nature in any way are extremely troubling. We strongly object to the proposal to remove fresh water from the Thames at Teddington and replace it with treated water from Mogden Sewage Treatment Works. The proposed scheme would operate at times of extremely dry weather when water levels in the Thames are likely to already be low. Consequently, the introduction of treated water is likely to have a much greater impact on the river water composition and quality than a same volume introduced when the river is in flood. Thames Water's 'Gate One Submission for: London Effluent Reuse SRO July 2022' identified the Teddington DRA and Mogden ERS schemes as having the potential to cause: - changes to water temperature, flow and salinity;	Thank you for your response to the consultation. Your concerns are noted and below is an attempt to address them. The Teddington DRA scheme is a drought resilience scheme, and it would only be fully operational during drought periods, to help maintain water supplies – typically during late summer through to late autumn on an intermittent basis. There would be strict rules guiding when and how we could use the scheme and we would need agreement from the Environment Agency One of the key objectives of the scheme is that the input of recycled water to the River Thames will ensure sufficient flow remains in the river during any periods of drought to avoid adverse impacts on the river environment. What benefits would the scheme provide? • A more resilient water supply in times of drought • Improved water quality in the Tideway • Reduced ecological damaging drought conditions on the lower part of the River Thames • Amenity, education, and recreation opportunities which would be developed in consultation with local community groups and partners. • Improvements to local habitat and biodiversity, the local conservation group has responded positively to explore potential opportunities. • Training, skills and employment opportunities • Opportunity to create a positive legacy on the riverbank akin to some of the beautiful Victorian water infrastructure. We would work with local partners to ensure the wider benefits are identified and included in the scheme design at an early stage. We are committed to environmental protection and environmental	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		- changes to freshwater and estuarine fish community structure and migration patterns; - alteration of life-cycle and quality of macroinvertebrates; - impact on navigation from reduced water depth in Thames Tideway In addition to this, no mention has been made of the potential for treated waste water to contain a rich cocktail of chemicals and microplastics which can cause irreparable harm to fish and other aquatic and marine life. All of these changes, however small would have a consequent impact on the ecology of the river Thames further downstream from Teddington and Mogden. As such they are totally unacceptable. Similarly, impacts on navigation would adversely affect current leisure and transport use of the river, to the detriment of communities along its length. The river also supplies water to two important local nature reserves in times of drought, the WWT London Wetland Centre and the smaller but much treasured Barnes Leg o'Mutton Nature Reserve. Any consequent damage to the water quality and ecology of these two wildlife sanctuaries would be an environmental disaster. We understand that at a recent briefing by Thames Water to the Thames 21 Catchment Partnership, Thames Water stated that these potential risks could be mitigated by a reduction in maximum volume of the abstraction and re-use scheme. We find this extremely concerning and we simply do not trust that reducing the volume of water extracted and replaced is a satisfactory solution. It implies that the treatment technology would remain the same and the risks identified are still there. Should a larger volume scheme be deemed necessary - now or in the future - we would face the same risk	enhancement. We have been thoroughly investigating the chemical quality of both the River Thames at Teddington and the chemical quality of our treated sewage at Mogden sewage treatment works in order to determine the amount of additional treatment that is appropriate to ensure absolutely no worsening of chemical quality. For many chemicals this quality will be significantly better than the current quality of the river. We are working closely with the Environment Agency to ensure this is the case. This will safeguard the ecological quality of the river. If this cannot be demonstrated, then the scheme will not go ahead. The treatment of sewage and discharge of treated wastewater back into rivers occurs throughout the country. Upstream of Teddington Weir numerous sewage treatment works discharge treated wastewater into the River Thames and its tributaries. This process is vital in ensuring rivers and tributaries keep flowing and wildlife thriving. The Teddington DRA scheme requires the construction of a new treatment plant taking a proportion of final effluent from Mogden STW through additional (tertiary) treatment. This would provide a higher quality of water than many of the existing discharges owing to utilising the latest treatment technology and meeting the latest environmental standards. You are correct in the observation that a larger scheme of 150 Ml/d was previously considered and discounted due to the temperature change in the river. Although the temperature impact of a smaller 75 Ml/d scheme is reduced and infrequent, mitigation in the form of operating procedures that implement cessation of operation during periods of significant temperature difference between the recycled water and the receiving water body when under low river flow conditions may need to be considered further in Gate 3.	

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		of ecological and environmental harms. The current plan has the potential to cause damaging changes to the ecosystem of the Thames as a result of changes in flow and water quality – and to adversely affect navigation and leisure use of the river. The data currently provided do not demonstrate a reassuring level of investment or intent to protect the local wildlife. Rather the focus is on providing the best value for the customer rather than safeguarding the important habitats in and around the Thames.	The effects of temperature and mixing in the river system are proportionate to the volumes discharged and flow in the river. Comprehensive modelling has been carried out, and will be further refined in Gate 3. The Teddington DRA scheme has been selected as a best value option through the Water Resource South East regional model. Best value has been determined through the analysis and modelling of cost, resilience, environmental and customer preference metrics. Full details of the methodology used to determine best value can be found on the WRSE website at the following link - https://www.wrse.org.uk/media/3oah3rep/wrse-best-value-planning-method-statement-december-2022.pdf	
5077	West London River Group	We have already seen the devastating impacts climate change has had, from flash flooding to drought, which the WRMP24 plan should be looking to improve through better management of our water resource. For example, during a period of very heavy rainfall in July 2021 Hammersmith and Fulham was one of the hardest hit boroughs in London affected by flooding and the consequent damage this incurred	We agree that action is necessary to mitigate the impacts of climate change in ensuring a resilient supply of water in the future. We also want to protect and enhance the environment that we rely on to provide water for public supply. We're taking action such as reducing leaks and installing meters in order to reduce our overall abstraction in the short term, and are planning to introduce new supplies in the medium term to combat the range of risks that we're facing. Our drainage and wastewater management plan sets out our investment plan which will ensure a resilient and sustainable wastewater service for the future.	Our revised programme (Section 11) details how we will ensure resilient water supplies in the face of climate change
5077	West London River Group	Sewage The interactive storm discharge map is to be welcomed . It does however reinforce what local communities are fully aware of namely the number of times sewage is released into the river. The frequency of discharge is contrary to the some of the strategy statements made by Thames	We note your comments and dissatisfaction with TW's performance. The discharge of untreated sewage is unacceptable, and it's understandable that the public are demanding that we, and other water companies, improve our performance. Between 2025 and 2030 we will be investing at least £750 million to reduce discharges of untreated sewage to sewers, and over £1 billion to improve treatment processes at our sewage treatment works. . The investment in our	We have provided information in response to your comments, there are no changes to the draft plan as a result

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		Water. We are mindful that a Victorian sewer system which mixes rainwater and foul sewage cannot be immediately replaced. However, 1.Thames Water should be advocating that all new developments have separate rainwater and foul water sewers. 2. In conjunction with other Agencies mounting national campaigns that inform its customers of what they can do to help natural drainage of rainwater into the earth and other water retention schemes. 3. Making public plans for improving sections of the sewer system where excessive amounts of rainwater cause most problems. Thames Tunnel is a success but it is self evident that much moe is needed. 4. Ensuring Mogden has the capacity it needs to be able to prevent storm discharges into the river. Public attention and interest in the scale and frequency of discharge of untreated sewage into the river is increasing -not least because it and its effects on the ecology and users of the river can be seen. Public confidence in Thames Water is declining and where Thames Water is successful and innovative in some areas of water management this is lost in the face of its inability to manage heavy rainfall and storm discharges in, in this instance, this area of London	wastewater and drainage system is set out in the Drainage and Wastewater Management Plan (DWMP). https://www.thameswater.co.uk/about-us/regulation/drainage-and-wastewater-management A summary of the highlights of our near-term plan are listed below with further details in technical appendices of the DWMP: • Sewer flooding proposals differentiated into hot spot locations or clusters with a flood history and predicted future flood risk due to population growth and climate change • Proposals to support the findings from the July 2021 floods. This includes piloting schemes in catchments. For example, the 'lost' river catchment called the Fillebrook, in the London Borough of Waltham Forest, where regular and repeat flooding has occurred, often due to rainfall more than 1:30 year storm, since 2006 • Partnership opportunities to support SuDS. • Proposals for how we are going to generate a 'SuDS delivery pipeline' to mainstream SuDs delivery. The DWMP is a partnership with a wide range of stakeholders and we would welcome your involvement in the on-going development and delivery.	of your representation.

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5077	West London River Group	Repair of leaks must have more ambitious targets set. Seeing local leaks which take weeks for attention when there is a hose pipe ban in existence does not improve confidence in Thames Water's management or its stated ambitions in relation to water.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts.	
5077	West London River Group	Reducing abstractions from the environment is welcome: namely the abstraction reductions at Epsom on the Hogsmill chalk stream, and also the planned 151 million litres per day from the Darent, Cray and Ravensbourne. The most ambitious targets are to be encouraged. It is encouraging to note that Thames Water plans to develop new sources of water sooner rather than later to support environmental improvements across the south east. Bringing forward the	We agree our targets are ambitious, but through careful consideration are achievable. We are committed to environmental protection and environmental enhancement. To respond to your points in turn: (1) The discharge of highly treated effluent (even that treated by reverse osmosis which is then practically de-ionised water) is not currently discharged directly into the drinking water supply network in the UK and would not be permitted by the Environment Agency or the	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the

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		timetable for other options, including the proposed reservoir near Abingdon, is preferable. Teddington Direct River Abstraction scheme We are opposed to the Teddington Direct River Abstraction scheme and the environmental impact it will have. (1) No reasonable explanation has been provided by Thames Water as to why cleaned up sewage water from Mogden cannot be transferred directly via the Thames Lee Tunnel to the Lee Valley reservoirs. If this scheme were adopted it would prevent the release of treated sewage into the river with all of its negative impact. (2) Treated sewage water will raise the temperature and impact water quality with negative consequences on the freshwater ecosystem and wildlife. (3) In addition there is no mention of linking any potential discharge to certain times of the day or whether the timing of discharge will be influenced by the state of the tide just below the weir. (4) The quality of the water being put in will be worse than the quality of water being taken out leading to a deterioration in the residual water in the River. (5) There is no indication of what constraints would be placed on Thames Water as to the volume of water that would be extracted, or any residual flow condition indicated to maintain the present ecosystem. (6) Thames Water's proposal lacks substantive data that demonstrates the impact this proposal would have on the local river, its ecosystems and its users. In addition Thames Water's current proposals suggest that Mogden	Drinking Water Inspectorate. (2) We have contracted the expert aquatic modellers of HR Wallingford [https://www.hrwallingford.com/] to understand the potential for water temperature and water quality effects of the scheme. We are confident that a 75Ml/d or 100Ml/d will not increase the temperature of the River Thames at Teddington Weir in a way that effects ecology - our assessment to date identifies that at highest river temperatures, operation of the scheme would reduce temperatures slightly, but there are risks of small increases in autumn akin to delaying autumn by a week or so, once every 20 years in drought circumstances. If the risk is too high the scheme will not go ahead. Conversely there will be reductions in water temperatures at Brentford as the warming effect of our current discharge from Mogden sewage treatment works on the tidal river reduces. We are committed that our new water supply schemes will be more sustainable than those we are ceasing or reducing. For this scheme this includes a commitment to enhanced sewage treatment - to a considerably higher standard than is required by government for all our sewage treatment works and those of all other water companies in the country. We note that planned discharges, like this scheme, are not being considered by government regulators as ""normal"" sewage works discharges. They are being required not only to demonstrate that with designed-in advanced treatment that they will not deteriorate river water quality, but also that they will not jeopardise the river from achieving its target (good) water quality. This is for all chemicals with environmental quality standards to protected wildlife - please see the WFD Directions [https://www.legislation.gov.uk/uksi/2015/1623/pdfs/uksiod_20151623_en_auto.pdf] and the other operational chemicals included in permitting [https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit]. As such the scheme would not reduce water quality.	environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		would need to expand its facility for tertiary treatment of effluent. Our understanding is that there is limited space on the site for this to happen with the exception of going down or up. Such expansion will take considerable time. Given Mogden's record with sewage dumps we are not encouraged to believe that it will be able to cope with all that is required to maintain the quality of water needed in the proposed extraction scheme.	From review of the chemical datasets we continue to collect, we are identifying which chemicals need advanced treatment to make them suitable for discharge to the River Thames at Teddington Weir, and by how much. We are currently setting out laboratory tests to determine the most appropriate advanced treatment processes to achieve this. We are working closely with the Environment Agency to ensure this is effective. This will safeguard chemical and ecological quality of the river. If this cannot be demonstrated then the scheme will not go ahead. This also holds true for dissolved oxygen, critical to animal life in the river. We are continuing to investigate this. (3) The management protocol is being developed and will include procedures to halt discharges during times of environmental stress, such as high spring tides which can over top Teddington Weir. (4) as per point (2) the scheme will not reduce water quality. (5) the abstraction volume would be a condition of the permit from the Environment Agency and would be matched to the discharge volume. (6) We are early in the process and current assessments are based on a conceptual design. We have used the last 3 years to collect a vast amount of monitoring data, identify key risks and influence design to mitigate potential environmental impacts. Over the coming 2-3 years we will be preparing the full environmental impact assessment (EIA) based upon a detailed design. Yes a new tertiary treatment plant will be required at Mogden, which has limited space as you say. Therefore we plan to build the treatment plant above the current storm tanks, without reducing their capacity. Construction can be achieved through the early 2030s	

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5083	Planning Oxfordshire's Environment and Transport Sustainably (POETS)	1. POETS support Thames Water (TW)'s proposals to address much more seriously leakage from its own pipe network: it seems that 26% of treated water is lost through such leaks. An example of the problems presented for households, businesses, farmers, and those in university accommodation was the loss of water supply following the fracture of a major pipeline on the Oxford Eastern Bypass in 2022. 2. However, we also believe that much more could be done by Thames Water to persuade and influence its customers to reduce their water consumption. The document makes clear that, while the TW area is one of the most waterstressed in the UK, household consumption increased hugely during the long, hot and dry summer of 2022: at the same time, rivers and streams were under great stress. This represents a failure of communication to existing and future water users that household practices – such as watering gardens, and washing vehicles need to change. 3. The Draft Plan is too timid about water efficient behaviours. Section 3 of the main report shows that metering should be extended (at present only 50% of household customers have a water meter, not all of them smart); more publicity campaigns on household behaviour should be undertaken (eg discouraging carwashing and watering lawns, or saving nonpotable water); and much more support given for schemes for recycling water in both newlyconstructed and existing properties. 4. Figures included in Section 3 of the full report show that per capita consumption in the SWOX area is higher at 144.9 litres per person per day (lpd) than the regional average at 143.1 lpd, even though SWOX has greater use of metering, and its pcc is considerably higher than the neighbouring SWA (Slough, Wycombe, Aylesbury) area at 139.9 lpd. 5. Moreover, the Draft Plan is feeble in its ambition for overall per capita	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		consumption by the end of the Plan period, proposing only a reduction to 125 lpd by 2050 (or 123 lpd, taking into account new productlabelling, and upgraded building regulations for new homes and retrofits). This is considerably weaker than the Government's committed target of 110 lpd by 2050. For one of the most waterstressed areas of the country, this is feeble and should be unacceptable to government. A recent study, for example, proposed a target of 85 lpd for all new build housing in the Sussex North Water Resource Zone. b) The DWRMP24 is too timid and conventional in its ambitions for one of the most waterstressed areas in the country. A target per capita consumption of 110 litres per day by 2050 should be the maximum acceptable.	summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation.	

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			"Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Hosepipe bans and non-essential use bans (drought measures) All water companies have a Government approved Drought Plan, which includes a robust sequence of demand reduction and customer engagement actions that are implemented according to water resource status and demand forecast. Our Drought Plan includes the use of Temporary Use Bans (hosepipe bans) and Non-Essential Use Bans (a set of further water restrictions). These measures are put in place only in periods of extreme drought, following a legal process and customer consultation period, to reduce the amount of additional discretionary water use (e.g. outdoor, garden), which contributes to peak demand periods. The hosepipe ban and range of other demand reduction activities are all aimed to help reduce household and business water use, protecting water availability for more essential services and the local environment. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and	

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			water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Government-led water use reduction policies In addition to the actions we can take, the government is planning to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Grey water reuse and rainwater collection Rainwater harvesting has been considered as a demand reducing measure. We have previously offered water butts for garden usage and continue to promote rainwater capture within our multi-channel	

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			customer engagement activity. Scaling up, the difficulty is that retrofitting either rainwater and/or greywater system technologies into existing properties is extremely challenging and the fittings are not readily market available. We believe there are better opportunities to increase water use systems into new developments, particularly large ones, at the design stage. We have recently launched an industry first Environmental Incentive for developers, offering financial incentives to embed water efficiency fittings, water reuse technologies (RWH/GWR) and deliver 'water neutrality' for any new housing development in our supply area. This incentive model is being promoted to developers, planning authorities and regulators. We have also worked closely with Defra and other government areas, on efforts to strengthen future Building Regulations, so that water reuse technologies and requirements become business as usual. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	

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5083	Planning Oxfordshire's Environment and Transport Sustainably (POETS)	6. The failure to set high ambitions for reducing per capita consumption rather undermines TW's case for a new strategic resource. We are concerned that, if the SESRO were to go ahead, TW might make even less effort to reach the government's own per capita consumption target. Moreover, as we argued in our response to the draft WRSE Plan, the carbon implications of any SESRO have to be very carefully and honestly assessed. It is not evident that the construction of such a huge, carbonintensive structure would satisfy any assessment of the net carbon implications of TW's overall plan. 7. It is clear from the draft Plan that SESRO would require water transfers from the Severn and its wider catchment, and that it would provide a resource not just for the Thames Water area, but for water transfers to water companies elsewhere in the South East. We would look to be reassured that this is being fully assessed at the crossregional level, and that Water Resources West and Welsh Water support this transfer. c) The case for any SESRO is undermined by Thames Water's low ambitions for significantly reducing per capita consumption.	The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes.	We have provided information in response to your comments, there are no changes as a result of your representation.

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			The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. Reducing leakage is a priority for us. Right now, around 24% of the water we supply is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we've got a plan to fix it. We remain committed to reducing total leakage by 20% by 2025 and as part of our draft WRMP we're aiming for a 50% reduction by 2050. This is a challenging and ambitious target and will require innovative approaches and significant investment. We have examined scenarios to achieve leakage reduction sooner (and later), but the planning challenge we face is such that demand management and building new supply resources will need to proceed in parallel. To accelerate leakage would be very costly and as well as cost, much of our water network is under London and it would therefore be very disruptive to the population and businesses if we were to dig up too much of it at once. Tackling leakage is an important part of our future plans but it will not solve the water challenge we face on its own. We also need to work with our customers to make sure we use our water supplies carefully and invest in new sources of water. The environmental impacts of the proposed SESRO options have	

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			been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved.	
5100	Seething Wells Action Group	One of the cheapest, fastest, most cost effective and safest ways to ensure a more secure and sustainable future water supply would be optimise the performance of existing assets and capacities that could provide short term incremental gains in water supply and storage capabilities until longer term measures are commissioned. As noted above, the lower Thames Valley has been extensively used for the extraction of sand and gravel, including the freshwater river section traversing the SurreyMiddlesex area. The extraction of aggregates has created a substantial number of flooded gravel pits. Clusters of redundant gravel pits could be directly connected to the Thames river through water channels with sluice gate mechanisms to control water inflow / outflows. Accordingly, there are potential synergies between the Thames Water WRMP and the River Thames Scheme (RTS), providing disaster risk reduction and climate change adaptation cobenefits to the stretch of river between Egham and Teddington where substantial river channel and weir upgrades are being planned by the Environment Agency.	Our assessments of existing supply capability are reliant on our infrastructure working as it should, and we make an allowance for outage based on historical experience of outage events - there are relatively few cases where we could refurbish existing supply-side infrastructure to enable supply capability gain. On the demand side, our mains rehabilitiation programme, a programme based on refurbishing/renewing infrastructure, is a major component of our WRMP. In assessing suitable sites for potential reservoirs, we have considered a large number of options. Gravel pits are generally unsuitable for use as reservoirs, as reservoirs must be sealed (such that water doesn't flow out). To turn a gravel pit into a reservoir would require import of clay/other sealing material from elsewhere. We are working with the Environment Agency and Surrey County Council to assess the risks and opportunities associated with the River Thames Scheme for our water resources.	No changes made to the WRMP following this response, for the reasons set out in our consideration

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5100	Seething Wells Action Group	The ability to enable river water inflows into adjacent water bodies during high river levels and subsequently retention of the water by closing the sluice gates as the river level decreases could serve several objectives: i/ It could provide additional incremental recharge of ground water aquifers in the surrounding sedimentary / alluvial deposits. In turn, the increased hydraulic gradient could increase artisan pressure in the permeable gravels, serving to incrementally enhance baseflow into the R Thames channel and tributaries, particularly during protracted dry periods when surface water flows are minimal. ii/ In periods of protracted droughts, when water abstraction from the lower Thames is not feasible, the adjacent gravel pits could provide supplementary water storage capacity that could be pumped into the River Thames (or existing raw water storage reservoirs) during critical drought conditions. Moreover, increased utilisation could be made of the current river water abstraction point located just upstream of the Seething Wells beds. This abstraction point is used intermittently to pump R Thames water to the river intake at Walton WTWs. As discussed below, using this existing facility may be more appropriate and cost effective than building additional tertiary treatment systems at Mogden STWs, involving new transfer tunnel and discharge point, together with a new abstraction	In assessing suitable sites for potential reservoirs, we have considered a large number of options. Gravel pits are generally unsuitable for use as reservoirs, as reservoirs must be sealed (such that water doesn't flow out). To turn a gravel pit into a reservoir would require import of clay/other sealing material from elsewhere. We think that it is unlikely that meaningful recharge to aquifers would be brought about through retention in ex-gravel pits in the Lower Thames. The nature of gravel aquifers is that they also have a high level of connectivity with the river, meaning that it would be difficult, without sealing the pits, to prevent water making its way back to the River Thames. We are working with the Environment Agency and Surrey County Council to assess the risks and opportunities associated with the River Thames Scheme for our water resources.	No changes made to the WRMP following this response, for the reasons set out in our consideration

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		point and pipeline connection to the existing Thames / Lee Valley tunnel. The better utilisation of existing water infrastructure and assets, including a more strategic risk management approach to wetlands areas in the upper and lower Thames reaches, could provide significant environmental and social benefits, whilst also incrementally providing additional storage capacity and improving the quality of groundwater aquifers without the needs for major infrastructure investments.		
5100	Seething Wells Action Group	Naturebased Solutions (NbS) In the context of a changing climate characterised by hotter drier summer, wetter warmer winters and increases in the frequency and intensity of extreme weather events (floods and droughts) the longerterm resilience of the Thames river catchment requires a holistic integrated catchment management plan. Particularly in the upstream catchment, this would involve regeneration of the environment in support of recharge of the chalk and limestone aquifers. A river catchment hydrology is a function of the catchment ecology, which in turn is dependent on issues of natural resource management and land use planning. As weather variability and uncertainty increases, greater strategic emphasis should be placed on capturing and utilising the precipitation that falls within the river basin. This involve reducing surface water run off volumes and increasing water infiltration to passively recharge subsurface water resources that can sustain abstraction from aquifers. Groundwater can provide essential baseflow down the Thames and its tributaries during protracted dry periods. Working with nature to conserve precipitation in upland reaches would serve to reduce the risk of fluvial and pluvial flooding due to increases in the frequency and severity of extreme rainstorms.	While there exists a broad body of evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits. In AMP8 we will consider nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions. In addition, it is important to note that the Water Resources Management Plan is not the only area of Thames Water which is considering the adoption of nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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		NbS solutions are an essential component of integrated catchment management approaches and increasingly recognised as effective ways to address nexus issues of biodiversity, net zero, water, food and energy security. WRMP 2024 indicates there are 200 potential catchment and naturebased schemes across the Southeast. Catchment based approaches and naturebased solutions could play an important role in providing more resilient and sustainable water supplies for the future. “We're working in partnership with The Rivers Trust and Thames Rivers Trust, and we have committed to investing £5 million in catchment partnerships over the next five years. We'll start by building capacity locally before developing detailed catchment plans, helping to achieve successful naturebased solutions for the longterm”. However, the passive recharge of upstream catchment aquifers and regeneration of the environment is not identified as priority longer term action. Nor has the benefits of NbS and enhanced upstream water storage in terms of lowering the risk of downstream flooding been explicitly acknowledged, indicating a lack of coherence with the Environment Agency’s Thames River Scheme. Closer integration across these two agencies and their respective schemes unlock synergies could provide multi cobenefits. Judging by the minimal level of investment allocated to catchment partnerships (£1 million per year), the strategic importance of naturebased solutions to address future water security, flood protection, climate change and biodiversity issues has not been fully recognised within the WRMP. Accordingly, it is recommended Nature based Solutions are given a higher strategic priority within the WRMP 2024, corresponding with substantially greater financial resources allocated for these activities.	impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles.	
5100	Seething Wells Action Group	Decisions on infrastructure must find balanced solutions for the natural environment, the built environment and the provision of services, including unlocking synergies across interconnected yet separate policy and thematic frameworks such as sustainable	Thank you for your response. We note the biodiversity offsetting opportunity you propose and are open to discussing this opportunity further as we develop options local to this site.	No change has been made to the plan as a result of this response; a change was not requested.

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		development, climate change adaptation, disaster risk reduction and biodiversity net gains. # In a similar way, better and increased utilisation of existing infrastructure could have relevance to other nearby assets, including the former Seething Wells Filter Beds near Surbiton. Seething Wells is too small (5.4 hectare) to be considered in the River Thames Scheme (RTS) overall flood management plan for the lower Thames reaches. However, the site could be incorporated into a biodiversity enhancement plan, with major environmental and social amenity benefits that would support both Thames Water and Environment Agency objectives.		
5100	Seething Wells Action Group	The construction of additional water storage capacity at all levels (large / small; upland / lowland) should be a strategic priority for Thames Water. Additional direct river abstractions from the lower Thames reaches should be conditional on and sequenced to happen after the commissioning of additional upstream and/or downstream storage to regulate low level flows during dry conditions. As the Draft WRMP is currently sequenced, the Teddington River abstraction has been identified as one of the first actions planned. Assuming the water storage capacity is enhanced through incremental improvement to existing storage capacities, together with demand-side improvements in water efficiency and new investments in new reservoirs and/or water transfer schemes, it may well be that the investment in the Teddington DRA and balancing	Thank you for your response. In developing the WRMP24 and wider plan for the South East, a fresh and objective look has been taken at the challenges facing the region and how best to solve them, looking beyond the boundaries of individual water companies to identify the options that will provide resilient supplies more efficiently and provide wider benefits. In terms of new infrastructure, desalination plants and water recycling are viable potential options which could form part of an overall plan for the south east. The Teddington DRA scheme is at a conceptual design stage. There will be further design work to confirm the exact location with engagement and consultation with the local community at this time. We would work with local partners to ensure the wider benefits are identified. The scheme would have best practice design and several features to minimise the impact on aquatic life, boats, water activities and swimmers.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		treated effluent inflows are no longer required - with obvious social, environmental and economic benefits.		
5100	Seething Wells Action Group	A concern would be that if these storm tanks are not replaced, Mogden's storm capacity will be reduced, thereby increasing the risk of discharges of untreated sewage into the Thames at times of heavy rainfall. With respect to the Teddington DRA, the Mogden STW currently discharges effluent at Isleworth Ait, in the Estuarine Thames Tideway Reach D, from Teddington Weir to Battersea Park. This section of river is downstream of the Teddington weir and therefore unlikely to affect the water quality of the proposed Teddington DRA abstraction point. Notwithstanding the increased risk of raw sewage discharges into the river system, the design of the Teddington DRA is such that there remains significant risk that the quality of the water from the Teddington abstraction point, located immediately adjacent to the proposed Mogden outfall, and downstream of the nearby Esher and Hogsmill (Kingston) sewage treatment works, would reduce the quality of water flowing through the Thame -Lee Valley tunnel. There are several actions that could be taken to mitigate this risk: I. The water quality requirements (and associated costbenefits) for the Mogden tertiary water treatment to be significantly increased to ensure the water quality for the Teddington DRA is	As laid out in the Gate 2 Teddington DRA Conceptual Design Report (CDR) there will be a requirement to maintain the current storm tank volume as it forms part of the licence for Mogden STW. If the construction of the Tertiary Treatment Plant (TTP) impacted on the current storm tank volume this could be addressed by, for example, deepening the existing storm tanks. The early design work that we have carried out has concluded that the additional treatment equipment could be installed without any reduction in the capacity of the storm tanks at Mogden. We have identified this interface and any requirement to increase storm tank capacity as a requirement of other Plans or consent changes in the future would be considered alongside the Teddington DRA scheme to ensure a synergy and opportunity for mutual and enhanced benefit. It is also worth noting that Thames Water has committed to invest £97million in Mogden STW to replace and upgrade critical assets, as part of a wider investment of £1 billion in Thames Water sewage treatment works. The entire programme is expected to be completed during 2027. The treatment of sewage and discharge of treated wastewater back into rivers occurs throughout the country. As you highlight, upstream of Teddington Weir numerous sewage treatment works discharge treated wastewater into the River Thames and its tributaries. This process is vital in ensuring rivers and tributaries keep flowing and wildlife thriving. The Teddington scheme would provide a higher quality of water than many of the existing discharges owing to utilising	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		fit for discharge into the Lee Valley reservoirs. II. The Teddington DRA is not used during very low river flows (to be determined through CFD modelling), with implications for costbenefit modelling and the underpinning rationale for the scheme to be only used intermittently during low flow conditions The water quality abstraction license requirements are reduced to enable lower quality water to be pumped into the T/L tunnel IV. Utilisation of the existing upstream abstraction point at close to the Seething Wells site, Surbiton V. The Teddington DRA scheme is withdrawn and alternative solutions are considered With respect to the Teddington scheme, a potentially safer and more costeffective option would be to consider better utilisation of the existing water abstraction point located upstream of the Seething Wells site, Surbiton. Although the raw water would be from the same water body between the Molesey and Teddington Weirs, the Seething Wells abstraction point is a significant distance upstream of the existing Hogsmill and proposed Teddington treated effluent discharge points. This option could have positive water quality and cost savings benefits; the Surbiton intake and pipeline infrastructure (currently only used intermittently) is already in place and would only require modest modification, together with revisions to the current abstraction licences.	the latest treatment technology and meeting the latest environmental standards. Drinking water quality is a paramount consideration when selecting the SRO schemes and one of the reasons that Teddington DRA comes out as the preferred option relative to the Advanced Water Recycling Plants (AWRP) when considering best value. An environmental buffer is an internationally recognised method of reducing water quality risks. A Strategic Water Quality Risk Assessment (Annex C: Drinking Water Safety Plan - Strategic Water Quality Risk Assessment (SWQRA) for London Water Recycling Schemes) has been carried out which identifies potential hazards, pre and post mitigation. For the scheme to go ahead Thames Water will need to demonstrate the effectiveness of the treatment solution and the associated engineering controls. We have developed a 3D hydrodynamic model to test this and inform our designs – helping to ensure that we establish the optimum distance between the intake and outfall to maximise the effectiveness of the Teddington DRA scheme. Any discharge from Mogden STW direct into public supply via the TLT and associated reservoirs would require full Advanced Water Treatment (AWT). The additional treatment would need space for a new treatment plant, which isn't available at Mogden STW, and we'd therefore need to buy additional land, which would increase the overall environmental impact and cost. In addition, AWT processes are more energy and resource intensive, increasing the carbon footprint, and as per the WRSE assessments, don't reflect best value to our customers when compared to the Teddington DRA scheme. The Abstraction point at Surbiton is currently used to supply raw water	

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			to Walton and Hampton WTW via reservoirs. The Teddington DRA scheme would be a drought resilience scheme and therefore only operational during periods of prolonged dry weather and when reservoir storage levels and river flows are below a set threshold, typically when a drought is predicted. Under drought conditions it is unlikely that there would be enough flow in the river to meet our abstraction requirements at Surbiton while complying with the criteria for minimum river flows as laid out in the Lower Thames Operating Agreement (LTOA). The Teddington DRA scheme creates a new water resource by using water that would otherwise be lost to the tidal Thames. As set out in our Water Resource Management Plan 2024, the development of new water resource schemes is only part of addressing the overall predicted deficit in water across London. A major component also includes reducing demand for water by customers and fixing leaks. We have set ambitious targets for these aspects however, even with these measures new water resources schemes like Teddington DRA will still be required.	
5100	Seething Wells Action Group	The opening of water channels into an extensive area of interconnected gravel pits in periods of peak river flows could provide additional flood water absorption capacity that would reduce the risk of fluvial flooding in the lower Thames freshwater reaches. One of the best options to reduce the probability of flooding is to increase attenuation through the addition of flood storage capacity, especially in lower reaches. Demand Reduction Solutions Incremental supplyside improvements would need to be complemented with accelerated	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		investments to reduce water leakages and improve water efficiency. Recent reports indicate that Thames Water is losing 25% of supplies due to distribution network and customer pipe leakages, with estimates of water losses of up to 635 Megalitres a day. Immediate actions to be undertaken whilst additional storage capacity is being developed to include: ➢ Increase investments to reduce network and customer pipeline losses ➢ Enhanced water efficiency programmes, including public awareness campaigns, promotion of water saving devices and costincentives / discounted rates to business customers for more efficient water usage ➢ Increased water use regulation during reduced flow conditions ➢ Increased scale out of smart water metering	an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is	

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			already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Hosepipe bans and non-essential use bans (drought measures) All water companies have a Government approved Drought Plan, which includes a robust sequence of demand reduction and customer	

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			engagement actions that are implemented according to water resource status and demand forecast. Our Drought Plan includes the use of Temporary Use Bans (hosepipe bans) and Non-Essential Use Bans (a set of further water restrictions). These measures are put in place only in periods of extreme drought, following a legal process and customer consultation period, to reduce the amount of additional discretionary water use (e.g. outdoor, garden), which contributes to peak demand periods. The hosepipe ban and range of other demand reduction activities are all aimed to help reduce household and business water use, protecting water availability for more essential services and the local environment. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters.	

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5100	Seething Wells Action Group	Accordingly, the following section provides potential water supply solutions for consideration: ➢ The lower Thames valley has a significant number of large embanked pump storage reservoirs, including the Queen Mary reservoir which was commissioned in 1925. Over the decades, the depth of the 285 ha Queen Mary reservoirs has been substantially increased (from 11.5 m to approx. 15 m) due to the years of extraction of sand and gravel (aggregate). As a consequence, the Queen Mary reservoir now has significant “dead storage” within its structure. This additional storage cannot be readily accessed under normal operating conditions due to the volume of water below the level of the lowest outlet structure. Significant modifications to the inlet and outlet structures of the reservoir would be required to enable access to this “dead storage”. However, if these modifications were made, it would increase the total volume of the reservoir by approx. 10 million cum i.e. 10,000 Megalitres. This additional stored water would be available for supply to the receiving treatment works 24/7/365 irrespective of any high demand periods. Based on the proposed Teddington Direct River Abstraction (DRA) design assumptions, this additional volume of water would provide an equivalent of 67 – 200 days of water supply based on the Teddington DRA abstraction rates of 50 -150 Megalitres per day. As far as we can ascertain, the TW Water Resources Management Plan does not refer to this potential additional water resources. Accordingly, we recommend that a	Thank you for your response. Our climate is changing, the population is growing and our environment is under stress; we need to plan ahead to make sure we have a safe and sustainable water supply for our London and South East customers. We have looked at over 2,000 options including desalination plants, water recycling plants, new reservoirs, and transfers of water to provide us with the extra water we need. Our revised draft Water Resources Management Plan includes actions to make the most of the water resources we have available as well as developing new water sources. The Teddington DRA scheme and a new reservoir in Oxfordshire are part of our revised draft plan and are both needed if we are to provide a reliable water supply to customers across the South East for the next 50 years, as well as protect the environment. Options to increase the deployable output of Queen Mary Reservoir are included on our unconstrained list of options, work to understand the feasibility of these options as a supply option for WRMP has been paused due to limited evidence that this option could bring a meaningful benefit to the water resource zone	No changes requested.

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		cost/benefit analysis is undertaken to access this water that could be a relatively lowcost solution to increase TW storage capacity of the Queen Mary reservoir, and potentially other storage reservoirs that have been deepened due to the extraction of aggregates. In general, it is felt that the current options under consideration within the TW WRMP, particular in relation to the Teddington DRA scheme involving the balanced replacement of river water with treated effluent from Mogden STW, is an expensive reactive measure reflective of a chronic underinvestment in water infrastructure over the last few decades. Although cited as the cheapest, fastest and most effective solution, the Teddington DRA scheme would involve considerable financial expenditure to build a new advanced treatment plant at Mogden STW, transfer tunnels and pipelines, and new outfall and abstraction points. Moreover, according to the Thames Water “Operating Philosophy” WRMP, Annex A4: Teddington Conceptual Design Report, these water recycling investments would only operate intermittently as required during periods of drought. Strategic drought schemes are sources of water permitted for use during drought period but not as part of daytoday baseline supply. The expected discharge – abstraction volumes are in the range of 50 -150 megalitres of water per		

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		day. The Conceptual Design Report further states that the effluent water treatment technologies have been selected, on the assumption that the discharge requirements for the existing Hogsmill STW will be applicable to the treated effluent discharge for the Teddington river abstraction scheme. The Design Report identifies several key assumption underpinning the DRA scheme. One of these assumptions is that; “the raw water quality in the River Thames at the Teddington intake will be of the same quality as the river water already in the Thames / Lee Tunnel abstracted upstream at the Hampton Intake and will therefore be suitable for discharge into the Lee Valley reservoirs”. However, under existing permitted water extraction rates during drought conditions, a minimum target flow over the Teddington weir can be reduced to 200 Megalitres per day. In practice, during protracted drought conditions, the flow over the Teddington weir can reduce substantially below this level. For example; In 1976, flow data from the Kingston Gauging station recorded Zero flow. In future years, as the climate changes, these extreme low flow events will happen more frequently. In low flow conditions, the river section (between the Molesey and Teddington Weirs) from which the Teddington DRA will abstract raw water is already receiving treated effluent discharges from Esher STW and Hogsmill STW. A major concern would be that		

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		additional water abstraction from this very slowmoving water body will inevitably draw treated effluent from the Mogden STW discharge point “upstream” into the adjacent Teddington intake. Under low river flow conditions (i.e. when raw water is most needed from the Teddington Intake) it cannot be assumed that the water quality in the R Thames at the Teddington Intake will be of the same quality as the water already in the Thames / Lee Tunnel, which is abstracted 4.8 miles upstream at the Hampton Intake. If correct, this scenario could be a showstopper for the Teddington DRA as currently planned. To test this assumption, the modelling of the flow dynamics between the Mogden treated effluent outfall and the adjacent water abstraction point can be readily undertaken through computational fluid dynamics (CFD). We would recommend Thames Water undertake a CFD at the Teddington weir for different flow conditions, including reassessments of the basic design assumptions and risks underpinning the Teddington DRA. When reviewing the risks and assumptions for the Teddington DRA option, Thames Water’s track record in discharging untreated sewage into rivers should be taken into account. Data from Thames Water Digital Map showed that in 2021 raw sewage was discharged into rivers 372,533 times, over 2.75m hours. Whilst recognising that water companies are allowed to discharge untreated sewage		

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		into rivers, lakes and seas at times of exceptional rainfall, Thames Water has a poor track record in terms of unauthorised discharges into the Thames, including from the Mogden and Hogsmill STWs. From an environmental perspective, the WRMP 2024 states that it aims to provide the highest level of environmental improvement as quickly as possible. However, in dry season conditions it is likely the proposed Teddington DRA scheme would have adverse impact on the biodiversity and aquatic life within the lower Thames river. This is primarily due to changes in water temperature and in the chemical composition of the discharge water, particularly BOD, Phosphorus and Ammonia levels. Whilst the temperature of the Mogden and Hogsmill effluent discharges could be reduced through the installation of heat pump systems that would contribute to net zero carbon emission targets, the changes in water salinity would particularly affect riverine plants, macroinvertebrates, migratory and indigenous fish along the freshwater river through to Battersea. These changes in water quality may also be detrimental to people who use these sections of the Thames for recreational purposes. e.g. fishing, swimming, paddle boarding, sailing, etc. In the mediumlonger term, it appears that the key to enhanced resilience of water sources in the lower Thames reaches depends on the commissioning of new water storage reservoirs in the Upper Thames catchment, together with investments in regional transfer		

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		schemes. As the Southeast Strategic Reservoir Option (SESRO) details, a new reservoir southwest of Abingdon in Oxfordshire could be filled with water from the River Thames during periods of high river flow. When river levels drop or demand for water increases, water would then be released from storage back into the River Thames for reabstraction downstream. Accordingly, in the interim period, until enhanced upstream storage reservoirs and/or transfer schemes are commissioned, the most cost effective, safest and timely solutions involve better utilisation and adaptation of existing water infrastructure assets. This could enable timely, safe and costeffective incremental and accumulative improvements of the many smaller existing water storage areas within the lower Thames reaches as outlined above.		
5103	Barnes Common Limited	Nature Based -Solutions (NBS) and other interventions: Whilst your questionnaire does not address NBS, your report summary does. -We recognise that river catchments and NBS, as well as Integrated Water Management, cross traditional industry organisation and water planning structures. -We welcome the support you are giving to river trusts for local capacity building. We believe this needs to be augmented -by identifying and supporting pilot projects in collaboration with local stakeholders, -for a range of nature based solutions and other -interventions which can help deliver improved water quality, increased resilience to climate change, and/or other waterrelated benefits, with the necessary framework of monitoring and evaluation which will enable the environmental impact of different proposals to be assessed, and thus boost confidence in such interventions when proposed for application at scale.	While there exists a broad body of evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits. In AMP8 we will consider nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions. We have proposed a regional WINEP investigation as part of WRSE, which aims to, among other things, identify and deliver pilot schemes to better understand the optimal solution for different	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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			settings and how we can more effectively achieve benefits on a regional scale. In addition, it is important to note that the Water Resources Management Plan is not the only area of Thames Water which is considering the adoption of nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles.	
5103	Barnes Common Limited	Community Engagement and Lifelong Learning: None of your questions address this specifically, but it lies at the heart of reducing demand. The ongoing need to raise awareness and achieve community engagement on water use can and should be linked with other initiatives for lifelong learning, and in particular on climate change. We recognise that achieving significant change in behaviours can be generational, but that is no excuse for delay. Demand should be further reduced through the promotion of ideas which address attitudes towards water use and waterwise living, some of which do not incur cost and may even achieve savings, as well as water harvesting, brown water capture for garden use, SuDS etc. and drought resilient planting/gardening both in new builds and retrofitting. We welcome your initiatives to engage with customers on wise use of water. Raising awareness may also have beneficial consequences in reducing business demand. Engagement with the community will be greatly improved by, if not require, open	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise	We have provided information in response to your comments, there are no changes as a result of your representation.

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		communications on all issues, and an integrated approach to water management.	awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Grey water reuse and rainwater collection Rainwater harvesting has been considered as a demand reducing measure. We have previously offered water butts for garden usage and continue to promote rainwater capture within our multi-channel customer engagement activity. Scaling up, the difficulty is that retrofitting either rainwater and/or greywater system technologies into existing properties is extremely challenging and the fittings are not readily market available. We believe there are better opportunities to increase water use systems into new developments, particularly large ones, at the design stage. We have recently launched an industry first Environmental Incentive for developers, offering financial incentives to embed water efficiency fittings, water reuse technologies (RWH/GWR) and deliver 'water neutrality' for any new housing development in our supply area. This incentive model is being promoted to developers, planning authorities and regulators. We have also worked closely with Defra and other government areas, on efforts to strengthen future Building Regulations, so that water reuse technologies and requirements become business as usual.	
5112	Great Haseley Parish Council	Future demand for water over the next 50 years indicated in your report has been exaggerated to double the realistic demand due to inflated projections -this number should be halved.	All growth forecasts used by Thames Water have been produced by ONS or a local authority and we have no reason to consider they have been unduly exaggerated. ONS growth forecast are used for planning purposes across a range of sectors. In the case of local authority plans these are reviewed by Government planning inspectors prior to	Our preferred plan includes a PCC target of 110 l/h/d.

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			their approval. The use of these forecasts are required by the Water Resource Planning Guidelines. Given this we consider their use within our plan appropriate and we have a duty to enable the growth with local authority plans by ensuring a secure supply of water for proposed growth to be available.	
5112	Great Haseley Parish Council	Targets for reduction in both water consumption and leakage are unambitious in terms of water consumption, Thames Water should aim to align with Government policy.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this	

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			target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	
5112	Great Haseley Parish Council	Given accepted demand uncertainty, new sources of water should give priority to schemes which are adaptable, scalable and minimise environmental impact. -New reservoirs, like the SESRO (South East Strategic Reservoir Option -i.e. the Abingdon Reservoir), DO NOT meet this criteria and are unjustifiable.	We've looked at a wide range of potential solutions – both measures to manage demand for water and provide new water supplies. WRSE considered over 2,000 options including national and regional water transfers, desalination, recycling treated wastewater, reservoirs and catchment schemes - all are viable, potential options which could form part of an overall plan for the South East. We'll need a combination of measures to address the shortfall. The selection of options for our best value plans takes into account a wide range of factors, including environmental impacts of programmes, resilience to drought and other outage events, the needs of other water users and future generations, and customer water management preferences, in addition to cost. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected	We have provided information in response to your comments, there are no changes as a result of your representation.

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			the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J.	

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			Reducing leakage is a priority for us. Right now, around 24% of the water we supply is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we've got a plan to fix it. We remain committed to reducing total leakage by 20% by 2025 and as part of our draft WRMP we're aiming for a 50% reduction by 2050. This is a challenging and ambitious target and will require innovative approaches and significant investment. We have examined scenarios to achieve leakage reduction sooner (and later), but the planning challenge we face is such that demand management and building new supply resources will need to proceed in parallel. To accelerate leakage would be very costly and as well as cost, much of our water network is under London and it would therefore be very disruptive to the population and businesses if we were to dig up too much of it at once. Tackling leakage is an important part of our future plans but it will not solve the water challenge we face on its own. We also need to work with our customers to make sure we use our water supplies carefully and invest in new sources of water.	
5130	Oxfordshire Environment Board	We note that of the 21 population projections presented by WRSE and Thames Water (ranging from 20202050 increases of 400,000 to over 5 million), the pathway chosen uses one of the very highest projections for the South East of 4.5million (an increase of 23% on the 2020 figure). The suggestion for the Thames Water region is an increase of 2.25 million people. This is despite the Office of National Statistics (ONS) 2018 population projection showing that the 'natural' growth of the population (births minus deaths) becomes negative	All growth forecasts used by Thames Water have been produced by ONS or a local authority and we have no reason to consider they have been unduly exaggerated. The growth scenario to be used is stipulated within the joint Defra, EA, Ofwat and NRW Water Resource Planning Guidelines and is not a "choice" made by Thames Water. ONS growth forecast are used for planning purposes across a range of sectors. In the case of local authority plans these are reviewed by Government planning inspectors prior to their approval. The use of these forecasts are required by the Water Resource Planning Guidelines. Given this we consider their use within our plan appropriate and we have a duty to enable the growth with local	Our preferred plan includes a PCC target of 110 l/h/d.

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		for the southeast in 2029. The risk in significant overestimation is that resource is directed to the creation of new infrastructure rather than focusing on improving our existing water network. Even taking the median of the population projections (although this still involves attracting over a million people into the Thames Water region) would halve the future demand due to population increase from 200 to 100 Ml/d.	authority plans by ensuring a secure supply of water for proposed growth to be available.	
5130	Oxfordshire Environment Board	Ofwat mandates that climate change impacts should be investigated for 'upper quartile' and 'lower quartile' effects. Thames Water takes the highest climate change scenario as their 'reported' pathway based on upper quartile impacts. However, upper quartile data essentially represents no efforts to ameliorate greenhouse gases. This is based on the IPCC RCP8.5 scenario which is now regarded as unrealistically high. The median climate change scenario would be more appropriate for a balanced approach to achieving water sustainability. This would halve the outlined deficit in water supply due to climate change.	Within our planning we have considered a wide range of climate change evidence. As described in Appendix U, we have undertaken extensive modelling based on scenarios other than RCP8.5 (we have considered RCP2.6, RCP4.5, RCP6.0 and RCP8.5) - the scenario initially considered RCP8.5 due to the importance of considering a coherent climate change scenario across the WRSE region. We have mapped the climate change impact pathways which we have adopted and have found that our 'high', 'medium' and 'low' scenarios overall represent approximately 75th, 50th, and 25th percentile trajectories respectively, across the full range of emissions scenarios. While our preferred programme has adopted a pathway which follows a 'High' climate change trajectory, it is important to recognise that our plan is adaptive, and we will be able to adopt a different investment programme in the future should we find that climate change projections in the future are lower than those in our preferred programme pathway.	No changes made to the WRMP following this response, for the reasons set out in our consideration

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5130	Oxfordshire Environment Board	Given the large uncertainties in future water demand, we support the need for adaptive and smart solutions.	Thank you for your comment - we agree that adaptive planning is necessary given the scale of uncertainty that we are facing.	No changes - none requested
5130	Oxfordshire Environment Board	OxEB recognises the restoration of chalk streams as an urgent priority. Work to investigate the best and most cost effective strategies to restore our chalk streams should be prioritised, along with immediate action on the most vulnerable streams. There are recognised gaps in the evidence base in relation to this. For example, there are uncertainties about the level of abstraction reduction required to achieve acceptable flows, the amount of water that might then become available for appropriate extraction further downstream, and to what extent pollution prevention and catchment management programmes could be more effective means of restoration. Overall, there is considerable uncertainty in the new water resource required to return the chalk streams to a pristine state, ranging from 520 Mlt/day to 1360 M Lt/day across the entire South East region. We also note that the Thames Water and WRSE preferred pathways choose the largest number, although this might in fact have a less favourable outcome by diverting available resources from other options. We also note that WRSE suggests that it will take the water companies	Thank you for your response. The National Framework and Water Resource Planning Guidelines set out the approach that should be taken in defining a regional environmental destination, which is what has been included in both the WRSE draft plan and our draft plan. Our plan is based on an ongoing programme of investigations to confirm the need and benefits associated with the changes. We have proposed reducing abstraction from our vulnerable chalk streams and other watercourses in order to improve flows and the habitats for fish and other wildlife. We plan to reduce abstraction to sustainable levels by 2050, our draft plan proposes taking over 500 Ml/d less water from sensitive rivers and waterways, targeting reductions in vulnerable catchments first.	Since our draft plan, we received feedback that it is not acceptable to plan for Environmental Destination reductions to be made after 2050, and as such we have moved our Environment Destination scenarios so that all reductions in our high scenario are made by 2050.

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		10 years to provide the evidence base for the future reductions in abstraction, but clearly we cannot wait this long. We therefore support the Chalk Streams First and the DEFRA-sponsored 'Catchment Based Strategy' which recommends priority for streams where abstraction exceeds 10% of recharge (A10%R)1. Such a strategy requires much lower resource requirements to regenerate the priority streams.		
5130	Oxfordshire Environment Board	All solutions should be scalable, proportionate and minimise environmental damage. Opportunities for naturebased solutions should be fully explored and maximised, as part of delivering a functioning nature recovery network, including improved river quality. The Thames Water plan focuses wholly on water extraction but pollution (sewage and agricultural) is a bigger factor for the lower reaches of the rivers. Resources will in some cases be better redirected from supply of new water infrastructure to sewage treatment and ameliorating agricultural pollution.	We face significant pressures on our water resources - our climate is changing, the population is growing and our environment is under stress - we need to plan ahead to make sure we have a safe and sustainable water supply for customers, whilst protecting the environment. We have looked at over 2,000 options including desalination plants, water recycling plants, new reservoirs, catchment solutions and transfers of water to provide us with the extra water we need. Our draft Water Resources Management Plan includes actions to make the most of the water resources we have available as well as developing new water sources and we have assessed the environmental impacts and benefits as part of our assessments. The draft WRMP focuses on water resources only, we have a separate "sister" plan which focuses on wastewater called the Drainage and Wastewater management Plan (DWMP) and this sets out the need and proposals for a sustainable wastewater network.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
5130	Oxfordshire Environment Board	The priorities for new water sources outlined should therefore be reassigned to prioritise leakage reduction, The Thames Water plan only aims to reduce leakage in the Swindon & Oxfordshire area by	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		14% by 2050 and to reduce personal water use from 146 to 121 litres per person per day. Greater ambition is required. In terms of water use Thames Water should aim for a maximum of 110 litres per person a day, in line with Government policy (see, for example, the Environmental Improvement Plan 2023). All water companies should accelerate the installation of smart water meters and, as soon as possible, implement a progressive charging policy to penalise high water users. Not all the 'heavy lifting' can or should be done by the companies and the Government has a considerable responsibility to help with public education, including supporting NGOs working in this area, and through updating building regulations (the latter should ensure all new buildings, and renovations, are water efficient). We particularly note that this is not all about mean water use. Most of the 'new' water resource is only needed during drought conditions. Public awareness campaigns and social media have been shown to be remarkably successful in reducing water use at critical times. The Water Companies and Government need to work together to standardise and refine this messaging.	Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be	

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			felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Metering targeting Thames Water is implementing a Government-approved compulsory	

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			meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Water tariffs and high users Plans to pilot and introduce new innovative tariffs to both domestic and commercial customers are being considered at this time. This is in the early stages, however we want to make sure that vulnerable customers and efficient users of water are protected from bill increases. Any future innovative tariff would aim to provide greater protection to vulnerable customers and disincentivise excessive water use with potential increased water costs. Any design and testing of innovative tariff structures may also consider variable tariffs for the dry summer month periods to help reduce peak water demand. Government-led water use reduction policies In addition to the actions we can take, the government is planning to	

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			introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	

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			Hosepipe bans and non-essential use bans (drought measures) All water companies have a Government approved Drought Plan, which includes a robust sequence of demand reduction and customer engagement actions that are implemented according to water resource status and demand forecast. Our Drought Plan includes the use of Temporary Use Bans (hosepipe bans) and Non-Essential Use Bans (a set of further water restrictions). These measures are put in place only in periods of extreme drought, following a legal process and customer consultation period, to reduce the amount of additional discretionary water use (e.g. outdoor, garden), which contributes to peak demand periods. The hosepipe ban and range of other demand reduction activities are all aimed to help reduce household and business water use, protecting water availability for more essential services and the local environment.	
5130	Oxfordshire Environment Board	The priorities for new water sources outlined should therefore be reassigned to prioritise leakage reduction, water transfers, recycling and other options ahead of fixed largescale infrastructure development such as the SESRO (Abingdon Reservoir). OxEB supports the various river basin transfer schemes. The Grand Union Canal transfer can provide water needed to reduce extraction along the Chilterns and thus allow the remediation of the Chiltern Chalk streams in the next few years. Similarly, we are supportive of the principle of the earlier development of the first phase of the SevernThames transfer, subject to robust environmental assessment and adequate mitigation for the construction impacts. This scheme is scalable, adaptable and initial environmental assessments have not identified any major issues.23 We understand it could be operational by the early 2030s, thus	The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Furthermore, any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA) and suitable mitigation identified and agreed with regulators before any consent was approved. Detailed information on the landscape impacts, environmental impacts including biodiversity and heritage impacts, flood risk issues and watercourse impacts (including complete appraisal of the compliance of the scheme under the Water Framework Directive) have been completed as part of our Gate 2 submission to RAPID, and agreed with the Environment Agency. In our Gate 2 submission to RAPID (Table 4.3), we have explained the	We have provided information in response to your comments, there are no changes as a result of your representation.

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		providing water quickly for improved resilience and river improvements. OxEB is critical of the priority given to the SESRO reservoir, especially as it would bring no 'new' water into the region. This development would not be scalable or adaptable and has considerable environmental damages and risks. It is obvious that the environmental damage during the construction phase would be huge, not just on the 10 square kilometre site but in the surrounding area and access roads. Even beyond the construction phase any restoration of habitat (or even the creation of new habitat) will take decades (eg for trees to grow and insect populations to recover). We find it difficult to believe that the environmental impact would be anything but severe. If the SESRO project is to be progressed at any time in the future we urge that a full, transparent and independent study of the environmental and greenhouse gas emission consequences be undertaken. Whist we understand no specific recycling schemes are currently proposed in Oxfordshire (and for obvious reasons no desalination plants!), we are in principle supportive of such schemes which are scalable and adaptable and generally have low environmental impacts. We note that the SevernThames Transfer is approximately 50% supported by recycling infrastructure in the Midlands (see refs [3,4]).	various measures that we will take to ensure the reservoir is designed, constructed and operated safely. Thames Water has an exemplary record of safety at its existing 59 reservoirs which fall within the remit of the Reservoirs Act 1975. Thames Water also has several comparable reservoirs to the SESRO. King George VI, Queen Elizabeth II, Queen Mary, Queen Mother and Wraysbury all have dam heights of 12-20m and crest lengths of 4.3-6.3km. At between 15m and 25m high, the earth embankments for the proposed SESRO scheme are well within the parameters of other similar schemes in the UK. The British Research Establishment (BRE) Register of UK Dams lists 370 embankments with a height of at least 15m and 105 over 25m. Most embankment dams in the UK are built as impounding reservoirs (i.e., impounding a watercourse, and therefore abutting either valley side). The non-impounding nature of the SESRO does mean that its total crest length is unusually long. However, the length of the dam has no bearing on the maximum stresses within it, which equate to the height, as this defines the scale of the loading induced by the self-weight and the loads applied by the water. A longer dam is typically more likely to encounter variety in the ground conditions which are to support the dam, but the ground conditions at the SESRO site have been found to be highly consistent around the perimeter. Globally, there is a World Register of Dams maintained by the International Commission on Large Dams, which highlights that there are many dams around the world of comparable or greater scale to the SESRO. Within the 2020 register there are, internationally: - Over 1,950 earth embankment dams impounding a reservoir volume of at least 150Mm3 - 121 earth embankment dams with a crest length of at least 10km	

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			In an international context the proposals for SESRO constitute a large reservoir but there are many which are larger. Far from being untested, the use of earth embankments of such scale to impound reservoirs is very well established. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames, to enable them to be converted into potable supplies during lower flow periods. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the adaptive planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it's hard to predict exactly when we'll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we'll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West	

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			• The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they'd prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J. Reducing leakage is a priority for us. Right now, around 24% of the water we supply is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we've got a plan to fix it. We remain committed to reducing total leakage by 20% by 2025 and as part of our draft WRMP we're aiming for a 50% reduction by 2050. This is a challenging and ambitious target and will require innovative approaches and significant investment. We have examined scenarios to achieve leakage reduction sooner (and later), but the planning challenge we face is such that demand management and building new supply resources will need to proceed in parallel. To accelerate leakage would be very costly and as well as cost, much of our water network is under London and it would therefore be very disruptive to the population and businesses if we were to dig up too much of it at once. Tackling leakage is an important part of our future plans but it	

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			will not solve the water challenge we face on its own. We also need to work with our customers to make sure we use our water supplies carefully and invest in new sources of water.	
5132	Lensbury Limited	We are concerned about Thames Water commitments o Thames Water achieved 2* (out of a possible 5) from the Environment Agency in the most recent Environmental Performance Report (2021)	Thank you for your response. We recognise that we need to improve our performance. In March 2021, we launched our eight-year turnaround plan to improve our performance and, with one year complete, we have made progress. We have always been clear it won't be quick or easy, however, the results of the first year are encouraging despite a challenging and changing environment. We all want to see significant improvements quickly but are determined to make the needed changes in a sustainable way to make a real, positive difference for our customers today and into the future.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
5132	Lensbury Limited	We would like to invite you to come to The Lensbury to engage with those that are immediately impacted by the proposals, so we may all learn more about what is planned, and how your plans could impact us all.	Thank you for your response to the public consultation and we welcome the engagement with the Lensbury Club and local communities in relation to the WRMP and the proposed new river abstraction near Teddington.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
5132	Lensbury Limited	We are concerned about the impact on The Lensbury as treated sewage water is discharged into the river o We have a Water Sports Centre, enjoyed by Members and Guests of all ages, who enjoy activities on and in the River Thames. This is opposite the proposed location for both the effluent discharge, and the abstraction plant. o We have a beautiful Club that prides itself on its stunning riverside	We note your concerns in relation to the proposed Teddington DRA scheme. The scheme would be safe for swimmers and river users. The quality of water discharged into the river would meet the environmental standards set by the Environment Agency, there is no route for raw or untreated sewage to be discharged in the River Thames, upstream of Teddington Weir. The scheme would also have physical safety features to minimise the impact on aquatic life, boats, water activities and swimmers. The design would be similar to intake systems that are already in safe operation on the River Thames and elsewhere and would comply with all relevant health and safety	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		location, opposite the Weir and the River Thames.	requirements. In terms of the visual impact and structures on the river bank. we are still early in our planning process, we have not yet done detailed design so the exact location and appearance of new infrastructure is not set. The scheme would need two new structures on the river bank. These would be an outfall, where we discharge the highly treated water into the river, and an intake point, where we would draw water from the river. The outfall would be a submerged pipe marked by a small timber wharf on the river bank which would not be widely visible from the surrounding area. The intake would include screens to stop debris, fish and eels, entering the intake as well as pumps and a control unit. We would work with the local community and local authorities to make sure the design is attractive and in keeping with the local area.	
5132	Lensbury Limited	I am writing on behalf of The Lensbury Resort, a Sports & Social Club of 7,000 Members, to raise our concerns about the proposed new river abstraction plant close to Teddington Weir, opposite The Lensbury Resort, as part of your Water Resources Management Plan (2024). • We are concerned about the impact on the environment and river users o The stretch of area identified for the possible location of the abstraction plant and effluent discharge, is a local beauty spot, enjoyed by swimmers, paddlers, and walkers alike. The river must be protected. o The beautiful vista of the River Thames will be scarred by the addition of the Abstraction Plant. o How will the river life, fish, insects, plants, river diversity be affected?	The DRA scheme is at a very early stage of development (essentially initial conceptual design) and assessment (risk screening). As the detail of the design is progressed over the next 12-18 months an Environmental Impact Assessment (EIA) will be completed. A landscape and visual assessment is underway which will identify the level of impact of the proposal and identify opportunities to mitigate and enhance the amenity value of the area. In addition, a full assessment of recreation and health use is underway, and further engagement with river users is required. With the discharge quality being higher than the current quality of the River Thames and limited velocity or level change, the scheme should not adversely affect recreational users, but this will be fully assessed in 2023-24. The ecological assessments to date have covered fish, insects, plants, diatoms and algae. These assessments have assessed the effect of the scheme upon these receptors during times of low flow and	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan

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			extreme low flow when the scheme will operate. With a discharge of better quality than existing river water and minimal temperature, level and velocity difference we do not currently foresee significant ecological impacts. These assessments will be repeated in more detail in 2023/24.	while further work is undertaken.
5137	Quod Limited	Thames Water has not yet engaged meaningfully with Hillesden Trust in relation to the ongoing and/or anticipated impact on their land interests, which are misrepresented in the documents which support WRMP24. 4.21 To satisfy the Planning Act 2008 Thames Water need to act now and begin engaging with Hillesden Trust, whose land interests are significantly impacted by the proposals, without delay and seek to positively respond to feedback obtained via such engagement.	Thank you for providing a representation to the public consultation and we note your comments. We are at an early stage of the feasibility assessments for the scheme and earlier this year we wrote to local landowners in relation to the proposed scheme providing information. In addition we have recently written to landowners to request access to land to carry out survey work. A meeting has been offered to Hillesden Trust' representative to discuss the required surveys and the representation submitted on their behalf.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
5137	Quod Limited	Hillesden Trust has land interests that are affected by the proposals for a new water storage reservoir in the Upper Thames catchment, southwest of Abingdon (the South East Strategic Reservoir Option, "SESRO"), included in WRMP24. Hillesden Trust does not object to SESRO in principle, recognising the case in favour that is rooted in its role in securing a reliable source of water for those living and working in the region, but it is vital that their representations are considered as the project is further developed. The impacts of SESRO on landowners and existing businesses in the area have not yet been	Thank you, noted. We will be progressing discussions with all affected landowners and consultees in the vicinity of the SESRO scheme, once the WRMP consultation and publication process has been reoslved and completed. Suitable estimates of the land valuation and compensation requirements have been built into the overall capital costs of the SESRO options.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		properly assessed or understood. 3.34 Whilst not yet confirmed, SESRO is already blighting the area via a safeguarding designation in the adopted Development Plan. 3.35 Certainty on the footprint of SESRO which is being progressed, and the consequential extent of any safeguarding (if proven to be justified) is required as a matter of urgency. 3.36 SESRO can potentially be designed to avoid Hillesden's interests entirely. There are clear public benefits of doing so, including the retention of existing businesses in the area and reduced costs associated with land acquisition and compensation. Despite SESRO (in some form) being a prospect for over 15 years already, there has been limited contact to date between Thames Water and Hillesden Trust. 4.22 Thames Water will also need to enter land acquisition negotiations with Hillesden Trust in the future and make every effort to acquire their land for SESRO by agreement rather than relying on compulsory acquisition powers. These negotiations will need to properly reflect the status of the Steventon Depot (including the reasonable expectation of permission for new / additional development otherwise being achievable if it were not for the safeguarding designation which		

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		blights the site). If proposals for SESRO are to be advanced to Gate Three (and beyond), then this ought to be done in a timely and transparent manner. And the extent of any safeguarding designation which is pursued via the emerging Local Plan process must be reasonable in all respects and evidencebased, reflecting the certainty of delivery and anticipated land requirements for the 100Mm3 reservoir which is now preferred		
5144	West London Friends of the Earth	TW passively accepts forecasts of population growth by ONS or LAs. But these forecasts are no based on specific assumptions about availability of housing units or infrastructure such as transport, hospitals or water supply. The forecasts will only come about if it is decided to support population growth in an area such as TW's with water and other essentials. There are choices available, especially by means of the planning system. Population growth will mean higher costs for current consumers and greater environmental impacts. TW therefore has a responsibility to its existing customers to warn government and others of the (water) costs of unbridled population growth.	Policy on both housing and population growth is outside the remit of Thames Water. We have a general duty within the Water Industry Act 1991, Section 37, which requires water companies to develop and maintain the system of water supply such that it can make such supplies available to persons demanding them. To enable we need to plan to ensure we are able to meet the planned levels of growth within local authority plans, any comments on planned growth should be addressed to the relevant local authorities. We have adopted an adaptive approach to planning to ensure that our plans deliver best value to our customers.	We have provided information in response to your comments, there are no changes as a result of your representation.
5144	West London Friends of the Earth	With changing climate and the associated drought and unpredictability of rainfall, simply sustaining levels of supply is unlikely to be sustainable. Extraction and supply need to be reduced. Water supply is a major user of electricity and hence generates a great deal of greenhouse gases. Reduction in water use is therefore an important component in addressing climate change and getting to Net Zero quickly. -(We cannot afford to wait until the entire grid and all local energy production is decarbonised.)	We recognise that abstraction licence reductions may be needed to ensure healthy rivers in the future. In building our plan we have acknowledged the need to undertake thorough investigations prior to determining the licence reductions that will be needed in the future, as infrastructure and new sources of water will require significant investment, and so it's important that we're sure of the need to make licence reductions. We have looked to determine whether we can accellerate our programme of investigation and potential implementation of licence reduction, and this is reflected in our	Changes made to our plan are as described in our consideration

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			dWRMP24. Our Water Resources Management Plan is built on a foundation of demand management, both through leakage reduction and helping our customers to use less water - we agree that reducing demand for water is necessary to reduce emissions overall. In our revised draft WRMP24, we have set out our plan to reduce leakage by 50% and to play our part in reducing our customers' per capita consumption to 110 l/h/d by 2050.	
5144	West London Friends of the Earth	Environmental standards including biodiversity: There are many references to environmental improvement or high environmental standards in the nontechnical summary. However, there is very little about what these improvements or standards actually are. There is no discussion of wildlife, habitats or biodiversity. -Only one component of environment -abstraction from chalk streams – seems to be mentioned. In the case of chalk rivers, “improvement” could mislead insofar as it implies that this is an addon or a luxury. It needs to be made clear that it is in fact no more than restoring some of the damage already caused by abstraction. Since wildlife, habitats and biodiversity are likely to be significantly affected by water schemes and ongoing operations, we would have expected some information on expected impacts. Instead, Environmental Forecast (Chapter 5) and Environmental Assessment (Chapter 9) of the Technical Report are just detailed and tedious text about process. Indeed, Chapter 5 barely mentions biodiversity. There is nothing about the actual impact on wildlife, habitats or biodiversity – these being what actually what matter and what most respondents would wish to know about and comment on. -	Thank you for your response. Sections 10 and 11 of our draft and revised draft plan contain summaries describing the environmental impact of our preferred and alternative programmes, and these are supported by several technical appendices (B, C, D, AA, BB) which detail the environmental impacts of each of the options within our plan and our plan as a whole.	

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5144	West London Friends of the Earth	TW's policy is clearly 'predict and provide' though this is not admitted in the consultation documentation. Unfortunately, this approach seems to lead to a 'need' for ever-increasing water supply and therefore ever-increasing extraction from the environment.	Water is essential for all our lives, but our water resources are under pressure and this will only increase with time. There are no simple quick solutions, we need to plan ahead to manage a growing population, a changing climate and an increasing drought risk, as well as making sure we can protect our environment now and in the future. We are working in collaboration with other water companies and stakeholders to coordinate a regional response to the challenges. We've looked at a wide range of potential solutions – both measures to manage demand for water and provide new water supplies. We'll need a combination of measures to address the shortfall.	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.
5144	West London Friends of the Earth	There may be responses from individual groups such as Richmond & Twickenham Friends of the Earth. Those responses will tend to address issues of particular local concern. They will also address broader issues, including water quality/pollution, and may cover some aspects in more detail than here. The comments here should therefore be regarded as additional to (or supporting) those from local groups and not as replacements. We have chosen not to answer the questions posed because they do not properly encapsulate the points we wish to cover. There is a severe danger in answering a set of questions that respondents are led down a path, due to selectivity, especially omission of relevant issues and options from the set of questions. This may suit the body carrying out the consultation, but it most certainly is not in the spirit of public engagement and democracy. Presentation of information : Although large amounts of documentation are provided, it does not greatly help consultees make informed responses. The nontechnical summary document should be sufficient reading for consultees to make reasonably detailed and insightful comments without an excessive workload. -We are not aware of any west London voluntary and	We note the comments made and have responded fully to comments set out in other representations which are published as part of this Statement of Response. We presented a series of questions as part of the consultation to provide the opportunity for stakeholders to provide feedback on the aspects of the draft plan that could be changed. The questions were intended as an aid to the consultee but were not prescriptive and we accepted freeform responses We note the comments regarding accessibility. We recognise the WRMP is a detailed and technical plan and considerable technical work underpins the plan. We therefore provided a range of channels to enable stakeholders to engage in the consultation process including a suite of documentation which included the non-technical summary through to detailed technical appendices to allow stakeholders to engage with the documentations as they chose to. in addition to the documentation we produced a film, Q&A documents, held a programme of events to allow people to speak to Thames Water staff to understand the draft plan and ask questions and provided a dedicated email address to answer questions or queries. We therefore	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		social/charity group that has been able to fully comprehend the plethora of documents or detail within. As an example, there is reference to leaks on pages 6, 14 and 20 but the statistics are not brought together in a coherent way. Page 20 says "reduce the amount of water lost through leaks in our network and customer pipes by 16% by 2030" but does not say the date from when the 16% reduction applies or what the volume of leakage was at the start date. As a further example, the diagram on page 13 shows "water shortfall" but does not show alongside the numbers, presumably demand and supply under certain scenarios, which have been used to define shortfall. TW needs to engage properly with the public and policy makers on big issues such as 'predict and provide', equity and population growth. Although it is a private company, TW has a duty to act as a social enterprise because it has monopoly control over an essential resource, namely water (also sewerage) in the TW area.	consider we provided a sufficiently wide range of channels to ensure the consultation was accessible.	
5144	West London Friends of the Earth	Charges to consumers: The estimated charges on page 28 look designed to scare respondents and, as a result, encourage them to support low standards of resilience and environmental protection. They will support the commonly heard and usually disingenuous narrative that action that is in the public good will hit poor people and should therefore not be undertaken. In fact, the increases are quite modest in percentage terms but not shown. More importantly, they fail to reflect the fact that not everyone has to be hit by increases. Water charges could be levied differentially such that wasteful households which are affluent and easily able to	The forecast bill increases presented in the draft plan are not designed to scare respondents, they are included to provide an indication of the investment needed in our future water supply over the next 25 years and enable consultees to provide informed feedback on the draft plan. Cost and affordability are important parameters in determining a balanced plan. In response to the proposal to levy changes, smart meters are an important tool to enable people to understand and modify their consumption as they pay for the volume of water used. Also in our draft WRMP we have proposed the introduction of water tariffs once the meeting programme has been rolled out, as a mechanism to	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		afford increased charges pay more than proportionally to consumption, while poor and thrifty households pay less. This would be consistent with the 'Polluter Pays Principle' because, under the current system, environmental and social costs of excessive water supply are not reflected in either flat rate or water meter charging.	encourage the efficient use of water. It will be important that any form of water tariff is designed to protect vulnerable houses and ensure we have sufficient support mechanisms to help those households who may struggle to afford their water bill. We do agree that making the most efficient use of water, and valuing water properly, are fundamental to our long term plan for future water supply and these measures, alongside tackling leakage, make up more than half of the forecast shortfall.	
5144	West London Friends of the Earth	This will require drastic action on leaks and per capita demand. A staggering 24% of water is lost to leakage (page 6). It alone explains to a large extent why TW believes it need to find new sources and undertake mega engineering projects, at massive cost and with major environmental impacts (especially climatechanging emissions and biodiversity). Given this context, TW's proposal to reduce leaks by 16% by 2030 (page 20) is totally inadequate. (16 % reduction in leaks only saves about 16% of 24% = approx. 4% of water extracted.) Perhaps the biggest reason for potential shortages and for TW's quest for new sources and mega engineering projects is reluctance to drive substantial reductions in percapita water consumption. Huge amounts of water are used unnecessarily; for example by car washing, watering gardens and long showers. TW (and others) should do whatever it takes to drastically reduce present consumption of 141 litres per person per day (page 20). Reducing only to 125 litres by 2050 – about 0.7% pa is pathetically inadequate. Even the government, not known for its environmental credentials or enthusiasm for managing demand, has set a national target of 110 litres.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Leakage targeting, and its relationship to water supply options Reducing leakage is a priority for us. Right now, around 24% of the water we put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. In no small part this requirement is driven by the diminishing returns of leakage reductions, caused by the proportion of our leakage that will not be identified via traditional leakage control or pipe replacement methods, often very small leaks. Education and campaigns to promote water efficiency	

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			Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	

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5144	West London Friends of the Earth	To be sustainable, the amount of water extracted and supplied needs to be, as a minimum, stabilised. Not increased.	Thank you for your response to the consultation. Any water that is extracted will be replaced. Thames Water need to comply with the Lower Thames Operating Agreement which stipulates a minimum target flow over Teddington of 300 Ml/d. If abstraction was upstream of the weir and discharge downstream, then the scheme might not be able to operate when most needed and the flows are at or near 300 Ml/d. The concept of the scheme is a no net change in flows over Teddington Weir and that is likely to be the licence condition imposed by the Environmental Agency. Protecting and enhancing the environment is central to this proposal. We are working closely with the Environment Agency, Natural England, the Drinking Water Inspectorate and Port of London Authority as we develop our proposals. The programme of studies includes the assessment of the water level, velocity and water quality as well as ecology and biodiversity surveys. The assessments completed so far have shown that there are some minor impacts, but these are not significant and can be addressed without causing any environmental harm. We will do more detailed assessments, including studies on other issues such as noise and air quality. This work will be scrutinised by the Environment Agency and other regulators and included in the Environmental Impact Assessment which would form part of any future planning application for the scheme.	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.
5148	Canbury and Riverside Association (CARA)	Our members, local residents and many visitors who enjoy this area are very concerned by your plan to abstract water from the Thames at Teddington and replace it with treated sewage, as outlined in your Water Resources Management Plan 2024. The description of the Teddington DRA indicates that abstracted water from the Thames close to Teddington would be transferred via an existing underground tunnel to the Lee Valley reservoirs in East London, while highly treated recycled water would be moved from Mogden	With regards to putting the treated final effluent directly to the TLT. The Thames Lee Tunnel (TLT) is currently used for the transfer of "raw water" for treatment into "potable" water at several Water Treatment Works (WTW) in NE London. Whilst it is technically possible to put highly treated final effluent directly in to the TLT, the proposed Teddington DRA design takes a precautionary approach in line with current best practice. Any treated effluent that would be discharged into the TLT would be re-abstracted via Lockwood reservoir for drinking water treatment so would be considered as planned direct	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme

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		sewage treatment works and returned to the Thames to compensate for the water taken from the river. Why not transfer the cleanedup effluent from Mogden, which is fit to drink, directly to the Lee Valley, instead of using it to top up the Thames after abstracting water from the river to transfer to Lee Valley? We understand that under the Beckton Effluent Reuse scheme treated effluent is to be sent directly to the River Lee for dilution before entering Lee Valley reservoirs so why not do the same from Mogden, instead of taking water out of and returning treated sewage into the Thames? Regarding the Teddington DRA proposal itself, we believe that insufficient consideration has been given to the negative environmental impacts, and the necessary attention has not been given to modelling these effects. The river above Teddington Lock is very popular with river users and clubs – Lensbury, Tamesis, Kingston Rowing Club, the Skiff club, Tiffin Girls School, Kingston Royal Canoe club, the Small Boat Club, Surbiton High School Boat club, the Leander Sea Scouts, Achieving for Children at Albany Outdoors and many local people from paddle boarders to anglers. It is vital to know that the treated sewage entering the river some 140m above Teddington Weir would not end up stagnant in the lock cut, or flush back further upstream, even during high spring tides when the river can flow 'upstream' through the lock and over the weir. This DRA proposal indicates that treated effluent entering the Thames will raise the water temperature, and that this will stimulate the growth of the existing Invasive NonNative Species (INNS) in this part of the Thames. It cannot be acceptable to worsen the negative impact of INNS	potable reuse (DPR). The water utilised for drinking water production falls under a different set of legislation than that covering environmental discharges (The Water Supply (Water Quality) Regulations 2016 (England)). Drinking water is self-evidently treated to a far higher standard than that required by the environmental legislation covering discharges to rivers. Drinking water supply involves a risk assessment approach, documented in a Drinking Water Safety Plan (DWSP). By definition, the risk assessment methodology adopts a precautionary approach to the drinking water treatment process and assessment of new water sources. To directly transfer to the TLT we would be required to treat the final effluent to an extremely high standard which would not fit within the space at Mogden and require an offsite location, of which there are none within the required area. That level of treatment would be more greater than and most similar to the Mogden Water Recycling dWRMP option. Modelling of various locations for the outfall was undertaken in 2022 to identify the optimum location in terms of mixing of the recycled water into the river prior to Teddington Weir, the fish passes and the lock. The proposed location meets all of these criteria. Further modelling will be undertaken in 2023 to specifically understand the effect of the lock operation in greater detail and test the above issues under further conditions. On spring high tides, Teddington Weir does overtop, and there are known to be reversing of the current direction for short periods at these times. An operating pattern will be developed that ensures that on spring high tides the discharge is switched off to ensure it does not reverse. These operating rules are under development. The proposed treated effluent from the new tertiary treatment plant facility will not have a strong odour. As the outfall and discharge will be below the water level there will be no noticeable odour at this	poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		on our local biodiversity. There are other environmental concerns that need to be more comprehensively addressed than appears to us at present – from the potential smell that may arise during warm weather to the impact on small fish of the water temperature gradient close to the effluent outflow. The absence of answers to these issues means the Teddington DRA is not acceptable.	location. To enable direct discharge of a recycled water to a reservoir would require treatment by reverse osmosis (included in the current Beckton Water Recycling scheme). The Teddington DRA scheme uses tertiary treatment and discharges water downstream of abstraction points. There is insufficient room at Mogden STW to install a reverse osmosis plant, and without this treatment direct discharge to the Thames Lee Tunnel would not be permitted by the Drinking Water Inspectorate. Modelling has been used during Gate 1 and Gate 2 to characterise the hydrodynamic and water risk of the DRA scheme to the River Thames and Thames Tideway. In Gate 3 (2023-24) additional modelling will be progressed to further understand the risks identified and provide the data to allow the assessment of risk to ecological and human receptors. The recreational usage of the River Thames in this area is appreciated and a dedicated recreational assessment is being progressed. This will include consultation with the organisations that use the river as the scheme design and assessment progress through 2023-24. This Gate 3 modelling will include specific modelling of lock operation and its interaction with a DRA discharge. The scheme will cease operation during high spring tide conditions that overtop Teddington Weir, thus removing the risk of a discharge or abstraction occurring when the tide pushes above the weir. The scheme is not continuous and will go months and sometimes a year or more without full operation. When it does operate, during summer months, our assessments have shown that there is negligible difference in temperature between the discharge and river, meaning	

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			that summer temperatures will not increase. In some circumstances (mainly late autumn/early winter) the discharge can be warmer than the river. The assessment of temperature has shown that during these circumstances, for a 75Ml/d scheme, the temperature change is localised to the outfall, with the majority of the channel seeing less than a 1˚C change. This essentially means that under these circumstances, autumn river temperatures are extended by a few weeks into early winter. The temperatures identified are within the tolerances of the ecology present. Therefore, at this stage we consider there to be limited effect on ecology from temperature change. The temperature and ecological (including invasive species) assessments are now being reassessed in greater detail through 2023-24. The scheme and assessment is still at an early stage (essentially conceptual design). The detailed design of the scheme and full environmental impact assessment (including odour and small fish) will be completed through 2023-24 with results shared and further consultation undertaken.	
5162	Thames Landscape Strategy	The Thames Landscape Strategy (TLS) understands the difficulty that climate change and increasing population in the SE of England will have in ensuring future water supply and treatment. For this reason, the TLS is generally supportive of the plan.	Thank you for your comments, which we welcome. We agree that climate change impacts and population growth mean that we need to take action.	No changes - none requested
5162	Thames Landscape Strategy	The TLS would agree with the plan in that measures that look to achieving integrated water management are important. The TLS would consider that the best way to achieve this is through a nature based approach to flood and catchment management that prioritise natural flood management techniques that result in no deterioration to water quality. These should be adopted wherever possible. How this will be achieved whilst ensuring the ultimate aim of the plan (in ensuring adequate water supply and treatment) is yet to be seen – greater detail	While there exists a broad body of evidence regarding the feasibility of using nature-based solutions in flood mitigation, more limited evidence exists to suggest that nature-based solutions can 'hold water back' in catchments to the degree which would be required to offset drought risk. We have considered a range of catchment options across our supply area, and have ascertained those nature-based solutions which we can be confident will deliver supply benefits.	No change has been made to the plan as a result of this response, for the reasons set out in our consideration.

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		is needed than is provided at present. For this reason, we look forward to continued dialogue with TW before some of the specific proposals can be fully supported. If the scheme is to be progressed, the Thames Landscape Strategy would like to bring to Thames Water's attention the 'Rewilding Arcadia' scheme. This project offers a nature based approach to manage future flood risk, caused by climate chang,e for the floodplain between Weybridge and Kew. More information can be found by following this link https://youtu.be/RIPxA3O5428 The project has the support of the Thames Landscape Strategy partnership and local community. We would be very happy to come and talk to you regrading the Rewilding Aspirations and how these could sit alongside any measures that Thames Water take forward.	In AMP8 we will consider nature-based solutions in more detail, as part of the Water Industry National Environment Programme (WINEP), with a particular focus on establishing where nature-based solutions may mitigate the environmental need for abstraction licence reductions. In addition, it is important to note that the Water Resources Management Plan is not the only area of Thames Water which is considering the adoption of nature-based solutions, with multiple workstreams across the company considering and funding them to solve different problems. Different workstreams considering nature-based solutions have different drivers, and we map catchment vulnerabilities to understand where interventions will have the biggest impact. Drivers include water quality, improving urban drainage, river restoration and community engagement and education. Many of these programmes have recently been expanded to cover more of our supply area, built on a solid foundation of working over a number of years with community stakeholders. We know that we have further work to do to integrate our view of drivers for and benefits of NBS, and this is something that we will continue to do in future planning cycles. We note your mention of the 'Rewilding Arcadia' scheme with interest.	
5162	Thames Landscape Strategy	We fully support your aspirations to reduce demand to meet the forecast shortfall and support the measures you have outlined to reduce leaks. Whilst we understand the difficulties in reporting and fixing these and in ensuring behavioural change to reduce demand in the first place, we would suggest however, that further measures should be considered that would have a greater impact than you set out in the report. If greater resources were targeted towards education to increase waterwise behaviour we would see this as money well spent.	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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			interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives."	
5162	Thames Landscape Strategy	The proposal for abstraction at Teddington (linked to the discharge of treated water from Mogden) is of particular interest to the TLS. Whilst we understand that the proposal is at an early stage, it will be important that TW works with local stakeholders, including ourselves at each stage of the project's development to ensure that we are informed.	The DRA scheme is at a very early stage of development (essentially initial conceptual design) and assessment (risk screening). As the detail of the design is progressed over the next 12-18 months an Environmental Impact Assessment (EIA) will be completed (supported by additional modelling). Engagement has started at this very early	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new

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		The TLS would be concerned if the proposal were to result in any drop in local river levels with a subsequent impact in oxygenation levels, a change in temperature, sudden salinity change and/or impact on recreational use. The quality of the water to be discharged would be of concern particularly if untreated chemicals were to increase the likelihood of algal blooms. For any measures to be supported that would include the pumping of brackish water upstream (especially during summer periods) further scientific modelling would be needed to establish the ecological impact of this. If delivered, the scheme should not see any deterioration in water quality or sudden changes in temperature to the river water immediately upstream and downstream of Teddington Lock. We would ask for much more information, based on appropriate modelling, on how the ecology, temperature, salinity and flow would not be adversely effected before any scheme could be supported. At present, there is simply not enough scientific evidence to either support or object to this proposal or for abstraction further upstream at Molesey (for the same reasons). How the proposals fit into wider initiatives to reduce water need and ensure that sewage is not discharged into the Thames also need to be clarified. The TLS would therefore ask TW to consider potentially lessdamaging alternatives first and provide greater clarity on the potential risk of the Teddington proposal.	stage and will be broadened. Engagement with TLS would be appreciated. Modelling has shown that the DRA scheme will not change river levels in the river, but there will be a slight reduction in level around Isleworth due a reduction in Mogden STW discharge (overall a positive from a water quality perspective). The navigation assessment has shown that this reduction in level in the tideway will have negligible effect on navigation. The scheme will not deteriorate oxygen levels in the river, and will improve them in the tideway through reduction of Mogden STW discharge at Isleworth. The quality of the water being discharged will need to be higher than the water currently in the river at Teddington, and will not deteriorate river water quality. The scheme is not continuous and will go months and sometimes a year or more without operation. When it does operate, during summer months, our assessments have shown that there is negligible difference in temperature between the discharge and river, meaning that summer temperatures will not increase. In some circumstances (mainly late autumn/early winter) the discharge can be warmer than the river. The assessment of temperature has shown that during these circumstances, for a 75Ml/d or 100Ml/d scheme, the temperature change is localised to the outfall, with the majority of the channel seeing less than a 1˚C change. This essentially means that under these circumstances, autumn river temperatures are extended by a few weeks into early winter. Modelling has shown no salinity change in the river and negligible change in the tideway. The recreational usage of the River Thames in this area is appreciated and a dedicated recreational assessment is being progressed. This will include consultation with the organisations that use the river as the	source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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			scheme design and assessment progress through 2023-24. With the discharge quality being higher than the current quality of the River Thames and limited velocity or level change, the scheme should not adversely affect recreational users, but this will be fully assessed in 2023-24. The source water will be specifically treated to remove nutrients and it will not be saline. IN addition, this summer we will be conducting experiments of mixing recycled water with samples of river Thames Water to observe how it affects algal growth. Subject to the results, additional treatment may then be specified to advert increases in algal growth.	
5166	Arqiva Limited	Many consumers also do not have insight into how much water they use, and how they could save water and reduce their household bills. We welcome Thames Water's focus on the need to reduce overall water demand in its draft water resources management plan. Action to reduce demand will improve the resiliency of public water supplies, reduce the amount of energy required to treat drinking water, and help customers realise savings on their household bills.	Thank you for your support of our demand management activity. We agree with the points you raise and we believe that the roll out of smart metering accompanied with support water efficiency will help our customers to both understand and reduce their water use.	We have provided information in response to your comments, there are no changes as a result of your representation.
5166	Arqiva Limited	The importance of government and regulatory support to unlocking the benefits of smart metering. As the regulator, Ofwat has a critical role to play in enabling the delivery of AMI through its settlements for the next regulated asset management plan period (AMP8). It is important that Ofwat encourages water companies to put forward ambitious smart water metering proposals and enables investment in advanced metering technology. This should include the rollout of new AMI meters and replacement of old, less advanced meters.	Thank you for your representation to the consultation on the draft WRMP. The roll out of smart water meters are an integral part of our long term strategy and an essential enabler to help customers understand their water use and achieve reductions in water use, on average customers on a smart meter use 13 % less water than a household not on a meter. Also smart meters provide essential information on the water network to help target leak detection activity.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		The final price review 2024 methodology is a step in the right direction. As companies draw up their final water resource management plans and business plans for 20252030, the regulator must ensure that it is supporting water companies with the right financial settlement to deliver smart water metering as one of the key tools enabling companies to meet water demand reduction targets. Arqiva is ready to partner with companies to deliver smart metering's benefits We are the UK's only largescale provider of goldstandard smart water meter infrastructure, having installed over 1.9 million advanced smart meters to date. We know from experience the impact of installing AMI smart metering: greater water efficiency and better outcomes for consumers.		
5166	Arqiva Limited	To achieve the necessary reductions in water consumption and ensure consumers can fully realise the benefits, water companies and households must be empowered with the realtime data smart meters provide. We welcome Thames Water's focus on AMI smart metering and encourage an ambitious approach to the rollout of AMI. AMI provides water companies with hourly data on the amount of water delivered to a property, 24 hours a day, 7 days a week, with data transmitted securely from water meters to water company data centres. This level of insight enables water companies to deliver a range of benefits, as detailed below. More rapid leak detection is essential to bring down the amount of potable water wasted each day. The hourly data provided by AMI enables faster detection of leaks. In 201314, before adopting AMI, Anglian Water reported that it identified about 6,0007,000 leaks per year. In 202122, driven by	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%.	We have provided information in response to your comments, there are no changes as a result of your representation.

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		Arqiva's goldstandard AMI smart metering network, the company identified about 65,000 total leaks.3 By using AMI, companies can identify leaks across their networks quickly, including common leaks such as toilets, which have been found to impact a substantial number of homes and waste about 450 litres of water a day.4 A wider deployment of AMI would enable millions more litres to be saved and help secure the UK's future water supplies. Consumers lack the knowledge they need to reduce their water consumption. One study found that almost half (46%) of people believe they only use 20 litres of water a day, 5 while the average water consumption per person per day is 145 litres.6 Smart metering data encourages small behavioural changes that cut household water waste. Thames Water has shown that consumers with an AMI smart meter typically reduce consumption by 1217%.7 In addition, Thames Water has demonstrated that smart meters can deliver savings for households that need it most; vulnerable consumers using over 500 litres of water a day reduced their consumption by between 817%, the equivalent of £40 and £166 a year.8	Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Better metering data for customers All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by Retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix. Smart meter pricing Smart meters work on the same cost per cubic meter price model as other meters, both charging based on the volume of water used, plus a fixed standing charge. Our smart meters are not charging more per volume of water compared to other metered customers.	

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5184	CirculOil Limited	I am writing to give support to the proposal of utilising the canal network to distribute water, I understand the proposal, could see up to 300 million litres of water per day being transferred from the River Severn to the River Thames via the canal. The scheme has huge advantages over more traditional solutions like reservoirs and pipelines. With a restored canal, there is no loss of countryside and less need to keep taking water from the ground in the South East. It is the most promising way of restoring the whole 36 miles of the Thames – Severn link. I believe that the additional benefits to the environment, tourism and financial factors add to the value of this approach.	Thank you for your response to the consultation, your points are noted. We have been investigating the options for the Severn Thames Transfer (STT) for many years with regulators, other interested water companies, stakeholders and the public. During this time we have shared the findings at community events and published various reports. In November 2022 we published updated feasibility and concept design reports for the RAPID Gate 2 process. As part of this submission our assessment of the conveyance options from the River Severn to the River Thames concluded that the water transfer would be best delivered by a direct pipeline. For our draft WRMP the STT was selected from 2050, after Teddington Direct River Abstraction and the Abingdon reservoir (SESRO), as a regional WRSE/WRW solution. Our decision to promote construction of SESRO ahead of STT was based on the assessment that plans in which the STT was used in place of SESRO were more expensive, resulted in more carbon emissions, and did not deliver the same environmental or resilience benefits; particularly under severe future scenarios. For the revised draft WRMP we have selected Teddington Direct River Abstraction in 2033 and SESRO 150 Mm3 in 2040 to provide security for the regions supplies. The STT is no longer required from 2050 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. We will continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.	The STT is no longer in the plan. Please refer to the Statement of Response Appendix J for our full response to the comments we received about the Severn Thames Transfer.

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5290	Broom Water Association	Unclear assessment metrics for “best value” There is no real detail on the specific objectives, measures, baselines in terms of how this is balanced/judged. What's published so far is too high level to allow Thames Water or any member of the public make this judgement. We believe within the Water Resource Water Management Plan 2024 - - there is inappropriate overweighting to supply solutions in choice of strategic options targets for reduction in demand and supply systems leakages should be more -ambitious too many health risks exist or are unknown in returned treated effluent water - - - - - - nowhere near enough detail on how best value is calculated to make sensible judgements. Locally we are concerned that the consultation process has not been proper; it has not increased confidence in the company’s poor reputation the choice of proposals is not based on full and proper consideration, but on cost/turnaround time - - - - - - - no environmental and social cost assessment of TDRA which is	Thank you for your response. In developing the WRMP24 and wider plan for the South East, a fresh and objective look has been taken at the challenges facing the region and how best to solve them, looking beyond the boundaries of individual water companies to identify the options that will provide resilient supplies more efficiently and provide wider benefits. In terms of new infrastructure, desalination plants and water recycling are viable potential options which could form part of an overall plan for the south east. For further information on the scheme see our Statement of Response and revised draft WRMP. We have completed the required assessments to understand the environmental impacts of our water resource schemes, in line with the Environment Agency's guidelines. We consider that the schemes we have included in our plan are environmentally resilient and appropriate to include in our viable options list. We consider that we have undertaken an inclusive and robust engagement and consultation process. Throughout the preparation of the draft SE regional plan, and our draft WRMP, we have actively engaged with a wide range of stakeholders to enable them to contribute to our approach, technical work and decision-making, and input to the preparation of the draft plans. This engagement has included presentations to parish councils and local communities in the localities of proposed new water resources infrastructure. Teddington DRA is part of a wider long-term programme for balancing supply and demand across the South East of England. The selection of options is guided by modelling that considers cost, environment/social and resilience factors. The need for the Teddington DRA is principally driven by the requirement to improve drought resilience. We are required to have a supply system resilience to a 1:200 drought ASAP and a 1:500 drought by 2040. Teddington DRA is the largest and least impactful option available within a reasonable lead-in time and has strong cost benefit, so is regularly selected by the modelling. We appreciate the concerns of local residents about the	We have provided information in response to your comments, there are no changes to the draft plan as a result of your representation.

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		unprofessional and distorting significant risk of deterioration in the quality of water for recreational purposes total lack of appreciation of the wide and extensive recreational usage of this stretch of the river - - - - - - - - and the level and vulnerability of inwater recreation - risks to abundant river wildlife located in the abstraction area - - - - - - with the proposed abstraction opposite the creek inlet and predictions of flow changes there could be risks to wildlife and silting within a conservation area We must therefore strongly object to the proposed TDRA proposal in the WRMP 2024 Plan.	option, but current evidence suggests the scheme is feasible and has insignificant impact on the environment. Investigations are ongoing as part of the regulator-led Strategic Regional Options programme. In the revised draft WRMP24 (as in the draft) we have completed several sensitivity tests on alternatives, so stakeholders can see what they are and their impact on best value. The scheme is at a conceptual design stage. There will be further design work to confirm the exact location with engagement and consultation with the local community at this time. We would work with local partners to ensure the wider benefits are identified. The scheme would have best practice design and several features to minimise the impact on aquatic life, boats, water activities and swimmers.	
5290	Broom Water Association	Consultation Process We find the Thames Water consultation process inadequate and not proper. Many residents have participated in Thames Water events and too many of the communities' challenges and questions were met with the response "it is too early to say"; "the proposal is still at the conceptual stage"; "we need more data"; 'we haven't done that yet". The questions posed in the extra consultations, which were staged because of public pressure, have not been answered in time to be considered before the end of the consultation period.	We note your feedback. Our approach to the consultation was designed to reflect the strategic nature of the draft WRMP and the purpose of the consultation, which is to seek feedback on our proposed water resources strategy, not on the detail of individual projects. We recognise there is a lot of interest in the proposed scheme near Teddington and frustration that at this stage we could not fully answer all the questions that were raised, as the work completed to date on the scheme has been to determine the feasibility and conceptual design of the scheme. If the scheme is included in the final WRMP it will then progress through planning and there will be multiple opportunities for scheme-specific engagement and consultation with local communities. We would like to reassure you that we are committed to work openly and transparently with all stakeholders, and community engagement and consultation is an	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.

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		Substantive judgement about the veracity/thoroughness/reliability of key features of the proposal is not possible. Without detail being made available, considered feedback is not possible, and therefore one must consider that the consultation process is not a proper process.	important part of this. We have recently appointed a dedicated engagement manager for the Teddington DRA scheme which will help to ensure we engage effectively with the local community going forwards.	
5290	Broom Water Association	Potential for further negative effects In times of severe rain/weather a major issue for water companies has been the need to dump sewage into rivers – it is not at all clear how systems controls will obviate the chance, or choice, of overflow into the river through the outfall; sewage control is not an area where Thames Water have a strong reputation. It is unclear how the necessary monitoring and control mechanisms will be put in place to ensure this proposed system is not used more extensively than presented or against the standards set by the EA – a sense that this proposal would be “the thin end of the wedge”.	The discharge of untreated sewage is unacceptable. We are committed to tackling it. Between 2025 and 2030 we will be investing at least £750m to reduced discharges of untreated sewage to sewers, and over £1bn to improve treatment processes at our sewage treatment works, including £97 million to upgrade Mogden Sewage Treatment Works. The Teddington DRA scheme is unrelated to storm overflows. There is no route for raw or untreated sewage to be discharged in the River Thames, upstream of Teddington Weir. The scheme is a drought resilience scheme. We would need agreement from the Environment Agency to use the scheme and this would be following an extended dry period when the amount of water in the river and the water stored in reservoirs reaches a set threshold. This is the case with other strategic drought schemes. Typically, the scheme would operate late summer through to late autumn on an intermittent basis.	We have provided information in response to your comments, there are no changes to the plan as a result of your representation.
5290	Broom Water Association	We believe the following: The options being pursued are too heavily weighted on supplying demand There is insufficient emphasis on managing and reducing demand through reduction in leakage and consumer education and incentives. Thames Water’s target of water consumption of 123L per person a day is a modest reduction on current usage and there is no indication of	Thank you for responding to our draft water resources management plan, we have reviewed your responses and will be using these to inform our final plan. Responses are also collated and summarised within our Statement of Response document. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management	Our demand management and leakage reduction proposals have been extended in our revised draft plan.

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		what it would take to achieve the Environment Agency and DEFRA target of 110Lper day. It is not clear why a more stretching target is not possible to get to/much nearer to the government target.	programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. "Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives." Leakage targeting Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures	

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			caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our 2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. We have examined scenarios that sees the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. We acknowledge that we need to take great care that other areas are not falling behind in our efforts.	

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			Household water use and the national target Between draft and final plans the government have confirmed that the national target for per capita consumption of 110 litres per day should be applied at company-level. As such our revised draft plan will hit this target. Our revised plan will clearly outline how our water company-led interventions such as smart metering, water efficiency and customer engagement will contribute to the overall 110 target agenda, plus outline how Government policy, future regulation and wider non-water-company action is required to meet the target. Please also note that the household usage target of 110 l/h/d does not include leakage values, property and distribution pipework leakage are both removed prior to this figure. This is purely a measure of household customer use.	
5290	Broom Water Association	I write in my capacity as a Committee member on behalf of the Broom Water Association (BWA). -We object strongly to the TDRA proposal in your Water Resource Water Management Plan 2024 -(WRMP). The Broom Water Association is comprised of the residents of 40 properties (some 90 adults) -in the Broom Water Conservation Area. -The properties are on the sides of an inlet off the Thames on the north side of the river approximately 500m upstream of Teddington weir and opposite the site of the proposed abstraction plant. As individuals who live by and use this stretch of the Thames we have a good first hand awareness of the river environment, the movement of the river and the usage of this stretch. The proposal will affect the Teddington reach of the river, which is the first nontidal stretch of the Thames, and which has one of the densest (people per square metre of Thames) usage of all stretches on the Thames. - - -	We are aware of tidal incursion above Teddington Weir on certain tides. Operational protocols for Teddington DRA would ensure safeguards would be built into the scheme whereby we would monitor tidal levels downstream of the weir and stop abstracting when there is a risk of spring tides backflow over the weir and for a period of time after to allow freshwater to flush out the brackish flow. Tidal overtopping of Teddington weir would therefore have no operational impact on the scheme.	Teddington DRA is selected by WRSE as offering best value to customers and provides a viable new source of water during periods of drought. Work to date shows the scheme poses a low risk to the environment and river users and as such the scheme should remain one of our preferred schemes in our Water Resource Management Plan while further work is undertaken.

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		Throughout the year this area is used extensively , in daylight and dark, by several clubs for training -rowing including those of local schools, sailing, canoeists and swimmers, it is further used by paddleboarders and -anglers. With the advent of inflatable crafts and the significant rise in river swimming , in summer there is a large increase in recreational river usage to the extent that the Kingston Maritime Volunteer Service group felt it necessary to have a weekend patrol boat in summer months to advise river users of good/safe practice for this stretch. We have been disturbed by the lack of awareness of Thames Water representatives to the extensive use of this stretch for recreational river pursuits. There has been no TDRA environmental/leisure impact assessment, which we believe to be unacceptable when the proposal has progressed to this stage, and the usage has clearly not been a determinant or a consideration in the decision to choose this location. The wildlife is spectacular and varied. - The TDRA proposal should not be pursued before alternative schemes have been developed, implemented and evaluated – extended metering, leakage reduction to international standards, rainfall capture, desalination. Alternative options are viable/better Thames Water has stated that other proposals could meet the time objectives but Teddington has been chosen on cost and turnaround time without any evaluation of the environmental and social costs; a point accepted by TW representatives. There are alternative processes for new water, and other locations which could be less invasive and provide greater quantities e.g. -Beckton Desalination, Mogden water recycling scheme. -These schemes should be given greater weighting in		

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		the Gate 3 decision process. - TDRA process/water environment issues - The proposal will have negative environment impact and be a significant risk to people's health. -The latest published information on water quality is a short appendix in TW's WRMP Gate 2 submission and shows;[Text Wrapping Break] - a) since Gate 1 the risk level across some basic water quality measure has increased.[Text Wrapping Break] - b) additional new risks have been identified .[Text Wrapping Break] This method of outfall of treated effluent into a low flow, warmer water environment has unquantified and unknown impact on the river environment: the water, aquatic life and river users. - Assessments have concentrated on traditional inorganic chemicals without mention of newer pollutants -residual hormones, antibiotics and chemicals (PFAs). There is recorded research that shows irreparable changes in fish because of such pollutants. Negative effect on locality which is designated as part of the North Riverside Conservation Area.		

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		In the choice of this location the proposal has not taken into account the intrusion the proposed plant and processes would have into this area; the riverbank and open space of the adjoining Ham Field are extensively enjoyed for leisure time having have been “reclaimed” from the intrusive and antisocial occupation by illegal mooring and “slum boats”. - - Further the plant and process would pose risks to the area’s woodland and wildlife - TDRA operational issue/risks - Detail on exactly how the extraction process will work with the return of treated effluent is both unclear and changing under scrutiny. e.g. Originally the scheme publications referred to use of this facility being “once every 2 to 3 years and then only between August and November”. -It now seems that to avoid the infrastructure “clogging up” it will be operated at 25% capacity at all other times to provide a “sweetening flow” for what we now understand is the treated effluent only. In effect the scheme is therefore -a sewage scheme to simply increase the volume from Mogden works. This lack of full transparency at the earliest stages is concerning and perceived as a lack of Thames Water’s unwillingness to present information that might prejudice public opinion. There appears to be no or low appreciation or modelling of some key river flow dynamics which are well known to local residents. e.g the occurrence of "back flow" of water above the weir at high tides, reversing flow well upstream and beyond Trowlock Island. -This flow		

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		would be through both outfall and abstraction areas, and thus pose a significant risk to heavily used areas within the proposal eg The Lensbury watersports centre, the swimmers and all the other river users Potential for further negative effects In times of severe rain/weather a major issue for water companies has been the need to dump sewage into rivers – it is not at all clear how systems controls will obviate the chance, or choice, of overflow into the river through the outfall; sewage control is not an area where Thames Water have a strong reputation. It is unclear how the necessary monitoring and control mechanisms will be put in place to ensure this proposed system is not used more extensively than presented or against the standards set by the EA – a sense that this proposal would be “the thin end of the wedge”.		

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Thames
Water