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Revised draft WRMP24 Environmental Report Non-Technical Summary

August 2023



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Introduction

Our region is the driest area in England and over the past decade has had the highest level of population growth in the United Kingdom.

This means we manage the water we have carefully, and must continue to do so. Our revised draft Water Resource Management Plan 2024 (revised draft WRMP24), a regulatory document which is revised every five years, sets out how we will achieve this, taking a 25 year view over the period 2025 to 2050.

The challenges faced by WRMP24 include the impacts of climate change, population growth and the need to protect the environment.

This non-technical summary for our environmental report will give an overview of our WRMP24, discuss the environmental assessments undertaken and their findings.

“

Our purpose is to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop

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Challenges we're tackling to protect our water supply



The challenges we face for our region for the period 2025-50 are stark, and will mean significant water stress across much of our region. These challenges include the impacts of climate change, population growth and the need to protect the environment.

Climate change and drought resilience

We operate in the driest region in the UK, and are particularly vulnerable to climate change impacts. We use the latest climate change datasets to plan for future climate change, ensuring that we adapt to its impacts.

We also need to achieve enhanced drought resilience. In WRMP19, we planned to be resilient to a one in 200-year drought (a 0.5% risk of occurring within the next year). For WRMP24, we will be resilient for a one in 500-year drought (a 0.2% risk of occurring within the next year) by 2040. This will ensure we can maintain supplies to our customers during times where water is scarce. Our customers told us that moving to this 1 in 500 year drought resilience was a more acceptable level of risk.

Population and economic growth

Our region is one of the fastest growing in the country. Growth projections exceed 175,000 new homes over the next five years – without factoring in the proposed Oxford-Cambridge Strategic Growth Corridor. By 2050 the region's population may grow by nearly one million people. Our non-household demand also continues to rise, reflecting the volatile socio-economic climate we are currently operating in.

Environmental protection and improvement

We are committed to reducing the amount of water we abstract from sensitive environments, and need to balance this with sustainable alternative sources of supply.

This will be achieved by implementing licence caps to our abstraction licences, a process governed by the Environment Agency. This means we will take less water from sensitive groundwaters and surface waters, helping to protect the environment around us, mitigating the risk of deterioration.

We will also go beyond this statutory licence capping, focussing on how we can implement further abstraction changes so we can protect and improve the many internationally significant habitats in our region. This is our environmental destination.

Our environmental destination will be informed by scientific investigations commencing shortly and continuing to 2027, as part of our Water Industry National Environment Programme (WINEP). The results of the investigations will ensure a tailored response to our environment's needs, informing WRMP29.



Our Get River Positive Commitments

Discover more about our commitments, what they mean for our region's rivers, habitats and wildlife and how we can all work together to Get River Positive – anglianwater.co.uk/get-river-positive

What will we be protecting?

Chalk streams and rivers

The water in chalk streams and rivers comes from underground chalk aquifers and springs. This very pure water supports a wide variety of aquatic plants, invertebrates and fish in our region.

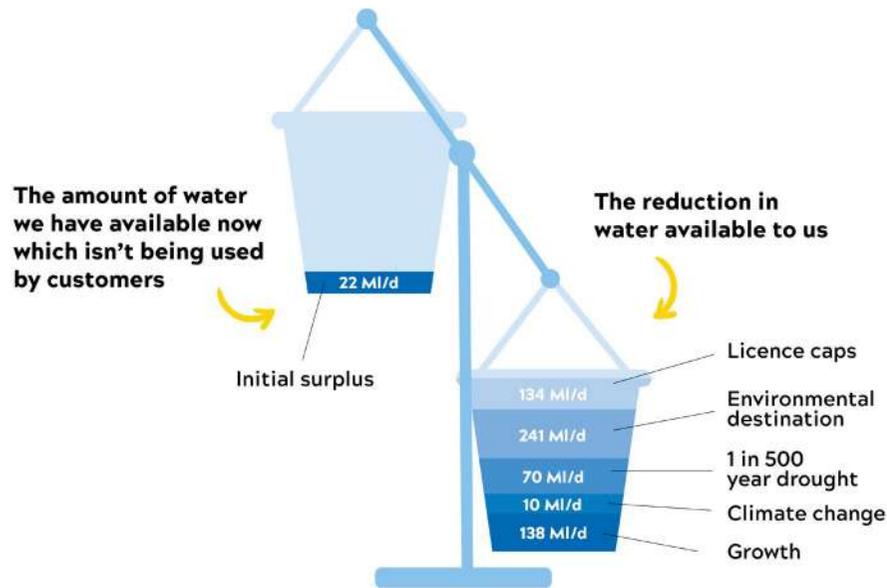
Wetlands

The wetlands in the east of our region are internationally recognised and are home to rare wildlife. They also help us with flood management and carbon capture and storage.

Half of the water we abstract to provide homes and businesses comes from our rivers and streams. The other half of our supply is stored in underground reservoirs called aquifers. With increased demand for water, it's vital we all understand just how precious water is, only use what we really need and love every drop.

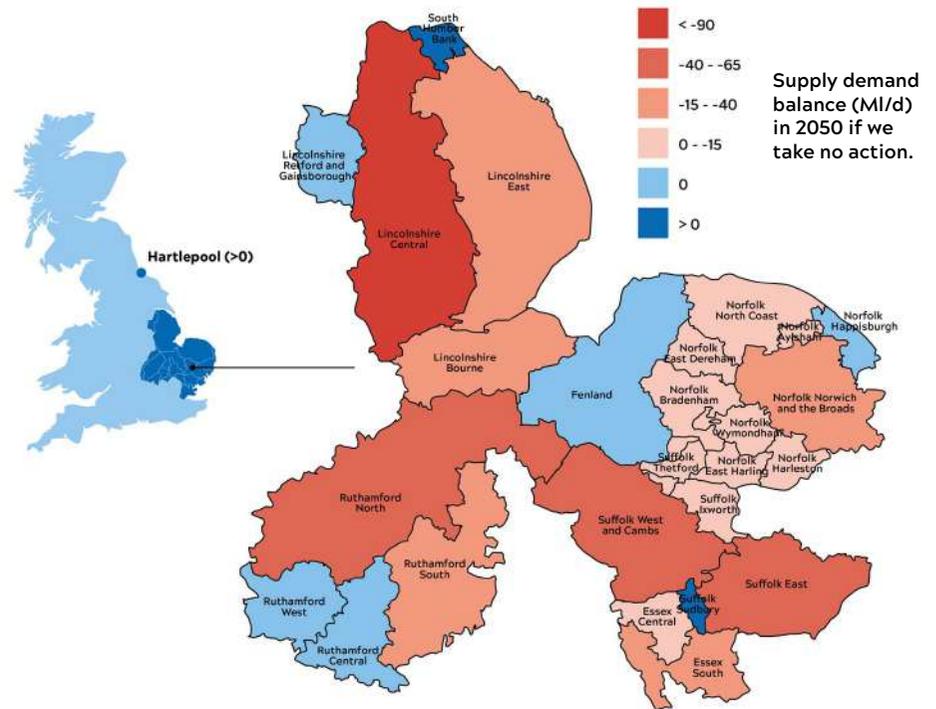
The scale of the challenge

Our supply-demand balance is under significant pressure from population growth, climate change, sustainability reductions and the need to increase our resilience to severe drought. These challenges are acute in our region, which is characterised by low rainfall and is home to a significant proportion of wetland sites of conservation interest. The total impact to our supply-demand balance is 593 megalitres by 2050. We have broken this impact down, showing how each of the challenges contributes to us having a deficit of water.



What is a Water Resource Zone?

The impacts of these challenges in 2050, and their overall effect on our water resource zones is shown on the map below. Water resource zones are how we plan our future water resources. Each zone has shared resources and all customers in it experience the same level of resilience.



What is MI/d?

A MI is a megalitre, which is 1 million litres of water. This is enough to supply approximately 7,000 customers. MI/d represent the amount of megalitres we supply a day.

Our predicted total regional deficit by 2050 is **593 megalitres litres a day**

To respond to this significant need for new water, we have produced a best value plan.

Achieving a best value plan



What is a Best Value Plan?

The aim of a WRMP is to present a best value plan, both in the short and long term.

A key requirement of a WRMP is to ensure supply of wholesome drinking water for customers and protect and enhance the environment.

A WRMP will also consider factors alongside economic cost and seeks to achieve an outcome that increases the overall benefit to customers, the wider environment and society.

Our customers and stakeholders have helped to shape the goals they want us to achieve when developing our water resources management plan. These are the main outcomes we set out to deliver whilst meeting our long term challenges.



Supply Meets Demand

Deliver a secure and wholesome supply of water to our customers, businesses and other sectors

Optimise our available resource by reducing leakage at our treatment works and in our network. We will also work with our customers to promote water efficiency

Fair charges, fair returns

A plan that is affordable and sustainable over the long-term

Flourishing environment

Deliver long-term environmental improvement by reducing our abstractions from sensitive areas and improving biodiversity

Resilient business

Increase the resilience of our water systems by enhancing our drought resilience and having a diverse range of assets to withstand different challenges

Positive impact on communities

A plan that supports the views of stakeholders and customers, and takes into account social wellbeing

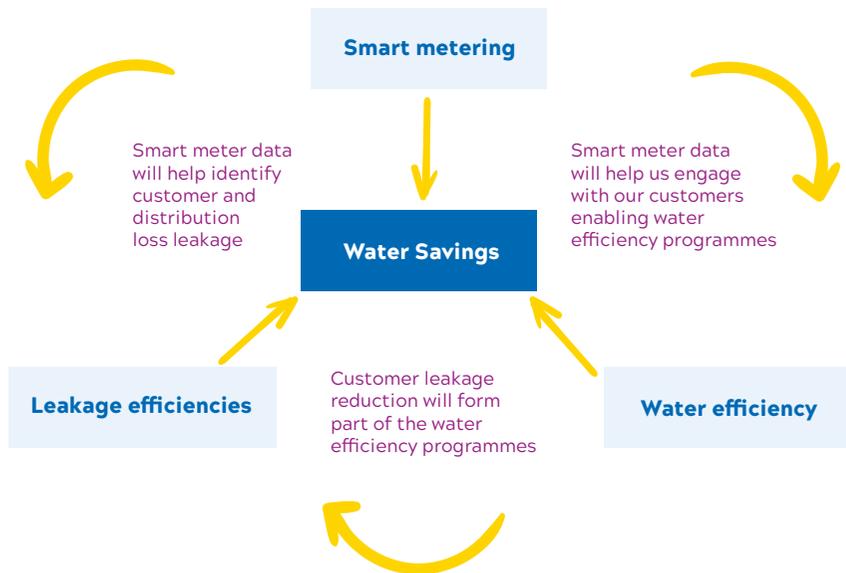
A plan which could help to alleviate flood risk to communities

Investing for tomorrow

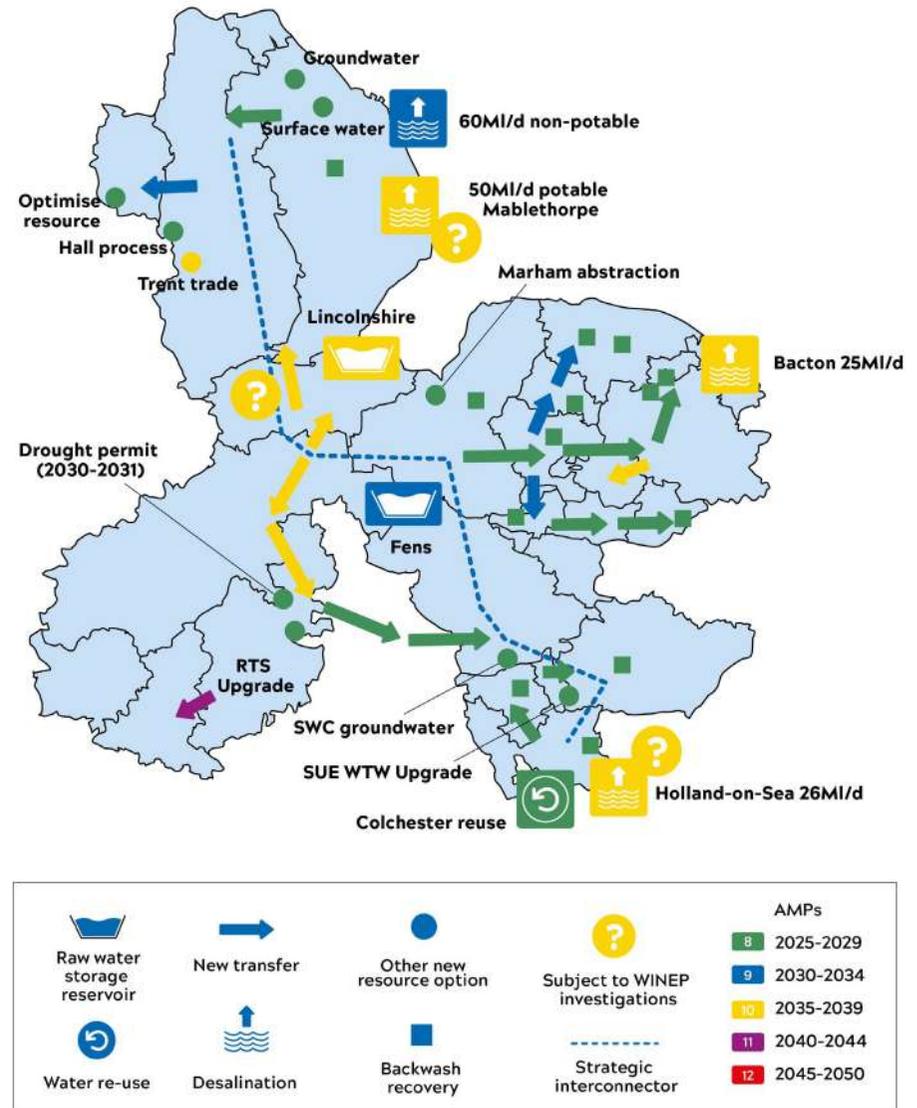
A plan which can adapt to unknown future challenges

A summary of our WRMP24

As described on page 4, we face several challenges over the next 25 years which our plan has to overcome. Our customers have told us we should focus on utilising the resources we already have so we are continuing to build on our leading demand management strategy. The figure and map presented shows our integrated approach to demand management:

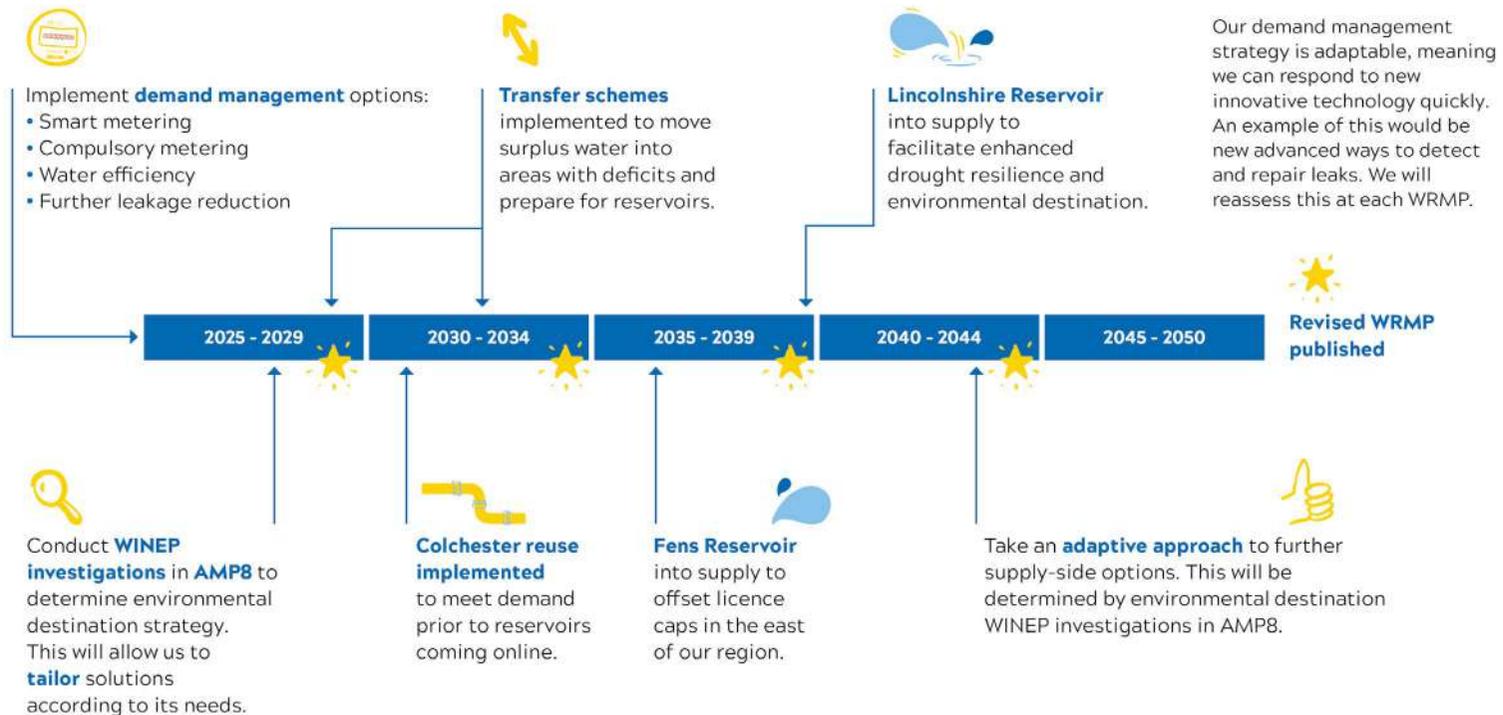


We will harness the results from this integrated demand management approach to manage growth in our region. But, we need to build new supply-side infrastructure, such as new raw water reservoirs and desalination, to ensure we are resilient to climate change and can meet the needs of our environment.



Overview of our best value plan

These supply-side options tend to have long lead times due to the considerable planning, design development and environmental investigations that need to be undertaken. We have shown when we are planning to deliver them on the timeline below, alongside the continuation of our industry-leading demand management.



We have put the environment at the heart of our plan, with a suite of independent environmental assessments feeding into option development and plan decision making.

This non-technical report presents a summary of the findings of these environmental assessments. We will build on these assessments as we start to develop the options, remaining committed to fulfilling our company Purpose of bringing

“environmental and social prosperity to the region we serve through our commitment to Love Every Drop.”

Our environment



Our region contains some very important habitats, many of which are protected at an international and national level, including:

- **Special Areas of Conservation (SACs)** are designated to protect high-quality habitats and rare and vulnerable species. An example of a Special Area of Conservation is our Taverham Mill site in Norfolk.
- **Special Protection Areas (SPAs)** are sites designated to protect rare and vulnerable birds. Rutland Water Nature Reserve is designated as a Special Protection Area because of birds like Ospreys that are thriving there.
- **Sites of Specific Scientific Interest (SSSIs)** are areas that are designated, aiming to protect the best examples of wildlife habitat in the UK. We are fortunate to have examples in our region such as Dereham Rush Meadow in Norfolk, Newbourne Springs in Suffolk and Grafham Water in Huntingdon.
- **Ramsar sites** are wetlands of international importance designated under the Ramsar Convention. Our reservoir, Rutland Water, is a Ramsar site and enjoys an array of breeding and passage birds across the mosaic of wetland habitats.
- **Marine Protected Areas (MPAs)** protect habitats, species and processes essential for healthy, functioning marine ecosystems. An example of a Marine Protected Area in our region is the Haisborough, Hammond and Winterton Marine Protected Area.
- **Marine Conservation Zones (MCZ)** are areas that protect a range of nationally important, rare or threatened habitats and species. An example in our region is the Cromer Shoal Chalk Beds.
- **Areas of Outstanding Natural Beauty (AONB)** are areas designated for conservation due to their significant landscape value. The Lincolnshire Wolds are an example of an AONB in our region.

- **National Parks** are protected areas that conserve and enhance their natural beauty and provide recreational opportunities for the public. An example of a national park that overlaps with our region is The Broads.
- **Historic Environment designations (Scheduled Ancient Monuments, Conservation Areas and Listed Buildings)** are designations that highlight a building, site or area's special interest and its value to this and future generations. This gives it protection under law or policy. An example of a Historic Environment designation in our area is Ely Cathedral.
- **Local Wildlife Sites (LWS)** are areas of land that are especially important for their wildlife. Marham Fen is an example of a Local Wildlife Site that we own.



What is happening in our environment?

There are a number of different factors causing our environment to change, these include:

- **Climate change:** hotter, drier summers and warmer, wetter winters, as well as an increase in the frequency of extreme events (flooding and droughts), are having major impacts on our environment.
- **Population growth:** over-abstracting water could have long lasting impacts on the environment. We work closely with the Environment Agency to make sure we are abstracting in a sustainable way and not causing deterioration to the environment. We were the only company in WRMP19 to voluntarily cap abstraction licences.
- **Invasive non-native species:** are organisms that are not indigenous, or native, to a particular area. These organisms can cause great economic and environmental harm to the area (for example, affecting water quality).
- **Pollution:** the most common form of pollution in our region is from intensive agricultural practices. For example, nutrients such as phosphorous and nitrogen can be introduced into the water system.

Our Company's Articles of Association commit us to delivering positive environmental outcomes for our region. In order to further this ambition, we have conducted a Strategic Environmental Assessment, a legislative requirement, to inform our decision-making processes. We explain more about this assessment overleaf.



The WRMP Environmental Assessment process

- 1 Strategic Environmental Assessment Scoping
- 2 Strategic Environmental Assessment Framework (shown on page 13)
- 3 High-level screening exercise (supply-side options)
- 4 Application of the Strategic Environmental Assessment Framework on the key components of the plan:
 - Demand management
 - Timing of licence capping
 - Environmental destination scenarios
 - 1 in 500 year drought resilience
 - Supply-side options
 - WINEP AMP8 options
- 5 Plan-level assessment (cumulative and in-combination)

Throughout the environmental assessment process there has been interaction with our plan-making process to create the WRMP. This has been achieved through:

- High level policy decisions taking the environment into account
- Using the outputs from our environmental assessments as metrics in our modelling
- Using the outputs from our environmental assessments to help the analysis of strategic designs for options by identifying appropriate mitigation

Strategic Environmental Assessment:

As part of our WRMP24 process, we must produce an Environmental Report. This is a legislative requirement under the Strategic Environmental Assessment Directive. This is often referred to as a Strategic Environmental Assessment.

The Strategic Environmental Assessment is essential to our plan-making-process as it identifies the likely significant environmental effects of the best value plan and the alternative plans. To assess these plans, we look at the different options in them.

As you can see from the diagram to the left, there are a number of stages to the Strategic Environmental Assessment; we will now go on to discuss these in succession.



Step 1: Strategic Environmental Assessment Scoping

So we can make sure we are assessing the right things, we began our Strategic Environmental Assessment process with a scoping exercise, where we:

- Reviewed key plans and programmes
- Ascertained the baseline conditions
- Identified key issues and opportunities
- Developed the proposed Strategic Environmental Assessment framework (please see page 13)

This work formed a Strategic Environmental Assessment Scoping Report which was issued for formal consultation with our regulators, the Environment Agency, Natural England and Historic England.



Key themes from this consultation were:

- The need to have a consistency between approaches
- To provide a coverage of a full range of socio-environmental issues
- That we must mitigate potential impacts on the historic environment and heritage assets
- Seek out opportunities to have positive impacts



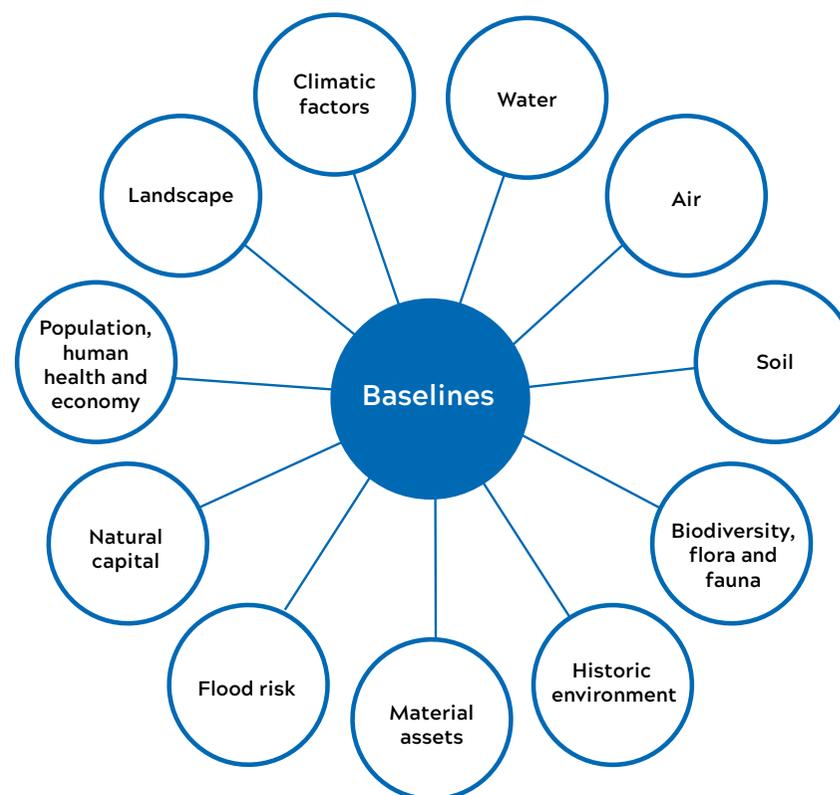
From these themes, adjustments were made to our Strategic Environmental Assessment objectives and the framework.

This is presented overleaf, for full details please see Table 4.1 in the WRMP24 Environmental Report.

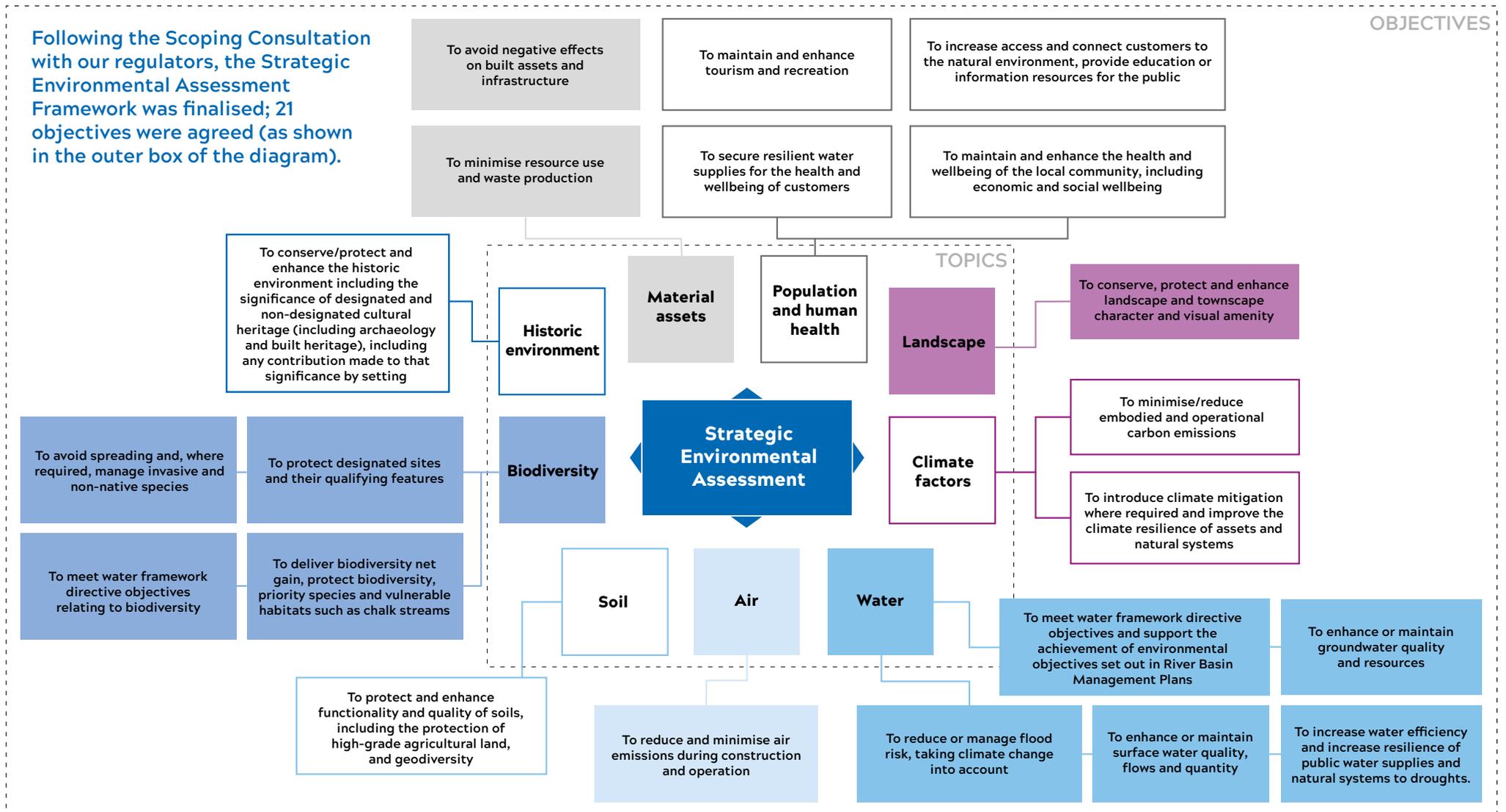
Baselines

As part of the scoping exercise, we identified the baselines to be used.

The baselines used in our environmental assessments were the most up to date and accurate available. They were used to measure the effects of our proposed WRMP24 options on the environment. This data was collected from multiple organisations, including the Environment Agency, Natural England and Historic England.



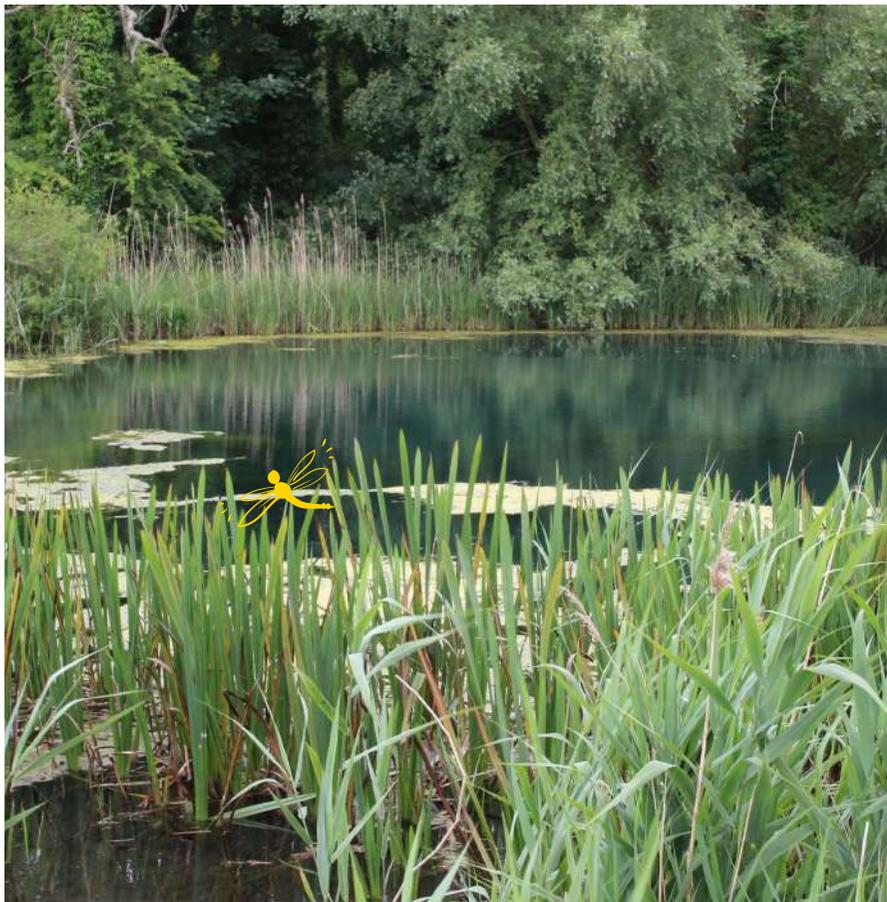
Step 2: Strategic Environmental Assessment Framework



Step 3: High-level screening exercise



Following the scoping and confirmation of the Strategic Environmental Assessment framework (see page 13), but prior to the application of it on the four alternative plans, high-level environmental screening assessments for the revised draft WRMP24 supply-side options were completed.



We completed our high-level screening assessments; this process highlighted environmental risks and constraints at an early stage in the option development process. We ensured that this process was aligned with guidance from UK Water Industry Research (UKWIR).

The screening process was structured around key environmental topics:

- Ecology
- Historic Environment
- Water
- Landscape
- Community

The screening process allowed us to gain more knowledge of the environmental impacts of our options. This enabled us to reject certain options, as well as identify suitable mitigation for options that had the potential to produce negative effects on the environment.

This step of the environmental assessment resulted in a constrained list of options. These then moved into the next stage of the application of the Strategic Environmental Assessment framework.

Step 4: Application of the Strategic Environmental Assessment Framework

In order to assess the options against the Strategic Environmental Assessment framework, the Strategic Environmental Assessment objectives presented on page 13 have a set of sub-questions to aid the assessor. The sub-questions can be seen in Table 4.1 of the revised draft WRMP24 Environmental Report. In order to answer the sub-questions, and thus score the objectives, the Strategic Environmental Assessment utilises the findings of five other environmental assessments, as shown on the right. Through using these findings, likely significant environmental effects of options were identified.

The strategic environmental assessment summary findings are presented in four different categories:

- **No effects identified.**

- **Minor adverse effect;** for example, a transfer potentially impacting ancient woodland 500m from the site.

- **Moderate adverse effect;** for example, the construction of a transfer potentially impacting a SSSI.

- **Major adverse effect;** for example, a desalination option discharging brine into priority habitats.

Strategic Environmental Assessment (SEA)

Where relevant the Strategic Environmental Assessment objectives (presented on page 13) use the outputs from the five assessments detailed below to inform the findings. This helps to ensure our decision-making is informed by a broad range of information on potential environmental risks.

Habitats Regulation Assessment (HRA)

Looking at how certain designated habitats are impacted by the constrained list of options and alternatives.

Water Framework Directive (WFD)

Examine how water bodies are impacted by the constrained list of options and alternatives.

Invasive Non-Native Species (INNS)

Investigate the threat of non-native species to the area from the constrained list of options and alternatives.

Biodiversity Net Gain (BNG)

Explore how biodiversity is impacted and the potential opportunities created by the constrained list of options and alternatives.

Natural Capital Approach via Ecosystem Services Assessment (NCA via ESS)

Study how natural capital is impacted by the constrained list of options and alternatives. Examples of natural capital include water, habitats, recreation etc.

Key components of the plan

We apply the strategic environmental assessment to the following key components of the plan.

Demand management options reduce the amount of water used by customers or lost in the water network. Examples include smart meters, leakage reduction and water efficiency.

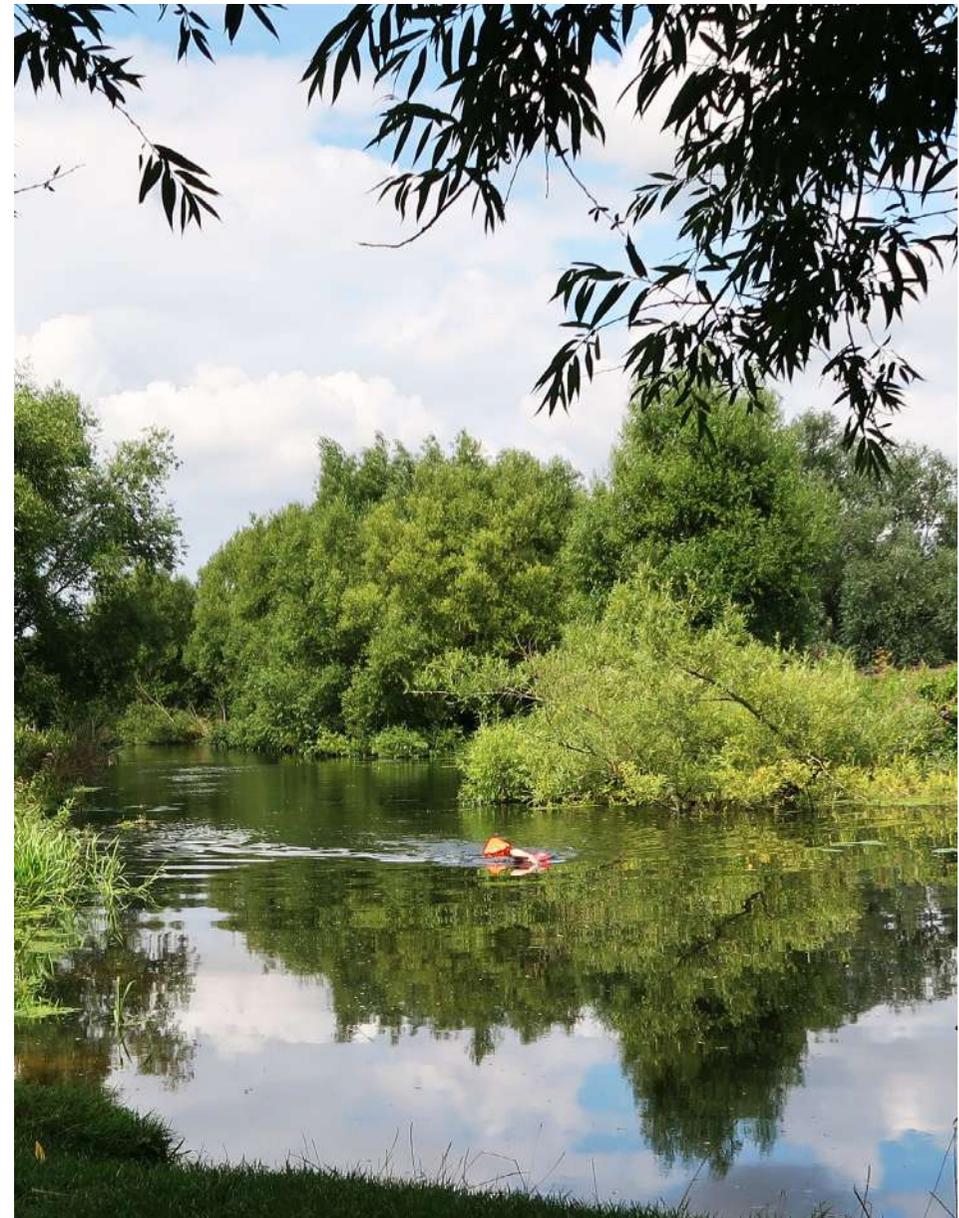
Licence capping is a process applied by the Environment Agency to our abstractions. This means we will take less water from sensitive groundwaters and surface waters, helping to protect the environment around us by mitigating the risk of deterioration.

Environmental destination is the aim to deliver long-term sustainable and environmental resilience through sustainable abstraction.

Our WRMP will deliver enhanced drought resilience, becoming resilient to a 1 in 500 year drought event by 2040/41.

Supply-side options produce new, additional water that can be put into the water network to supply customers. For example, reservoirs and desalination.

WINEP AMP8 options include river support and restoration. A river support scheme provides groundwater (abstracted from a local aquifer via boreholes) to a river, helping to supplement low flows at times of need. A river restoration scheme reinstates natural habitats, features and processes that have been lost through management in the past.



Mitigation examples

The strategic environmental assessment also suggests appropriate mitigation to reduce the potential negative effects on the environment for each Strategic Environmental Assessment objective. These will be explored further during the design and planning phases of the options. Some examples of possible adaptations are shown below. To read more about this please visit Section 9 of the revised draft WRMP24 Environmental Report.

Strategic Environmental Assessment Topic	Strategic Environmental Assessment Objective	Climate change adaptation
Biodiversity, flora and fauna	To protect and enhance biodiversity, priority species and vulnerable habitats such as chalk rivers.	To ensure that the operation does not lead to a transfer of invasive species, appropriate filtration must be in place.
Climatic factors	To introduce climate change adaptation where required and improve the climate resilience of assets and natural systems.	The sustainable use of water should be ensured to reduce the vulnerability of the local environment.
Landscape	To conserve, protect and enhance landscape and townscape character and visual amenity.	Best practice measures are to be implemented to minimise effects during construction.
Soil	To protect and enhance the functionality and quality of soils, including the protection of high grade agricultural land, and geodiversity.	Best practice construction techniques are to be implemented to prevent the disturbance of contaminated material.

Step 5: Plan-level assessment

Following application of the Strategic Environmental Assessment framework on the key components of the plan, the Strategic Environmental Assessment went on to look at cumulative and in-combination risks.

Following the application of the Strategic Environmental Assessment framework to the different options (as explained on page 13), our consultants then assessed the four plans (our BVP and three alternative plans) as a whole. Part of this process looks at the cumulative and in-combination risks.

The four plans assessed were:

- **Plan A:** initial least cost plan based on the initial most likely scenario

- **Plan B:** alternative plan based on preferred most likely scenario - this is our **best value plan** 

- **Plan C:** least cost plan based on preferred most likely scenario

- **Plan D:** least cost plan based on best for environmental scenario

It is a legal requirement, as part of the Strategic Environmental Assessment, to assess the alternative plans' effects on the environment.

We consider reasonable alternative plans that can deliver our WRMP's objectives during our decision making process.

The four alternative plans were developed through robust analysis and decision-making following the requirements for WRMP plan-making and the Environment Agency's direction within their Water Resource Planning Guidance. More information on the Strategic Environmental Assessments influence on our plan-making can be found in Section 5 of the Environmental Report.

This ensures robustness in our processes, and that we are doing the right thing

for our customers and the environment. The assessment of the alternative plans allows us to compare the potential of these plans. As many of these plans have the similar policy decisions, demand management and supply-side options in them, there are similarities between the findings of the best value plan and the three alternatives.

Within Section 8 of our revised draft WRMP24 Environmental Report the potential for cumulative effects between the best value plan and other programmes, plans and developments are presented in further detail.

Cumulative effects is a formal term used in the Strategic Environmental Assessment process and has a similar meaning to an in-combination effect, but with the broader scope of environmental topics considered within this assessment. Thus, it is

not limited to a combination effect on a specific protected site/river, but can include contributions to air quality problems or multiple improvements in river flow across the region.

Within our HRA and WFD Sub-reports we present the potential in-combination effects of our plan.

An **in-combination effect** is the term used in the Habitats Regulations (and often applied in Water Framework Directive assessment) to refer to effects from multiple different activities on the same receptor that is protected by that piece of environmental legislation.



Environmental Assessment findings



We will now explain our findings from this process in the following structure:

- **Best value plan: Strategic Environmental Assessment findings**
- **Alternative plans: Strategic Environmental Assessment findings**
- **Cumulative Impact Assessment findings**
- **Summary of our Plan**

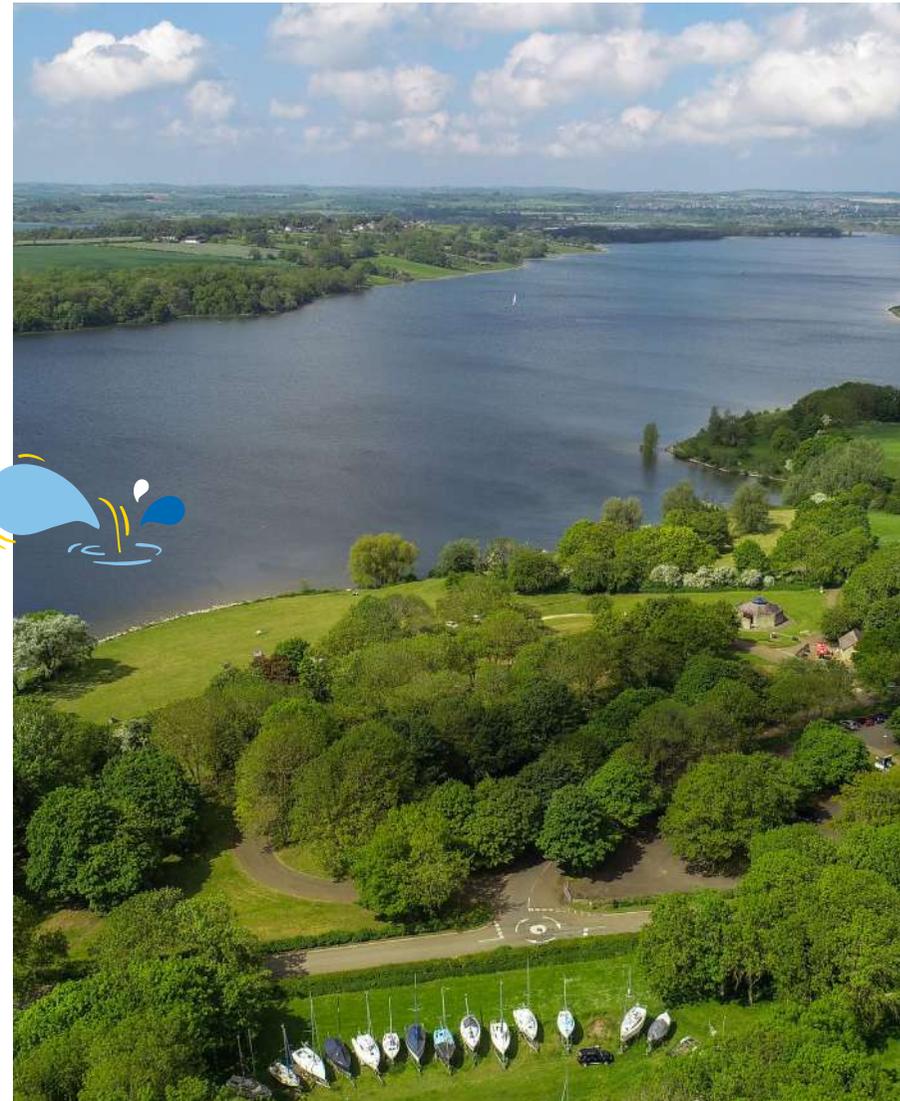
We have used the findings from our environmental assessment process to inform our WRMP, recognising that all of the assessed options are at a conceptual stage of planning and design.

This means that we have plenty of opportunity to consider the negative effects identified, and put mitigation in place to ensure our activities have minimal impact on the environment.

This design and environmental investigation work will progress as we start developing the options in earnest, a process that will take several years, allowing us multiple opportunities to prioritise the natural and historic environment, as well as communities within the projects.

All of the options, and actions, we need to undertake to ensure a resilient water supply to our customers will comply with the relevant environmental legislation and policy at the time. For instance, we will need to ensure we directly contribute to biodiversity net gain.

We will now discuss the findings of our environmental assessments, and how we used them.



Best value plan: Strategic Environmental Assessment findings

We have balanced the benefits of reducing abstraction to improve the environment and adapting to climate change, against the negative effects of developing alternative supplies. More can be read about this in Section 6 of the revised draft WRMP24 Environmental Report.



			Biodiversity				Population and human health				Water					Soil	Air	Climatic factors	Historic Environment	Landscape	Material Assets	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Plan B findings (Best Value Plan)	Construction	Pos +																				
		Neg -	Major negative	Major negative		Minor negative	Minor negative			Minor negative	Minor negative	Minor negative	Minor negative	Minor negative								
	Operation	Pos +	Moderate positive	Moderate positive		Moderate positive	Moderate positive	Moderate positive	Moderate positive		Major positive	Major positive	Major positive	Major positive	Minor positive			Major positive		Moderate positive		
		Neg -	Major negative	Major negative	Minor negative	Minor negative						Minor negative	Minor negative	Minor negative			Minor negative	Major negative				

Construction

The Strategic Environmental Assessment of our best value plan highlighted the potential for significant negative effects across three Strategic Environmental Assessment Objectives under the topic of Biodiversity and Climatic Factors. This does not come as a surprise as due to the challenges we are facing in our region, a significant programme of supply-side infrastructure is required to resolve the deficit we face. In addition, due to the environment in our region (as described on page 9) being diverse and rich with protected sites, we could not devise a plan that did not pose any risk to the environment during construction.

Environmental and social effects from construction will occur for a shorter period of time than operational effects.

Operation

Our best value plan performs positively across over half of the Strategic Environmental Assessment Objectives, covering the following Strategic Environmental Assessment Topics: Biodiversity, Population and Human Health, Water, Climatic Factors and Landscape. In the majority of cases potential major long-term benefits were identified.

As presented in the table above, potential significant negative effects have also been identified for operation across the same Strategic Environmental Assessment Objectives as those identified for construction. This is mainly driven by the desalination options which are required later in the plan period.

We recognise that options such as desalination and water reuse require significant development time. Our adaptive planning programme has been running in parallel to the WRMP process, allowing us to develop our understanding of these options and their potential risks, through environmental monitoring, detailed investigations and modelling.

Our reservoir options also take significant development time, these are being progressed through a parallel process as Strategic Resource Options overseen by the Regulatory Alliance for Progressing Infrastructure Development (RAPID).

Alternative plans: Strategic Environmental Assessment findings

			Biodiversity				Population and human health				Water					Soil	Air	Climatic factors		Historic Environment	Landscape	Material Assets		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Overall Plan A	Construction	Pos +					Minor positive																	
		Neg -	Moderate negative	Major negative		Minor negative	Minor negative				Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative							
	Operation	Pos +	Major positive	Minor positive		Major positive	Minor positive	Major positive	Major positive	Minor positive		Major positive	Major positive	Major positive	Major positive	Minor positive			Major positive			Minor positive		
		Neg -	Moderate negative	Moderate negative	Minor negative	Minor negative							Minor negative	Minor negative	Minor negative			Minor negative	Minor negative					
Overall Plan B	Construction	Pos +					Minor positive																	
		Neg -	Moderate negative	Major negative		Minor negative	Minor negative				Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative							
	Operation	Pos +	Major positive	Minor positive		Major positive	Minor positive	Major positive	Major positive	Minor positive		Major positive	Major positive	Major positive	Major positive	Minor positive			Major positive			Minor positive		
		Neg -	Moderate negative	Moderate negative	Minor negative	Minor negative							Minor negative	Minor negative	Minor negative			Minor negative	Minor negative					
Overall Plan C	Construction	Pos +					Minor positive																	
		Neg -	Moderate negative	Major negative		Minor negative	Minor negative				Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative							
	Operation	Pos +	Major positive	Minor positive		Major positive	Minor positive	Major positive	Major positive	Minor positive		Major positive	Major positive	Major positive	Major positive	Minor positive			Major positive			Minor positive		
		Neg -	Moderate negative	Moderate negative	Minor negative	Minor negative							Minor negative	Minor negative	Minor negative			Minor negative	Minor negative					
Overall Plan D	Construction	Pos +					Minor positive																	
		Neg -	Moderate negative	Major negative		Minor negative	Minor negative				Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative	Minor negative							
	Operation	Pos +	Major positive	Minor positive		Major positive	Minor positive	Major positive	Major positive	Minor positive		Major positive	Major positive	Major positive	Major positive	Minor positive			Major positive			Minor positive		
		Neg -	Moderate negative	Moderate negative	Minor negative	Minor negative							Minor negative	Minor negative	Minor negative			Minor negative	Major negative				Minor negative	Minor negative

The table above summarises the Strategic Environmental Assessment findings for all four plans, this overview highlights the similarities between the plans however, in some cases there are different drivers for the effects presented:

Plan A compared to Plan B:

The overall significant positive operational effects for both plans are driven by the benefits to the water environment from the environmental destination scenario (BAU+) and licence capping. However, there are differences in the timing and delivery of these; Plan A delivers BAU+ earlier and Plan B delivers licence capping earlier. Over the entire planning period these positive effects are similar.

Plan C compared to Plan B:

The two plans are based on the same policy decisions and thus they have the same scenario for supply and demand. The main difference between Plan C and Plan B is that Plan C selects Caister desalination and Plan B selects Bacton desalination. As they are both desalination options, at a strategic plan-level, the effects are similar however, there are localised environmental effects that differ between the two locations.

Plan D compared to Plan B:

Plan D is the plan that performs most differently to Plan B. This is due to a more ambitious environmental destination (Enhance) being selected in Plan D. Enhance drives a substantial increase in the scale of new supply-side options required across the planning period (2025-2050). Therefore, there are additional potential moderate effects for construction under the Strategic Environmental Assessment Topics of Water and Material Assets.

More can be read about this in Section 7 of the revised draft WRMP24 Environmental Report.



Cumulative impact assessment findings

Earlier in the non-technical summary, we explained what cumulative effects are. We will now discuss what the assessments highlighted to us.

Within the WRMP24 we have highlighted the different projects that could interact with the best value plan and reasonable alternatives (Plans A, C and D). This assessment was split into two stages:

1. Strategic cumulative assessment: this highlighted interactions with other water company draft WRMPs, our Drought Plan and Drainage and Wastewater Management Plan.
2. Plan based cumulative assessments: this highlighted any plans and strategic projects that could interact with receptors affected by one or more options included in our revised draft WRMP24.

Step 1 – Findings:

A combination of beneficial, adverse and neutral cumulative effects were identified, some examples include:

- Potential beneficial cumulative effects were identified with our Drought Plan 2022 and Drainage and Wastewater Management Plan for the Strategic Environmental Assessment Objectives for Water, Biodiversity, Population and Human Health.
- Potential adverse cumulative effects with neighbouring water companies' draft WRMP24s and Drought Plans were identified for the Water, Biodiversity, Population and Human Health Strategic Environmental Assessment Objectives.

Step 2 – Findings:

A combination of beneficial, adverse and neutral cumulative effects were identified, some examples include:

- A potential beneficial effect was identified for a Population and Human Health Strategic Environmental Assessment Objective, due to the increased resilience of water supply.
- A potential adverse effect was identified for a Material Assets Strategic Environmental Assessment Objective, as due to the interaction of our WRMP and other plans there is the potential to impact the transport network.

Please visit [Section 8 of the revised draft WRMP24 Environmental Report](#) for further information on cumulative effects.

Summary of the plan

Through assessing our best value plan as a whole, it has highlighted that although there are several potential negative effects, it allows a wide range of potential positive effects to be realised. This is mainly driven by a significant programme of supply-side options allowing us to reduce our abstractions within environmentally sensitive areas.

Overall, our plan:

- Provides improvement to **biodiversity** in our region
- Increases the **resilience** of water supplies to drought and climate change
- Increases **availability** of water in our region
- Allows our **customers** to understand and reduce their water usage

It should be noted that nothing within the revised draft WRMP24 environmental assessment process, or its adoption, provides any form of consent or licensing that would enable the construction and operation of an individual supply-side option. Once a supply-side option is being progressed at a project level, it will be required to undergo detailed design, engagement with key stakeholders, compliance with environmental laws and policies and gain any required consents/licences before they could be built and operated.



How do we use this information



Through completing our Environmental Assessment Process, it provides us with a wealth of knowledge to help with our decision-making process for the different options. In addition to this, the outputs can help us enhance our chosen options design and provides information to create environmental metrics which help us in our modelling and planning.

Enhance design and mitigation

Through gathering the outputs of the assessments, we have been able to identify where enhancement could be included within the design. A good example of this can be seen in the reservoir option where examples of potential enhancements include:

- Improvement of public rights of way
- Providing education and information centres
- Creating habitats

In addition to enhancing design, we have also looked at mitigating negative effects at an early stage.

Mitigation has been looked at within the design of the option and the construction methods used.

Discussions with statutory environmental bodies

Throughout the environmental assessment process, it has provided information to allow discussion with the Environment Agency, Natural England and Historic England. These discussions have let us gather local knowledge on the outputs of the assessment, allowing us to understand more about the combination of options.

Our environmental assessments have also been aligned with the Water Resources East Regional Plan. This plan brings together all the water abstractors in the region and identifies a long-term abstraction management strategy to enhance the most vulnerable habitats.

Next steps

We will continue to use the findings from the environmental assessments to inform the design and development of supply-side options.

Our discussions with regulators and stakeholders will continue to progress investigatory work for our supply-side options.



Monitoring



Monitoring helps us to ensure that the Strategic Environmental Assessment objectives are being achieved and allows us to have early identification of any negative effects. It also helps us make sure that the WRMP is working successfully.

The WRMP24 will continuously have its identified negative effects or areas of uncertainty monitored. Here are some examples of monitoring proposals for WRMP24 (to see all our monitoring proposals, please visit Section 10 of the WRMP24 Environmental Report).

Strategic environmental assessment objective	Proposed indicators	Proposed timescale
To reduce and minimise air emissions during construction and operation	Local air quality monitoring	During and post-construction
To meet WFD objectives relating to biodiversity	Area (ha) and number of statutory and non-statutory ecological sites that will be harmed, lost or created to WRMP options SSSI monitoring	During construction
To reduce or manage flood risk, taking climate change into account	% projects with flood risk mitigated	During construction

Our purpose  is to bring environmental and social prosperity to the region we serve through our commitment to **love every drop.**

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