Securing a resilient future for water in the South East

A consultation on our revised draft Water Resources Management Plan

September 11 to December 4, 2024

Contents

Introduction

Welcome to our consultation on our revised plan for how we will continue to provide high-quality, reliable water supplies, protect the environment and sustain our growing economy for our 2.6 million customers.

We all appreciate the essential nature of water for our health and wellbeing and its role in everything we do day-to-day. For this reason, a reliable supply of clean, wholesome water is our customers' number one priority and ours.

The South East is officially designated 'water stressed' by the Environment Agency, which means a high proportion of rain in our region is needed for public supplies and we are more likely to experience drought restrictions in dry weather.

Our challenge is to leave more water in the environment to protect some of our most sensitive habitats, while at the same time securing supplies for one of the fastest growing populations in the UK and preparing for the increased risk of drought due to climate change.

Significant action is needed now to invest in and create new robust, resilient and less weather-dependent water supplies, as well as finding new ways to use the supplies we have more wisely.

We will be harnessing the benefits of new technology, such as smart meters for our customers, which will help them and us better understand their water use and help find more leaks, so together we can reduce consumption. We are committed to reaching Government targets on reducing water use five years ahead of the national deadline.

We also need to invest significantly in large-scale infrastructure such as new reservoirs and transfer pipelines so we can capture and transfer more of the precious rain which falls in our region.

In addition, we plan to use cutting-edge technology to generate new sources of drinking water – using treated wastewater for reliable drinking water supplies (water recycling) and converting seawater into drinking water (desalination). Transfers of water from other new developments in the South East have a vital role to play and we are working closely with other regional water companies on our long-term plans.

We have a once in a generation opportunity to develop these more resilient water supplies for us and future generations. Currently around 70% of the water we supply comes from groundwater sources, with 23% from rivers and 7% from reservoirs. By 2050 water recycling and desalination could make up more than a third of our supplies, with transfers from neighbouring water companies making up nearly another third.

The development of these more resilient options means from 2040, we will no longer need to rely on applying for permits and orders to abstract more water in droughts, at a time when rivers and groundwater are already under pressure, unless faced with extreme dry conditions.

Since our last consultation in 2022-23 we have progressed our investigations into these projects and reviewed our draft plan alongside those of other companies in the South East. We have also listened to our customers' feedback and considered updated guidance from our regulators, as well as new forecasts for population growth and climate change.

This has resulted in the removal of schemes which are no longer practical and longer timelines to deliver others. The new timelines, particularly to deliver water recycling in Hampshire by 2034, mean we need to strengthen our approach to resilience and introduce short-term mitigation measures.

Due to these substantial changes, we have taken a little longer to update our plan and we are now reconsulting on this revised draft. We look forward to hearing your feedback as we take these vital next steps.

Lawrence Gosden
Chief Executive Officer

1. Our plan at a glance

Our revised draft Water Resources Management Plan (WRMP) looks at our future water needs from 2025 to 2075.

At present we supply 565 million litres of drinking water per day to our customers across Kent, Sussex, Hampshire and the Isle of Wight.

By 2075, we will need to find up to 587 million litres of additional water per day to meet an increase in demand and respond to a reduction in the supplies available. This will allow us to continue providing a reliable water supply to homes and businesses, while also protecting our environment and adapting to a changing climate.

Our plan focuses on significantly reducing demand alongside delivering new, large-scale sustainable sources of water. We are also making our supplies more resilient, so we will be less likely to introduce emergency restrictions on water use in the future.

It is shaped by a best-value regional plan jointly developed with our five neighbouring water companies as part of Water Resources South East (WRSE). The other companies are Affinity Water, Portsmouth Water, SES Water, South East Water and Thames Water.

Our revised plan includes:

Reducing leakage by 53% by 2050
by embracing new technology and replacing old water mains.

Reducing average daily water use to 110 litres per person by 2045
(under dry year conditions and five years ahead of the Government target) through a combination of our own initiatives e.g. installation of smart meters, and savings from Government interventions e.g. water efficient labelling on goods and updating building regulations to drive more water efficient new builds.

A 9% reduction in non-household water use by 2038

Water recycling
– four schemes by 2035 to recycle highly-cleaned wastewater to support flows in rivers and refill reservoirs to boost supplies by up to 127 million litres per day, particularly in dry weather. Three more recycling schemes are included for later years.

We would like to hear your views to help us develop our final plan.
See page 42 to find out how to have your say.

Groundwater
Improving existing groundwater sources and developing new ones

Desalination
– four schemes after 2035 to provide drinking water from sea water in Sussex and Kent.

New reservoir
Building a new reservoir in Sussex

Storing water underground
from the River Test in Hampshire when flows are high to be used when flows in the river are lower.

More pipelines
to transfer water from new sources of water e.g. reservoirs, developed by neighbouring water companies including Portsmouth Water, Thames Water, South East Water and SES Water and more pipelines to transfer water around our own region.

Partnerships
with land users and environmental groups to improve the water sources we rely on, so they are resilient for the future.

Short-term resilience measures
to protect Hampshire's sensitive rivers during droughts until we complete our programme of new infrastructure development in 2034, the scale of which has not been seen since Victorian times.

Ending the use of drought permits and drought orders
to increase supply, in all but the most extreme droughts, after 2041, with some stopping earlier. For example, we will not use the Lower Itchen Drought Permit/Order after 2029-30.

2. How we have updated our draft plan

We have made significant updates to our draft plan since we published it for consultation in 2022-23.

Many of these are outlined in our Statement of Response, which we published in August 2023. We would now like to hear your views on our plan again so we can finalise it and prepare for its delivery from 2025.

The updates are largely due to:

- updates to the Water Resources Planning Guideline from the Environment Agency
- Environmental Improvement Plan (EIP) targets set by the Government
- our further development of the timescales and understanding of the delivery risks associated with the large new schemes we need to build
- review of the feedback we received during the consultation on our draft plan.

Below is a quick overview of the key changes.

We have:

Updated our growth forecast so we have a better idea of the population we will need to serve in the future and the properties we will need to connect to our supply system.

Updated the forecast for how much water we will need to supply by 2050 to replace the water we will no longer take from rivers and groundwater to protect and enhance the environment – particularly in droughts.

Increased the volume of water we will save by tackling leaks and promoting savings in homes and businesses. This now includes savings from Government actions such as updating the building regulations and water efficiency labelling for goods.

Extended our grid of pipes connecting Pulborough, Worthing and Brighton.

Removed desalination on the Sussex coast because there is no suitable location to build a desalination plant. The site we originally identified is no longer available.

Revised the earliest delivery dates for several of our larger water resource options after further investigation. Key changes are:

- Havant Thicket Reservoir from 2029 to 2031
- Hampshire Water Transfer and Water Recycling Project from 2030 to 2034
- Littlehampton Water Recycling Scheme from 2027 to 2030
- Sandown Water Recycling Scheme from 2027 to 2030
- Weir Wood Water Treatment Works three-phase upgrade (starting from 2025 to 2029).

Removed a recycling scheme from our wastewater treatment works near Woolston in Hampshire due to concerns of the environmental impact on the River Itchen.

Taken steps to reduce our reliance on drought measures in Hampshire and Sussex after 2030. This includes:

- Prioritising water-stressed areas in Hampshire and Sussex to install smart meters to help people reduce their consumption.
- Bringing forward a groundwater supply scheme in Romsey and introducing a new groundwater scheme in Kings Sombourne, in Hampshire, to reduce reliance on the water we take from the River Test and provide more than seven million litres each day in Hampshire from 2031.
- Bringing forward a groundwater scheme in Petworth, in West Sussex, to reduce reliance on the River Rother, which will provide four million litres of additional water each day from 2031.
- Agreeing more imports of water from South East Water and SES Water into Sussex.
- Including an option to import up to 45 million litres of water per day from Norway via sea tankers to maintain resilient supplies between 2031 and 2034 to reduce the water needed from the River Test drought options. (We will continue to explore alternative options to mitigate this temporary need.).

Read this summary plan or our full technical plan to find out more about these updates and how they fit into our overall plan.

3. What is a Water Resources Management Plan?

We supply reliable, high-quality drinking water to more than one million homes and businesses in Sussex, Kent, Hampshire and the Isle of Wight.

By law, we must plan to make sure there is always enough water available and we do this through our long-term WRMPs.

We work out how much water we will need in the future, considering:

- the growth in population over time
- climate change impacts on supply and demand
- the need to reduce the amount of water we take from rivers and groundwater to protect and enhance the environment and help it adapt to climate change.

Where we project a future shortfall in water, we identify options to secure supplies. This includes reducing demand as well as increasing supply.

We also work to improve the quality and health of the sources we take water from and if they can no longer be used for supply, we identify alternative sources. This helps protect and improve the environment, so we have sustainable water supplies in the future.

This document is a summary of our revised draft WRMP for 2025-75. You can access the full documents on our **website**.

Our draft WRMP also fed into our 25-year Long-Term Delivery Strategy for our wider business and the first five years formed part of our draft 2025-30 Business Plan which outlines our investment and level of customer bills for the next five years.

Part of regional and national planning

For the first time, our plan is informed by a regional plan developed collaboratively through Water Resources South East (WRSE) to meet the water needs of the South East region as a whole.

Together we have planned to increase the region's resilience to droughts, support growth and improve the environment through a forward-looking programme of investment.

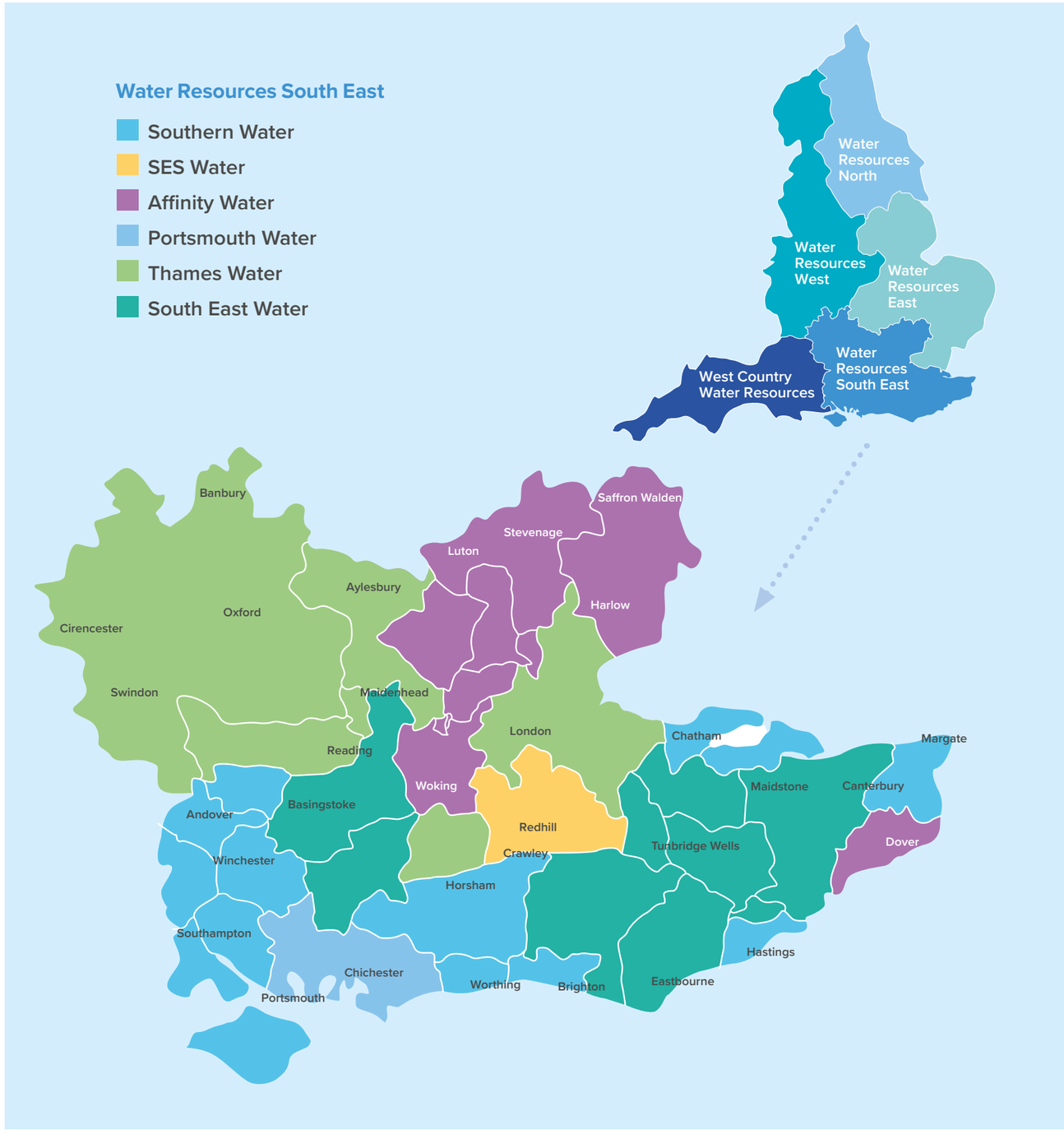
The regional plan has identified the options which will best meet the needs of the wider South East region rather than the customers of a particular water company and will deliver the most overall benefit to people and the environment.

This can result in different options being selected than if companies worked in isolation, with more sharing of resources between the companies through transfers and better aligned targets to reduce demand for water.

The regional plan considered more than 1,400 options, selecting those offering best value. This means the selection takes into account the wider benefits the options will deliver, as well as their cost.

The WRSE regional plan is one of five regional plans which set out the water needs for England as a whole, all based on the National Framework for Water Resources published by the Environment Agency in 2020.

WRSE also consulted on its draft regional plan in 2022 and published a revised draft regional plan in 2023. We have considered the feedback on the draft regional plan in this revised draft WRMP. WRSE will publish a final regional plan when all the member companies have finalised and published their individual WRMPs.



Strategic Resource Options

In our last WRMP, for 2020-2070, we put forward several large schemes to secure the significant volumes of water we need to increase our resilience to drought, protect the environment and cater for growth and climate change.

Some of these schemes are classed as Strategic Resource Options (SROs) and are passing through a special process led by RAPID – the Regulators' Alliance for Progressing Infrastructure Development - to accelerate larger-scale resource options.

We are working closely with RAPID on two of the schemes in this revised plan:

1. The Hampshire Water Transfer and Water Recycling Project, which will provide up to 90 million litres per day from 2034
2. The Thames to Southern Transfer Project, which will provide up to 120 million litres per day from 2040.

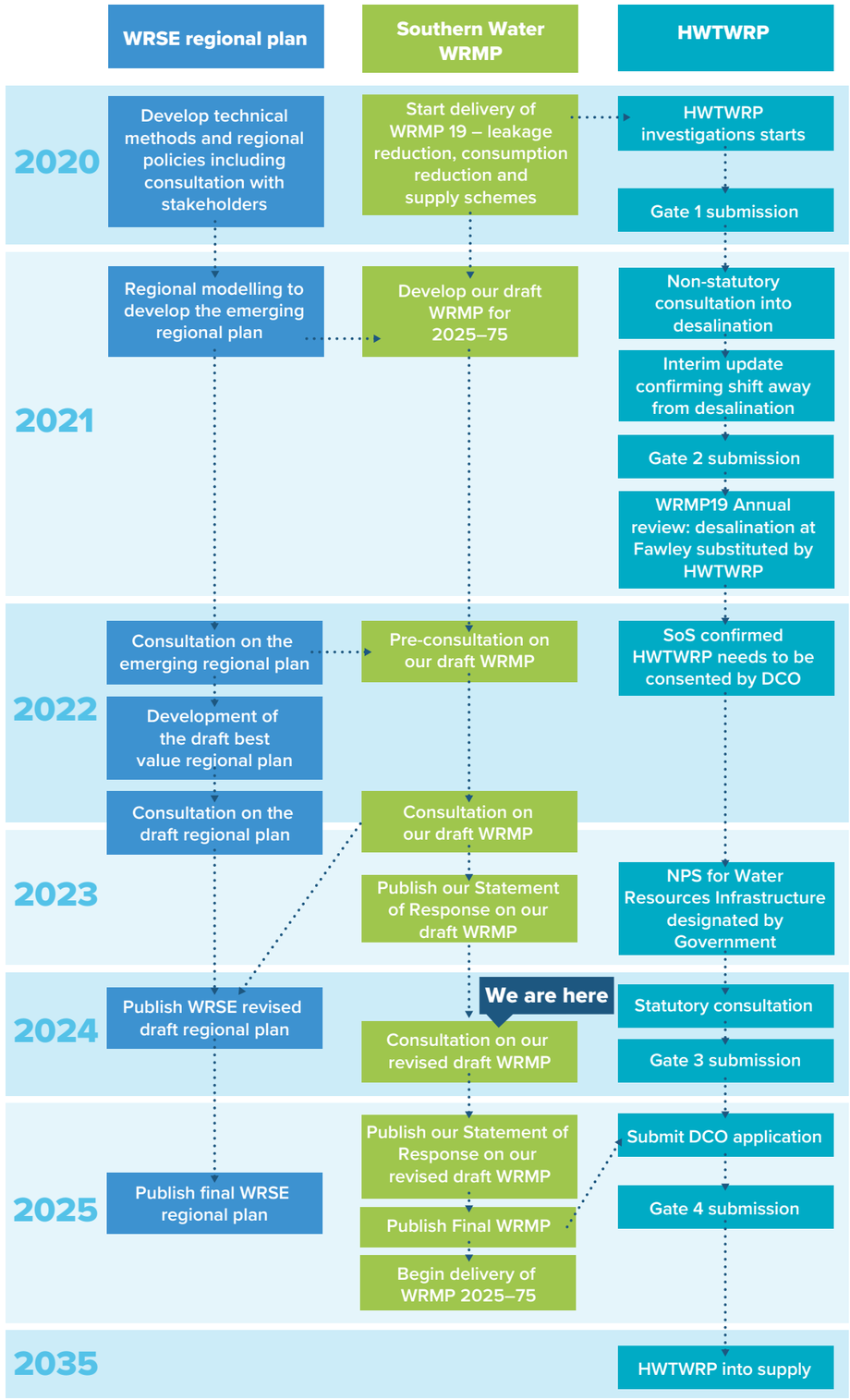
Both schemes would provide additional supplies into Hampshire, where we need to make significant reductions to the water we currently take from sensitive chalk rivers, the Itchen and Test, particularly during droughts.

Read more about these schemes in our Hampshire strategy on page 32.

Two further recycling schemes may also progress through a process with RAPID:

1. Recycling from our Littlehampton wastewater treatment works in Sussex
2. Recycling on the River Medway from our Aylesford wastewater treatment works in Kent.

The diagram opposite shows how our strands of water resource planning fit together:

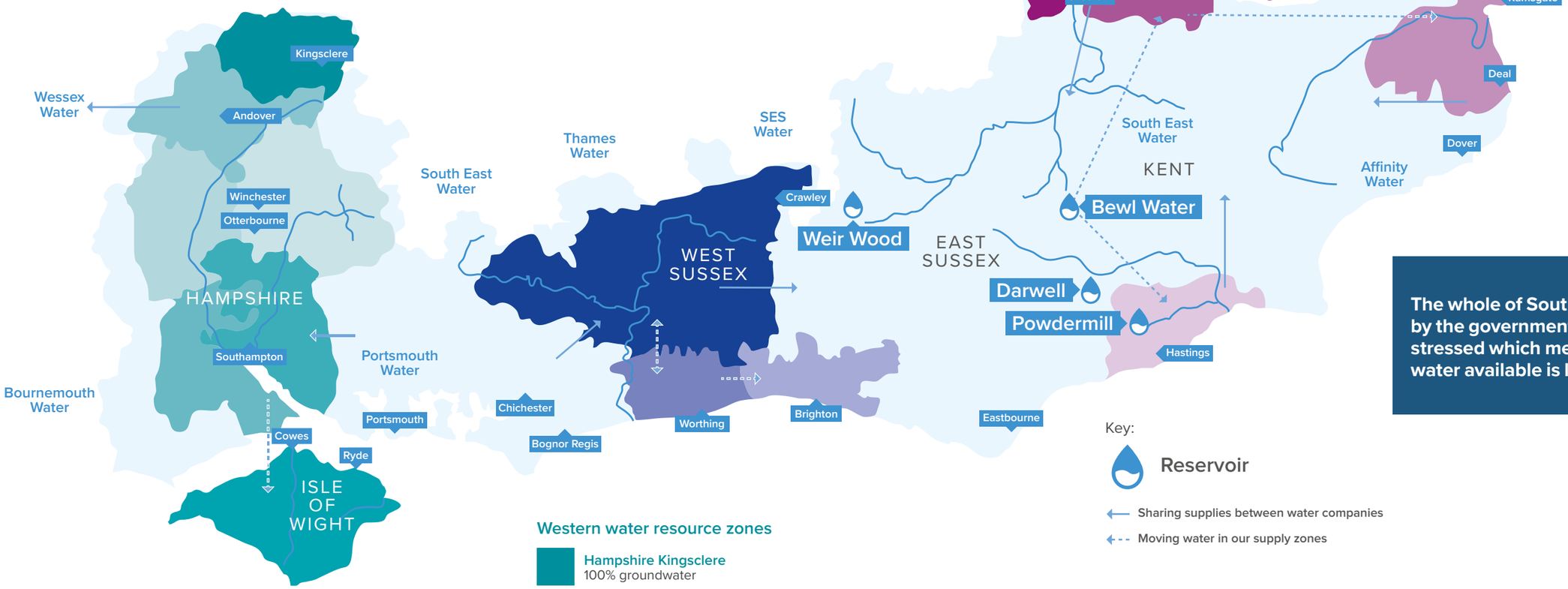


Where your water comes from today

We supply water to parts of Kent, Sussex, Hampshire and the Isle of Wight.

Where the water comes from, how it is supplied and how much is used varies across each county. We divide our supply area into 14 'water resource zones' which are shown on the map.

About 70% of the water we supply comes from groundwater. These water supplies are stored underground in rocks and soils called aquifers and we pump them up to the surface. The rest come from rivers and streams, some of which are supported by chalk-fed groundwater. In some areas, reservoirs store water that is typically pumped from nearby rivers when flows are high. Our natural water resources are split into catchment areas – we take water from eight catchments across the South East.



Central Area

Brighton, Worthing and surrounding areas rely predominately on the groundwater sources beneath the South Downs. Sussex North is supplied from a mix of water sources including the River Arun and the Western Rother, Weir Wood reservoir near East Grinstead and a transfer from Portsmouth Water. There are pipelines that allow water to be moved between our Sussex North and Worthing water resource zones in both directions, and from Worthing to Brighton.

84% of homes are metered

Average water use:
130 litres per person per day

Central water resource zones

- **Sussex North**
  35% groundwater, 51% river, 8% reservoir, 6% transfers
- **Sussex Worthing**
  98% groundwater, 2% transfers
- **Sussex Brighton**
  100% groundwater

The whole of South East England is classed by the government as being seriously water stressed which means that the amount of water available is limited.

Key:

- Reservoir
- Sharing supplies between water companies
- Moving water in our supply zones

Western Area

Much of the water supplied in the Western Area comes from underground sources. In South Hampshire, the River Test and River Itchen provide the majority of supplies while on the Isle of Wight around a quarter comes from the River Yar.

Water is transferred from South Hampshire to the Isle of Wight to supplement its water supplies. Water can also be transferred from Portsmouth Water's area to South Hampshire.

91% of homes are metered

Average water use:
124 litres per person per day

Western water resource zones

- **Hampshire Kingsclere**
  100% groundwater
- **Hampshire Andover**
  100% groundwater
- **Hampshire Rural**
  100% groundwater
- **Hampshire Winchester**
  100% groundwater
- **Hampshire Southampton East**
  52% river, 48% groundwater
- **Hampshire Southampton West**
  100% river
- **Isle of Wight**
  47% groundwater, 23% river, 30% transfers

Eastern Area

Our Kent supply areas take most of their water from groundwater. The rest comes from the River Medway, some of which is stored in Bewl Water reservoir before it is released back into the River Medway where it is abstracted. Hastings in East Sussex takes most of its water from Darwell reservoir which stores water from the River Rother and Powdermill reservoir which stores water from the River Brede. We can transfer water from Medway to Thanet and from Medway to Hastings.

86% of homes are metered

Average water use:
127 litres per person per day

Eastern water resource zones

- **Kent Medway East**
  100% groundwater
- **Kent Medway West**
  56% river and reservoir 44% groundwater
- **Kent Thanet**
  79% groundwater, 21% transfers
- **Sussex Hastings**
  5% groundwater, 79% reservoir, 16% transfers

4. What we have delivered since 2020

Since 2020, we have been progressing the schemes identified in our 2020-70 WRMP.

Tackle leaks and help customers use less water

We continue to tackle leaks from our own pipes and are helping our customers find leaks and water waste in their homes, as well as supporting them to use less water. The pandemic saw household use increase by more than 7% and made it more challenging to fit meters and carry out home water audits so we have more work to do. We have:

- installed 7,000 acoustic loggers to detect leaks and increased our detection work
- carried out a smart meter trial to understand the potential for increased water saving
- communicated directly with 3 million households on water saving via emails or door drops
- carried out nearly 17,000 home water audits and installed devices – shown to save 27.5 litres of water per property per day on average since 2015
- developed an education programme with the charity City to Sea and worked with local councils, schools and community groups to promote ways to use less water.

Develop new water sources and pipelines

This has included work to develop new sources of water and move water around more easily. We have:

- continued to create a major system of assets for Hampshire, progressing land purchase for a new recycling plant and groundworks for a 40km pipeline
- progressed the development of a new reservoir in Havant, working with Portsmouth Water. Once built, Portsmouth Water will be able to provide us with up to 21 million litres of water per day
- improved our network in north Sussex so we can move water around more easily and connect to SES Water to support supplies to some of our customers in Crawley
- worked with other large users, such as farmers, who take water from the Western Rother catchment in north Sussex to improve how we manage water supplies
- progressed plans to recommission two groundwater sources in north Sussex
- investigated sites for an underground reservoir in West Sussex to store water from the rivers Rother and Arun. Unfortunately, we could not progress work at these sites so the scheme has not been progressed
- changed one of our abstraction licences in Kent to give us more flexibility in how we use our groundwater sources
- progressed design work on new water supply schemes such as water recycling on the Isle of Wight, at Littlehampton and on the River Medway
- continued development of two major schemes which improve our water transfer network in Hampshire so we can move water around more easily
- started to plan a new pipeline to transfer water from South East Water to our Thanet area, which should be operational by 2025.

Protecting the environment in north Sussex

We have been working with the Environment Agency and Natural England to understand how our groundwater source near Pulborough affects nearby habitats. This is so we can agree how much water we should take from it in the future. While this continues, we are using as little as possible from the source. We're working with local councils so there is enough water for new homes in the area without it impacting on habitats and wildlife.

Water for Life – Hampshire

Our 2020-70 WRMP identified the need for a major new strategic resource in Hampshire - which we are delivering through our Water for Life – Hampshire programme.

Our work since 2020 included selecting the most appropriate option to progress. Initial options included a desalination plant on the Solent, the Hampshire Water Transfer and Water Recycling Project, an alternative recycling scheme or a transfer from the West Country.

The desalination plant and alternative recycling option were not supported due to their potential environmental impacts on the Solent and River Itchen. The option for a supply from the West Country was dropped as there was no longer surplus water to supply to us.

As a result, we have completed a major redesign of the plan for Hampshire. The proposed scheme involves constructing a new 40km pipeline from the new reservoir at Havant Thicket to our supply works near Winchester. Highly treated water from a new water recycling plant adjacent to our Budds Farm wastewater treatment works will be used to supplement supplies in the reservoir so we can supply up to 90 million litres per day to our customers in Hampshire, reducing our need to take water from the rivers Test and Itchen during dry periods.

As described on page 10, the Hampshire Water Transfer and Water Recycling Project is now progressing through the RAPID process. Read more on page 32 or visit our Water for Life Hampshire site.

Protect and improve the water sources we rely upon

We are reliant on water from the natural environment to supply our customers. Since 2020, we have strengthened our focus on delivering catchment and nature-based schemes. We have:

- been working with farmers, farm clusters and others in Hampshire, Kent and Sussex to address issues related to the discharge of nitrates from farming and other land management activities. This includes funding a series of farm trials and reduction measures to prevent future nitrate pollution
- continued monitoring on the River Itchen, River Test, Western Rother, River Arun and the River Medway to address the risk of pollution from pesticides. We have undertaken land mapping and modelling to help prevent future pesticide pollution
- been working with farmers in the River Beult catchment where sources are at high risk from pesticides, funding a position at Kent Wildlife Trust and facilitating a farming cluster, as well as working with the South East Rivers Trust to identify schemes to improve water quality and restore habitats on the River Beult
- continued monitoring the rivers Test and Itchen to understand how our abstraction impacts river flows and aquatic life. We have started a project on the River Anton (Upper Test) to improve this chalk stream in partnership with local interested groups
- progressed our work to protect and improve the Brighton Chalk Block with The Aquifer Partnership – working with farmers, allotment owners, golf courses and the equine sector
- been monitoring the Western Rother and River Arun to understand how our abstraction impacts river flows and aquatic life.

Manage our water supplies during droughts

In our 2020-70 WRMP, we included options to apply for drought orders and permits for some water sources. These allow us to continue abstracting water during prolonged dry weather.

In July 2022, in response to drought, we applied to the Environment Agency for a drought permit to continue taking water from the River Test, in Hampshire, while the river flows were reduced.

The dry weather in 2022 meant we also had to impose restrictions on our customers' water use for the first time since 2012, to protect the river and make sure there was enough water for essential supplies.

Drought orders, drought permits and temporary restrictions on customers' use remain an option in our plan in line with our Drought Plan. We have reviewed our management of the 2022 drought and the learnings are incorporated in this update.

By delivering large, ambitious schemes such as the Water for Life Hampshire programme our plan will be to stop the use of all supply-side drought permits and orders by 2040-41 at the latest, unless faced with a drought of more than a 1-in-500-year severity.

5. Our revised draft plan for 2025-2075

What we are planning for

Our revised draft WRMP for 2025-75, like our 2020-70 plan, is focused on securing and delivering resilient water supplies for the future. Our area is officially designated as being in serious water-stress by the Environment Agency and water is becoming increasingly scarce.

The future shortfall in water supplies is being driven by four main factors. Together this amounts to us needing to find an additional 516 million litres of water per day by 2050, increasing to 587 million litres per day by 2075.

The graphic below gives a guide to the breakdown of need across these four main factors. It shows a range for population growth and environmental improvements, as these will become more certain as time progresses.

1. Population growth

The population in the areas we supply is projected to grow between 7% and 34% from 2025-75.

Population growth estimates vary depending on the projections used. Our growth forecasts are based on a variety of projections including local authority housing plans and data produced by the Office of National Statistics. Levels of growth will also vary across our region.

This could result in the demand for water increasing by between 94 million and 219 million litres per day by 2075 as we need to supply more people, although this will depend on how water efficient we all become.

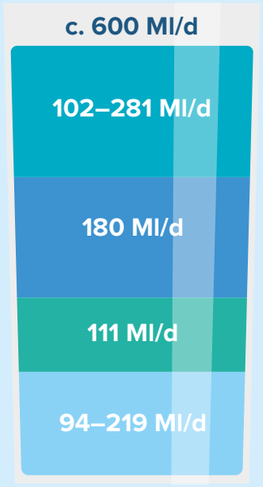
2. Climate change

Climate change is expected to reduce the amount of water we can supply from some of our existing water sources and increase demand as the weather becomes warmer and drier.

This means that during droughts, which are expected to become more frequent, there will not be as much water available from our existing sources.

We have considered a wide range of droughts, including those more severe than those we have experienced in the past. This helps us identify the water sources most likely to be affected so we can plan to replace the water we will lose because of climate change.

We have used the latest UK climate projections (UKCP18) produced by the Met Office to understand the impact of climate change on our existing sources. This shows that we could lose up to 111 million litres of water per day by 2075.



More water is needed to:

- **Improve the environment by leaving more water in rivers, streams and underground sources**
- **Make our water supplies more resilient to drought**
- **Counter the future impacts of climate change**
- **Supply a growing population**

3. Protecting the environment

By far the biggest challenge we face is finding ways to supply water in a sustainable way, so more water is left in the environment to help improve the health of our rivers and streams and help them adapt as the climate changes. To achieve this, we need to reduce how much water we abstract from some of our existing, more environmentally sensitive sources and replace those sources with new ones. We also need to save more water.

In Hampshire, we already need to find at least 166 million litres of water a day during droughts that's not from a river or from an aquifer and that figure is only set to rise with further environmental restrictions expected in the future.

Investigations are underway on most of our groundwater sources, focusing on those which support chalk streams, to see if we need to limit the water we abstract, and we are looking at sources where reductions and other catchment-focused activities could deliver long-term environmental benefits.

Over the first 10 years of our plan, we are prioritising catchments where we have already had changes and caps to our existing licences confirmed. At the same time, we will continue our investigations into our other sources, through our Water Industry National Improvement Programme (WINEP), in collaboration with interested parties and the Environment Agency.

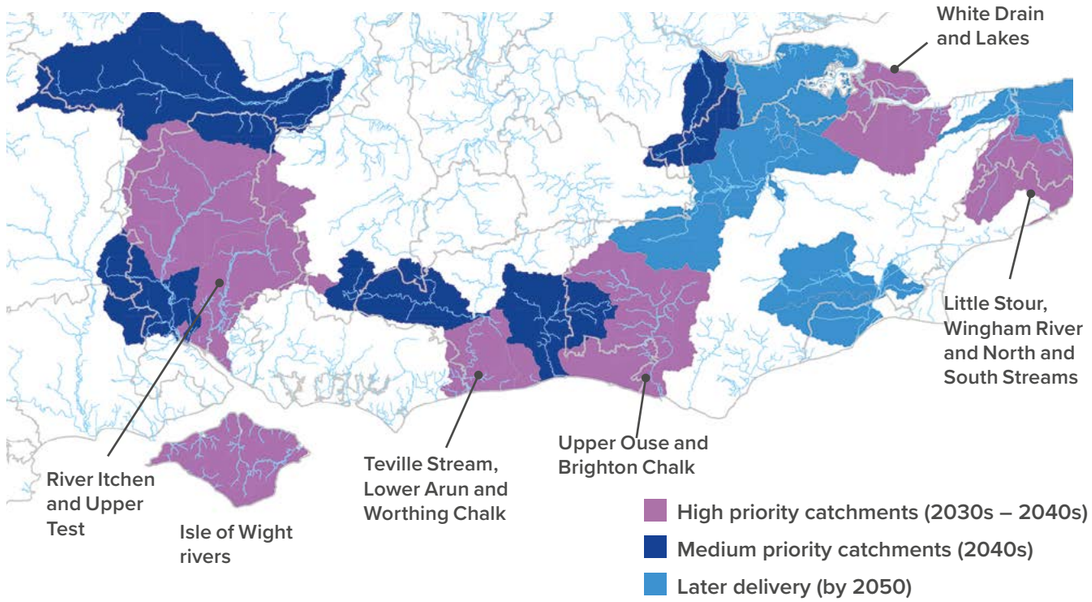
Longer term we will need to further reduce the water we take from our existing sources. This could range from between 102 million litres per day and 281 million litres of per day being left in the environment by 2050. In total, this could mean replacing roughly half of the water we supply with new sources between 2025 and 2050.

The scale, timing and locations of future reductions is still unclear. We have planned for a range of future scenarios so that we understand which options will be required in the future, depending on how much water we need to leave in our rivers and streams. Our ongoing investigations and work with the Environment Agency will determine where future reductions will be required.

The sources we are currently investigating include:

- the River Itchen
- the Upper River Test
- the Isle of Wight rivers
- the Teville Stream and Worthing chalk sources
- the Lower Arun sources
- the Upper Ouse and Brighton chalk sources
- the Little Stour and Wingham River
- White Drain and Lakes
- North and South Streams.

This map shows where and when we may need to reduce our abstraction in the future.



4. Increased resilience to droughts

We are also planning to increase our resilience to droughts so that we reduce the chance of having to implement emergency restrictions on water use and help protect the environment.

Droughts happen when there is prolonged, dry weather, which reduces river flows and water stored underground. According to the National Infrastructure Commission there is a 25% chance of a serious drought occurring by 2050.

The Government has set a new planning requirement for water companies to make their supplies more resilient so emergency restrictions, such as rota cuts or standpipes, would only be needed in a 1-in-500-year drought.

We already plan to this level of resilience. However, at present, we rely on drought orders and drought permits to allow us to continue abstracting water during drought conditions.

Our aim is to reduce our reliance on these measures and stop using them by 2041 at the latest. To do this, we will need to find more than 180 million litres of extra water per day during severe droughts. After 2041, we would only use them if we experienced a drought more severe than a 1-in-500-year event.

The table below sets out how often we plan for drought measures now and how this will change in the future as we bring new more sustainable sources of water into operation.

Our Drought Plan

This WRMP looks ahead to identify what is needed to secure water for the future and how often we plan to use drought measures. Our Drought Plan sets out what we will do if a drought occurs. It includes actions to make more water available and reduce demand by introducing restrictions on water use. You can read our Drought Plan here.

How often we plan for drought measures now and how this will change in the future

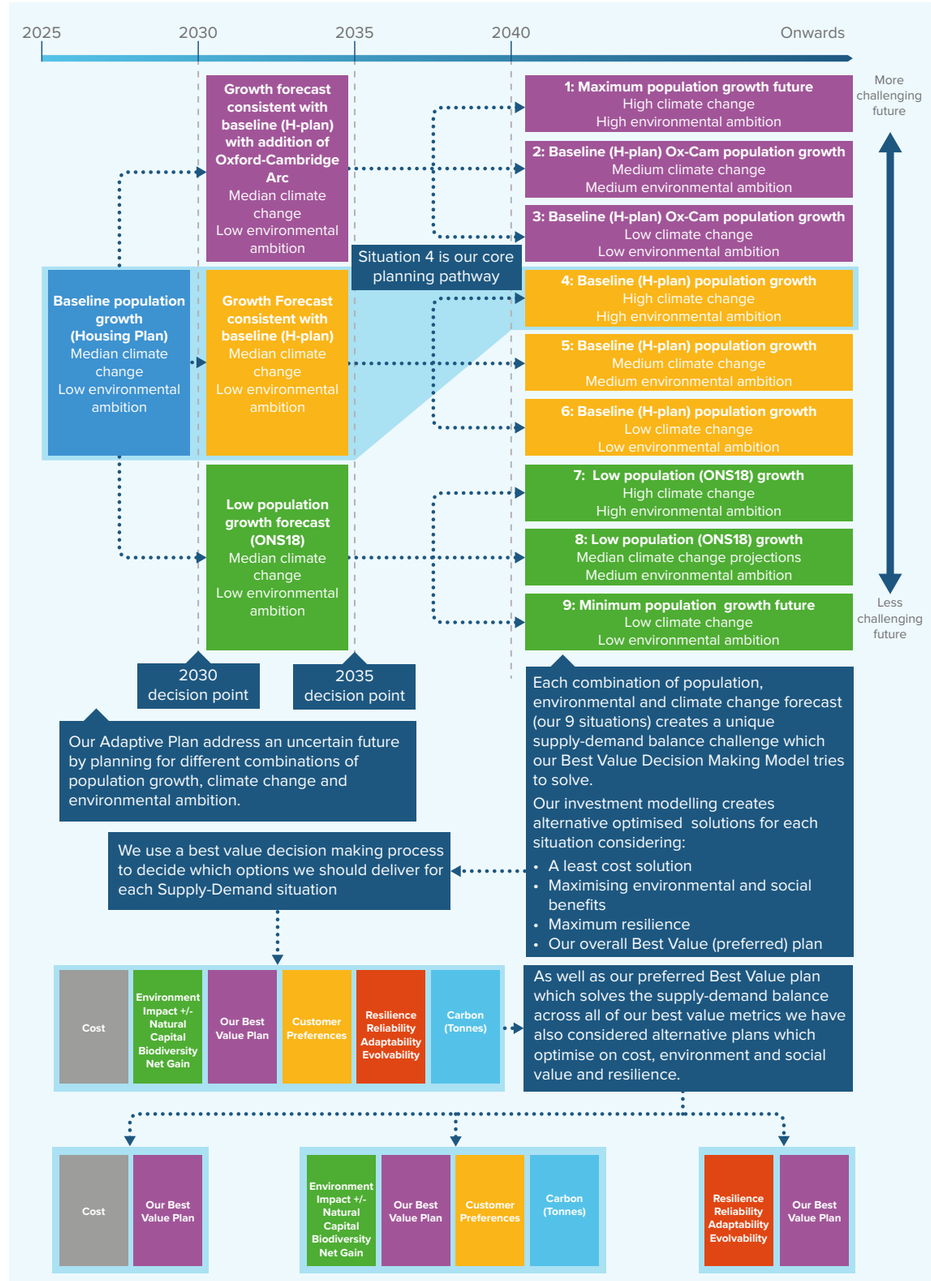
Area	Current Position	2025-2030	2030-2040	Beyond 2040
Western Hampshire and the Isle of Wight	0.5% annual chance (1:200 return period) of drought permits and orders	Less than 0.5% annual chance (1:200 return period) of drought permits and orders	Less than 0.5% annual chance (1:200 return period) of drought permits and orders	0.2% annual chance (1:500 return period) of drought permits and orders
Central West Sussex and Brighton and Hove	0.2% chance (1:500 return period) of drought permits and orders	Less than 1% annual chance (1:100 up to 1:170 return period) of drought permits and orders	Less than 0.5% annual chance (1:200 return period) of drought permits and orders	
Eastern East Sussex and Kent		Less than 0.5% annual chance (1:200 return period) of drought permits and orders	Less than 0.5% annual chance (1:200 return period) of drought permits and orders	

Adapting to an uncertain future

The amount of water we will need in the future depends on growth in population, climate change impacts and reductions needed in our abstractions to improve the environment.

All of these become more uncertain the further ahead we plan, so we have developed an 'adaptive' plan. This means we plan for multiple future scenarios based on a range of projections so we can adapt our plan as things become more certain. The actions we take in the early years will prepare us for all the future alternatives.

The diagram below shows how adaptive planning may work:



6. Our priorities and how you are shaping our plan

Our priorities

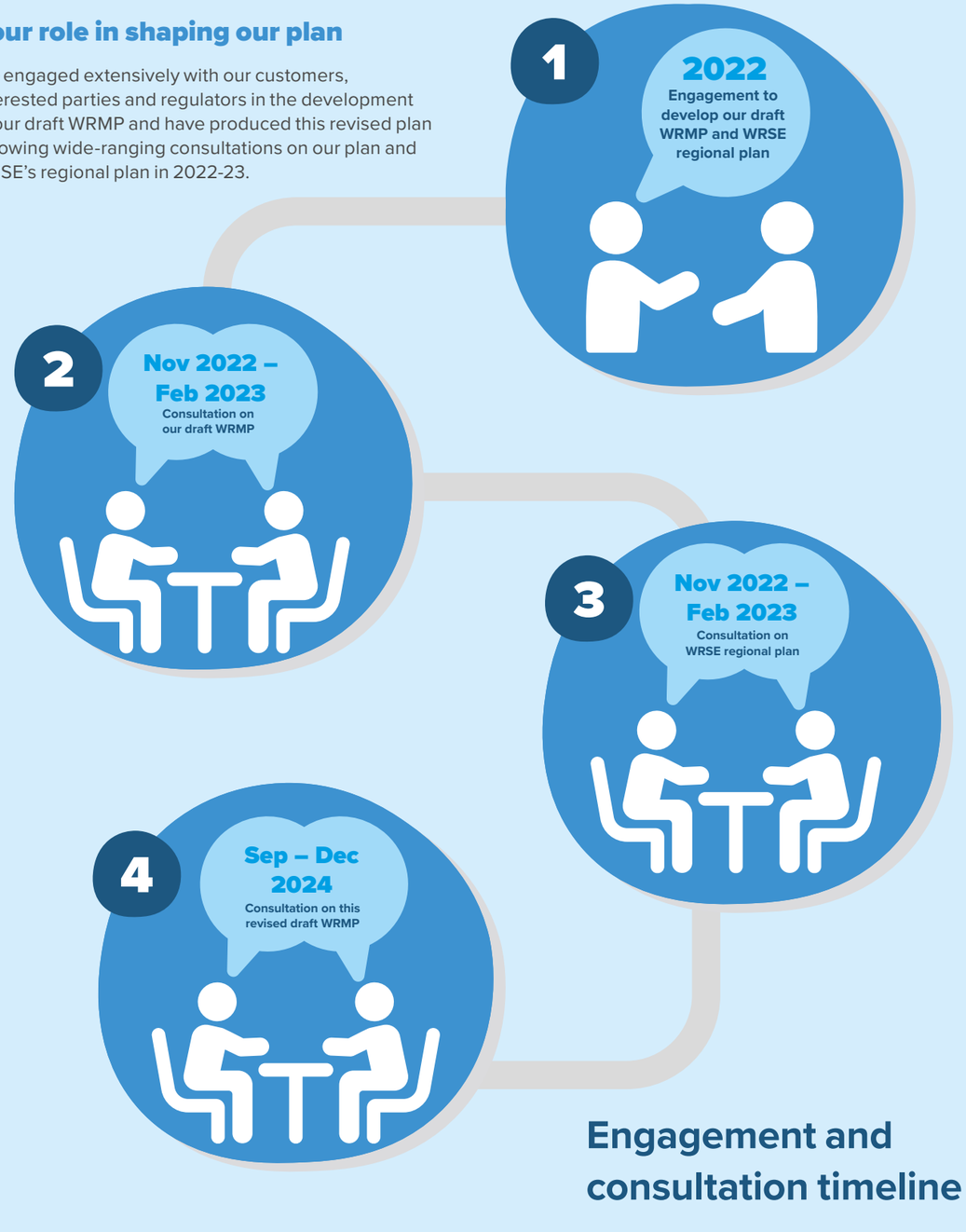
Our vision is to create a resilient water future for our customers through four key priorities as shown in the figure below. Our four priorities will allow us to achieve our ambitions for the good of our customers, communities and the environment.

Our priorities	Our WRMP will:
Ensuring a reliable supply of high-quality water for the future	• Make our supplies more resilient to severe drought • Reduce leakage • Provide extra water supplies to meet demands of climate change and population growth • Lower water use in homes and businesses
Protecting and improving the environment	• Reduce water use which will help lower operational carbon emissions • Include nature-based solutions
Understanding and supporting our customers and communities	• Support our customers and communities to use less water • Help customers understand their water use better
Enabling and empowering our people	• Use technology and innovation to enhance our performance • Collaborate with stakeholders and partners to take a nature first approach

The role of technology
A central part of our long-term strategy is to use technology to help us overcome our future challenges. We are becoming more digitally enabled, using technology from source to tap to make our service smarter, faster and more resilient.

Your role in shaping our plan

We engaged extensively with our customers, interested parties and regulators in the development of our draft WRMP and have produced this revised plan following wide-ranging consultations on our plan and WRSE's regional plan in 2022-23.



Engagement and consultation timeline

1. Pre-plan engagement

We engaged with more than 3,000 customers and interested parties as we developed our draft WRMP for consultation in 2022. At that time our customers told us they:

- support collaboration for regional long-term water resource planning
- understand the challenges of population growth and climate change
- expect us to protect the environment and welcome the focus on reducing abstraction, while also wanting more detail
- expect us to further reduce leakage and promote water efficiency before developing new supply schemes
- have concerns about relying on the success of water-saving options
- welcome the balance of different water supply options
- welcome aquifer storage and recovery as an innovative solution with a positive environmental impact
- feel water recycling is an important part of the long-term solution because it's sustainable, but with assurance needed on water quality
- view reservoirs positively due to environment, health and community benefits
- have concerns about desalination and water transfers from other regions
- support catchment management, while recognising it produces small volumes of water.

2. Consultation on our draft plan

After developing our draft WRMP based on this pre-consultation feedback we consulted on the plan between November 2022 and February 2023.

We promoted the consultation through media, social media, local authority publications, radio and TV, workshops, community visits, one-to-one meetings, direct email, engagement with employees and focus groups with a representative range of our customers.

We received nearly 600 responses from regulators, interested parties and members of the public. The main themes of the feedback we received included:

Strong support for demand management

Feedback: Most respondents expressed strong support for reducing leakage and water use. Others wanted us to be more ambitious or achieve targets earlier.

Response: We have adopted a more ambitious target for reducing water use by our household customers to 110 litres per person per day, under dry conditions, by 2045, five years ahead of the target set by the Government. We will reduce leakage by 53% by 2050.

Number of large water-supply projects

Feedback: Some respondents questioned the need for the number of large-scale projects such as water recycling, large transfers or desalination in our plan, rather than smaller, local schemes, such as Aquifer Storage and Recovery (storing water underground).

Response: The inclusion of large schemes in our plan is a necessity and reflects the volume of extra water we need to make sure we can maintain uninterrupted supplies of quality water in all but the most extreme droughts and protect our environment over the long term. They are needed in addition to smaller local schemes, and our Statement of Response (Annex 8) details our work to investigate the potential for Aquifer Storage and Recovery in our area.

Concerns about the Hampshire Water Transfer and Water Recycling Project

Feedback: Some respondents oppose our use of this scheme to fill Havant Thicket Reservoir, as they are worried about the impacts on the environment and water quality.

Response: We are carrying out extensive engagement with the local community on this scheme which has included customer research, tours of our water recycling demonstration facility and meetings with local groups and stakeholders. Because it is classified as a development of national significance, we need to make a Development Consent Order (DCO) application to the Government. We have recently carried out a consultation which is part of the formal DCO process, sharing much more information on the project and providing people with the opportunity to provide feedback. This will be considered as we finalise our plans, ahead of submitting our application to the Government.

You can read more detail on the feedback to our draft WRMP consultation in our Statement of Response.

3. Water Resources South East consultation

WRSE also consulted on the draft regional plan, which shaped our draft WRMP, from November 2022 to February 2023. It received more than 900 responses which were considered in the revision of the regional plan. There were four main areas of feedback:

- new water resource options
- leakage and water efficiency
- population/household and climate change forecasts
- reducing abstractions from the environment.

The main changes following this consultation are:

- a significant increase in demand reduction options in the plan (nearly 600 million litres per day) and a corresponding reduction in supply options
- higher targets to reduce demand in homes and businesses
- the introduction of more nature-based solutions.

A summary of the responses and feedback can be read here.

4. Revised plan consultation

The consultation on this revised draft plan is a further opportunity for our customers, regulators and other interested parties to provide feedback before we finalise our plan and submit it to Defra for approval. See page 42 for how to take part.

7. The options we have considered

We have considered a range of different options that could either lower the demand for water, protect our existing supplies or make more water available.

Reducing leaks

Reducing how much water is lost from leaks on our pipes and the pipes and plumbing in our customers' homes and business.

Pros: Lower levels of leakage will reduce how much water is wasted and will make our supplies more resilient. It could help to avoid the need to develop some new sources of water. It will also help reduce carbon emissions.

Cons: The more leakage is reduced, the harder and more expensive it becomes to find the remaining leaks. Some activities like replacing old water mains can cause disruption for local communities. Further reduction in leakage will be dependent on new technology being developed.

Reservoirs

We could build new reservoirs to store water from rivers when flows are high and from other sources, such as water recycling plants. We could also make our existing reservoirs bigger.

Pros: They can provide a resilient water supply, including during the summer. They can provide long-term benefits to communities and the economy such as new leisure and recreational facilities.

Cons: There are few suitable locations within our supply area. Reservoirs can take a long time to plan and build, and their construction could impact on local communities and the environment.

Helping customers use less water

Reducing demand for water by working with our customers to help them become more water efficient.

Pros: Lower levels of water use across society will help make our water supplies more resilient and could avoid the need to develop some new sources of water. It will also help reduce carbon emissions.

Cons: It is reliant on people taking action and maintaining a lower level of water use.

Water recycling

Treated wastewater would undergo further, enhanced treatment. The water would be either released into a river, to boost flows and enable us to abstract it again, or into an existing lake or reservoir. The water would be treated to drinking water standard before being supplied to customers. It is a technique used widely in other parts of the world such as California.

Pros: It can provide a resilient water supply, including during severe, prolonged droughts. Recycling plants can be made bigger if more water is needed in the future.

Cons: It is energy intensive, can involve constructing long pipelines which are disruptive to build and could impact on the environment. The approach taken will depend on which catchment the water is released back into.

Desalination

Seawater would be abstracted and treated to drinking water standard before being supplied to customers. Desalination is used in the Middle East and Africa. There is also a desalination plant in London.

Pros: It will provide a resilient water supply, including during severe, prolonged droughts. Desalination plants can be made bigger if more water is needed in the future.

Cons: It is energy intensive, expensive to run and could impact on the marine environment. The concentrated salt by-product must be safely disposed of.

Transfers from other water companies

Water could be moved into our area from other water company areas, following the development of a new water source or additional water being made available.

Pros: New strategic resources could be developed in one area that provide benefit to multiple companies, providing more resilient water supplies.

Cons: The construction of new pipelines can cause disruption to local communities.

Increasing underground water supplies

We could abstract water from rivers during the winter when flows are high and pump it underground to increase water supplies within the aquifer. Managed Aquifer Recharge (MAR) involves supplementing the natural water supply within the aquifer and Aquifer Storage and Recovery (ASR) involves developing additional underground storage.

Pros: It has low carbon and environmental impact and will provide additional water supplies during the summer.

Cons: There are limited locations where it can be used because it requires specific ground conditions. It can take a long time to test whether a scheme will be possible.

Groundwater source improvements

We could improve how we abstract water from our existing groundwater sources so more is available, without impacting on the environment.

Pros: Low carbon impact and little disruption to the local area.

Cons: The amount of additional water available will be limited.

Catchment management and nature-based solutions

We could collaborate with landowners, farmers and environmental groups to improve the quality of our water sources and make them more resilient to drought. This could make some additional water available and help adapt to climate change impacts whilst improving habitats for wildlife.

Pros: It will help improve the environment, reduce our need to treat water and deliver wider benefits such as increased biodiversity and reduced flood risk.

Cons: Limited additional water will be made available and the effectiveness of some of the techniques are uncertain and need further investigation.

Drought orders and permits

During periods of severe dry-weather, we can apply to either continue taking water or take more water from the environment to maintain supplies. These are usually accompanied by restrictions on customers' water use. We're committed to no longer using these after 2040–41.

Pros: They offer extra flexibility during droughts to maintain essential supplies. We would need to invest more to phase out their use before 2040–41.

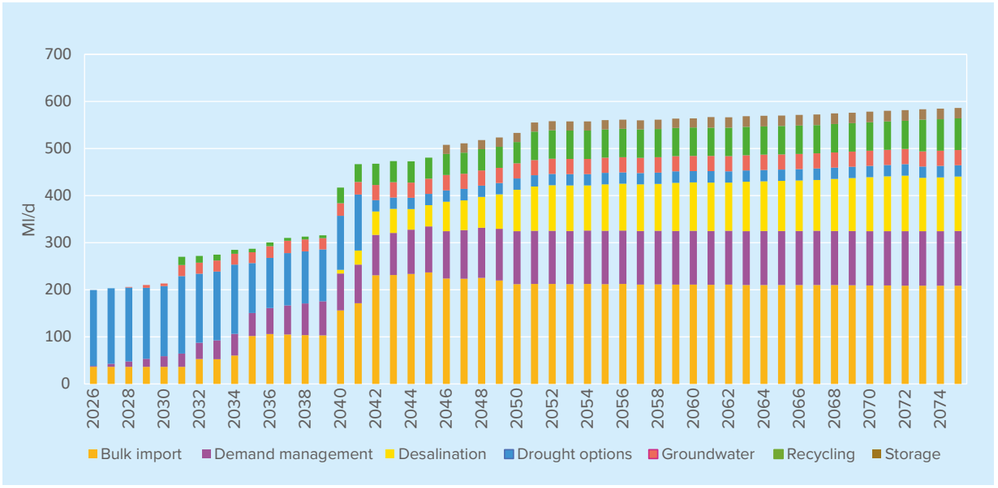
Cons: They risk damaging the environment at a time when water availability is already stressed. Restrictions on customers' use are unpopular and may cause disruption to our daily lives and economic activity.

8. Our revised strategy to deliver your water

Overview of our strategy

Our revised strategy to secure your water for the next 50 years includes a mix of options to reduce demand and increase supplies. This allows us to make the best use of the resources we already have while also making sure there are sustainable sources ready in time to meet increased need in the future.

The graph below shows the mix of solutions we could use:



Our mix of options is:

Between 2025–35:

- demand management measures including reducing leakage and installing smart meters, helping people and businesses to use less water
- applying for drought orders and permits to continue abstracting water during a drought while we develop new supplies. We will stop taking water from the lower River Itchen (Hampshire) in droughts after 2030 unless faced with a 1-in-500-year drought, from the River Rother (Sussex) after 2030 unless faced with a 1-in-200-year drought and from the River Test and Candover (Hampshire) in droughts after 2034 unless faced with a 1-in-200-year drought.
- groundwater schemes in Sussex and Hampshire to release more water
- water recycling schemes in Kent, Sussex, Hampshire and on the Isle of Wight and an industrial water recycling scheme in Kent
- imports of more water into Hampshire and Sussex from other water companies
- catchment management schemes to help improve the quality and resilience of our water sources.

After 2035:

- demand management to further reduce leakage and water use in homes and businesses
- a managed aquifer recharge scheme in Hampshire
- groundwater options to release more water on the Isle of Wight
- a large import of water from Thames Water from 2040 following the development of the South East Strategic Reservoir Option (SESRO) and the construction of a new pipeline from Oxfordshire to Hampshire
- a new reservoir in West Sussex
- desalination schemes in Sussex and Kent
- we will stop the use of all drought permits and orders to increase supply in all but the most extreme droughts (1-in-500-years) after 2041.

Our strategy in detail

1. Efficient use of water and minimal waste across society

Reducing leaks and changing how society values and uses water is critical to help improve the environment and make our water supplies more resilient, particularly as the climate changes and the population grows. WRSE's revised draft regional plan shows that, by 2050, ongoing demand management could provide more than half the extra water needed.

Saving water and reducing waste will secure up to 31% of the water we need by 2040, including the temporary restrictions on water that we would introduce if we have a drought. The proportion we secure through managing demand for water and reducing leakage falls after 2040 as we develop new sources and stop using drought orders and permits, except for when we are in extreme drought.

Reducing leakage

Reducing leakage is at the forefront of our activity to provide resilient and sustainable water resources. We are proposing to reduce leakage by 53% by 2050.

How we will do it:

- improve monitoring by installing more sensors in our network and bringing leakage data together in a digitalised system to detect and prioritise repairs
- improve how we manage pressure in our network
- deliver a significant programme of water main replacement targeting those most prone to frequent bursts and leaks
- roll out smart meters to our customers to alert us to leaks in homes and businesses which we will help to get fixed
- make use of emerging technology such as remote sensors, thermal imagery, satellites and drones to detect leaks
- progress the development of innovative, fibre optic technology to provide more data about leakage across our network.

Water efficiency

Helping customers use less water is essential to securing a resilient water future. Our revised draft WRMP includes a target to reduce average daily household use to 110 litres per person per day by 2045 under dry-year conditions – five years earlier than the 2050 target set by the Government. That's the same as 100 litres in normal-year conditions.

How we will do it:

- upgrade customers' meters to smart ones by 2030 which will send near real-time data on water use. We will install them in our most water stressed areas first, Hampshire and north Sussex, whilst new water supplies are being built
- use this information to proactively engage with our customers to help save water through home visits, advice and installing water-saving devices
- run public campaigns to encourage water efficiency – including with the education sector
- introduce innovative tariffs to incentivise water efficiency and work with local communities to encourage area savings
- trial innovative solutions to reduce water use in homes and garden
- work with Government, policy makers and others to promote the adoption of more water efficient policies and standards.

We have also committed to working with retailers to help non-household customers such as businesses, schools and local authorities reduce their water use. We are aiming for a 9% reduction by 2038.

Leakage and household consumption reduction targets

	Leakage (million litres per day)	Per capita consumption (PCC) under 'dry year' conditions (litres per person per day)
2025	77	139
2030	66	132
2035	63	124
2040	57	116
2045	52	110
2050	48	106

The role of Government in reducing demand for water

Achieving our target to reduce water use is reliant on the Government introducing measures to support water savings.

These include:

- introducing mandatory labelling on products which use water from 2025 to help customers choose more water-efficient products
- Introducing minimum standards for devices which use water by 2030
- Amending the building regulations for new homes and retrofits to deliver more water efficient housing by 2035.

We have included the reductions we expect to see from Government-led actions in this revised plan and they deliver most of the savings in household demand by 2050.

We are reliant on these measures being implemented and sustained. If they do not deliver the savings needed, we may need to develop new water sources sooner than set out in this plan.

Temporary water restrictions

Our plan includes the use of temporary restrictions to reduce customer water use during droughts. These restrictions typically reduce demand by 6% across our supply area. The measures include:

- Temporary Use Bans (TUBs) which restrict certain household activities such as using a hosepipe or sprinkler to wash your car or water your garden
- Non-Essential Use Bans (NEUBs) which reduce water use by businesses by restricting activities such as watering plants and cleaning windows.

During the early years of the plan, as we construct the new sources of water we need and make progress reducing leaks and customer consumption, we may introduce these restrictions more frequently. They would be needed if we experience prolonged dry weather to help us protect the environment and manage our water supplies.

Once these schemes are delivered, our water supply system will be more resilient and we are less likely to need restrictions, although they will continue to be part of our plan to manage droughts, in line with our Drought Plan.

While the frequency at which we may restrict customer use of water varies initially across our region we have a single strategy. This company wide strategy is that we will use all feasible measures to reduce demand before implementing supply-side drought permits or orders.

The frequency we expect to introduce customer restrictions on water use is shown in the following tables.

Target levels of service

	Annual Chance	Return Period	Chance of at least one occurrence between 2025 and 2075
Customer target levels of service			
Advertising to restrict water use	20%	1-in-5 year	100%
Temporary Use Ban on different categories of water use	10%	1-in-10 year[a]	99%
Drought Order (Non-Essential Use Ban)	5%	1-in-20 year	92%
Environmental target levels of service			
Application for Drought Permits and Orders to increase supplies through relaxation of abstraction licence conditions, increase in licensed quantities or other measures[c]	5%	1-in-20 year[b]	92%

[a] Frequency of first implementation but would be introduced in a phased manner.
[b] For HSE we expect the short-term level of service for these drought permits and orders (up to 2030) could be less than our target.

Forecast reduced level of service in Hampshire

Level of service	Company Target level of service	Reduced level of service for Hampshire based on flow modelling for the River Test and Itchen	Defining Trigger set out in Drought Plan
Advertising to restrict water use	1-in-5 years	1-in-2 years	60-day River Test Drought Permit Trigger
Temporary Use Ban on different categories of water use	1-in-10 years	1-in-5 years	35-day River Test Drought Permit Trigger
Drought Order (Non-Essential Use Ban)	1-in-20 years	1-in-20 years	Candover Drought Order Trigger

2. New water sources to provide resilient and sustainable supplies

The regional plan has identified schemes we need to develop in the future to secure the significant amounts of water required to maintain sustainable supplies.

These are typically needed where we need to reduce how much water we take from rivers, streams and groundwater sources, and where reducing demand alone will not make up the shortfall.

The main schemes for each region are set out in this section with a view of all schemes on the maps on pages 34 to 39.

West Sussex and Brighton and Hove

We need to develop significant new sources of water in our central supply area, which covers East and West Sussex, but not the Hastings area. These include:

- groundwater options to provide more water in Petersfield (1.6 million litres per day), Petworth (4 million litres per day) and West Chiltington (3.1 million litres per day) from 2031.
- a water recycling scheme near Littlehampton, to transfer water to the Pulborough area by 2031 to provide up to 15 million litres per day
- water transfers from our neighbouring water companies SES Water and South East Water that together could provide up to 20 million litres per day
- a new reservoir, near Henfield, to store water from the River Adur to supply up to 19.5 million litres per day to parts of Sussex
- a desalination plant near the tidal River Arun to provide up to 40 million litres per day, which may be needed in the longer term if more significant reductions to how much water we can abstract from the environment are needed.

Kent and East Sussex

The first option we need to develop in Kent is a water recycling scheme on the River Medway to provide up to 14 million litres per day by 2031.

In the short term, we are also planning to work with a large industrial water user in Kent so we can use their existing groundwater source to supply our customers. We would provide them with recycled wastewater for their business use. This will provide up to 7.5 million litres per day for our customers.

Other options we may need to progress in the longer term will depend on the future scenario we face. This could include:

- desalination on the Isle of Sheppey, in East Thanet and the Thames Estuary, with a combined capacity of up to 80 million litres per day by 2050 increasing to 120 million litres per day by 2075 if needed
- a recycling scheme in Tonbridge to provide up to 5.7 million litres per day.

Hampshire and the Isle of Wight

We need to develop significant new sources of water, particularly to protect the internationally-rare chalk streams, the River Itchen and River Test during droughts.

Havant Thicket Reservoir

We are developing Havant Thicket Reservoir in Havant in partnership with Portsmouth Water. Its delivery will allow them to transfer 21 million litres of water per day to us by 2031.

Hampshire Water Transfer and Water Recycling Project

This project involves the construction of a new 40km pipeline from Havant Thicket Reservoir to our supply works in Hampshire. A new water recycling plant at Havant would produce highly-treated, recycled water from our wastewater treatment works to supplement supplies in the reservoir and provide up to 90 million litres per day to Hampshire. Our target delivery date is now 2034. We consulted on this option from May to July 2024, find out more on our **Water for Life Hampshire** pages.

Groundwater

We are introducing a new groundwater scheme in Kings Sombourne and bringing forward delivery of another in Romsey. Together these will provide seven million litres each day in Hampshire from 2031 and reduce reliance on water from the River Test during droughts.

Drought measures

Until the recycling project is delivered in 2034, we need to find ways to secure supplies during droughts in Hampshire. In addition to applying for drought permits/orders and to increase resilience, we have developed an option to tanker water supplies from Norway to Hampshire. The sea tankers would berth in Southampton Docks and we would pipe the water to a nearby storage lake. This could provide up to 45 million litres per day.

The tankering would not remove the need to apply for drought options altogether and it doesn't change the frequency of applications for these in this area. It can however, by providing water from another source, reduce the volume of water needed from the River Test Drought permit/order. (We will continue to explore alternative options to mitigate this temporary need).

This option is in addition to ongoing leakage reduction and work to help customers lower their water use, which will be accelerated through smart metering. We will prioritise Hampshire for potential new tariffs and other water-saving incentives.

As droughts develop, we will step up our public awareness campaigns and introduce restrictions on customer water use. Our action plan to manage droughts in Hampshire will be constantly reviewed and adapted depending on the nature and severity of the drought we experience. We will work closely with the Environment Agency to make sure we take the best course of action.

Importing water by sea tanker is a proposal developed to cater for a severe, 1-in-200-year, drought between 2030 and 2034. While this is statistically unlikely, it's not impossible and we need to prepare for the worst so we are ready should it happen.

If dry weather begins, we may have to start preparing for water imports on a precautionary basis – but the option may not be needed if the weather changes. Including imports as a back-up for severe drought is a prudent step to make sure customers' water supplies are maintained and Hampshire's chalk streams protected.

For context, the last time we had a severe drought in England was in 1976, which was a less-severe, 1-in-70-year drought. More recently, the 2022 drought came during the hottest summer on record (joint with 2018 according to the Met Office). However, the impact on water supplies was not as drastic as in 1976, because of the water-saving measures we have introduced since privatisation in 1989.

Thames to Southern Transfer Project

We also plan to develop a Strategic Resource Option, with Thames Water, to lay a pipeline to transfer up to 120 million litres per day into Hampshire from Oxfordshire by 2040.

This would rely on Thames Water developing a significant new water source – a proposed new reservoir in Abingdon – the South East Strategic Reservoir Option (SESRO). Find out more **here**.

3. A network to move water around

An important part of our future plan is having a robust network of pipelines to move water to where it's needed most across the South East. Working with other water companies, we will build new pipelines to expand our network and the resilience of our own supplies.

This includes:

- increasing the connectivity of our water supply works in Hampshire – this will also support the transfer of 21 million litres per day from Portsmouth Water when Havant Thicket Reservoir is complete in 2031
- a 40km pipeline to transfer up to 90 million litres of water per day directly from Havant Thicket Reservoir to our water supply works as part of the Hampshire Water Transfer and Water Recycling Project from 2034
- a pipeline to transfer up to 50 million litres of water per day from Havant Thicket Reservoir to our Pulborough water supply works in Sussex by 2040
- a pipeline to transfer up to 120 million litres per day from Thames Water into Hampshire from 2040 – Thames to Southern Transfer.

We already share millions of litres of water per day with our neighbouring companies, and these transfers are a crucial part of our collective resilience. We will continue to build on our existing connections and develop new ones where needed in Sussex and Kent.

4. Catchment and nature-based solutions

Working with nature by using catchment and nature-based schemes will protect and improve the environment we rely on, helping secure sustainable supplies. It also delivers wider benefits such as increasing biodiversity and lowering carbon emissions.

Our ambition is to go beyond protecting the environment. We want to improve it so it can better adapt to the challenges ahead. This is supported by our customers who value the environment more than ever before.

Our 'Catchment First' programme is maximising opportunities to work collaboratively with partners to deliver long-term environmental improvements. We will use traditional engineering schemes where we need to achieve compliance quickly but whenever we can, we will reduce our reliance on them by increasing our use of catchment solutions.

5. Achieving sustainable abstractions

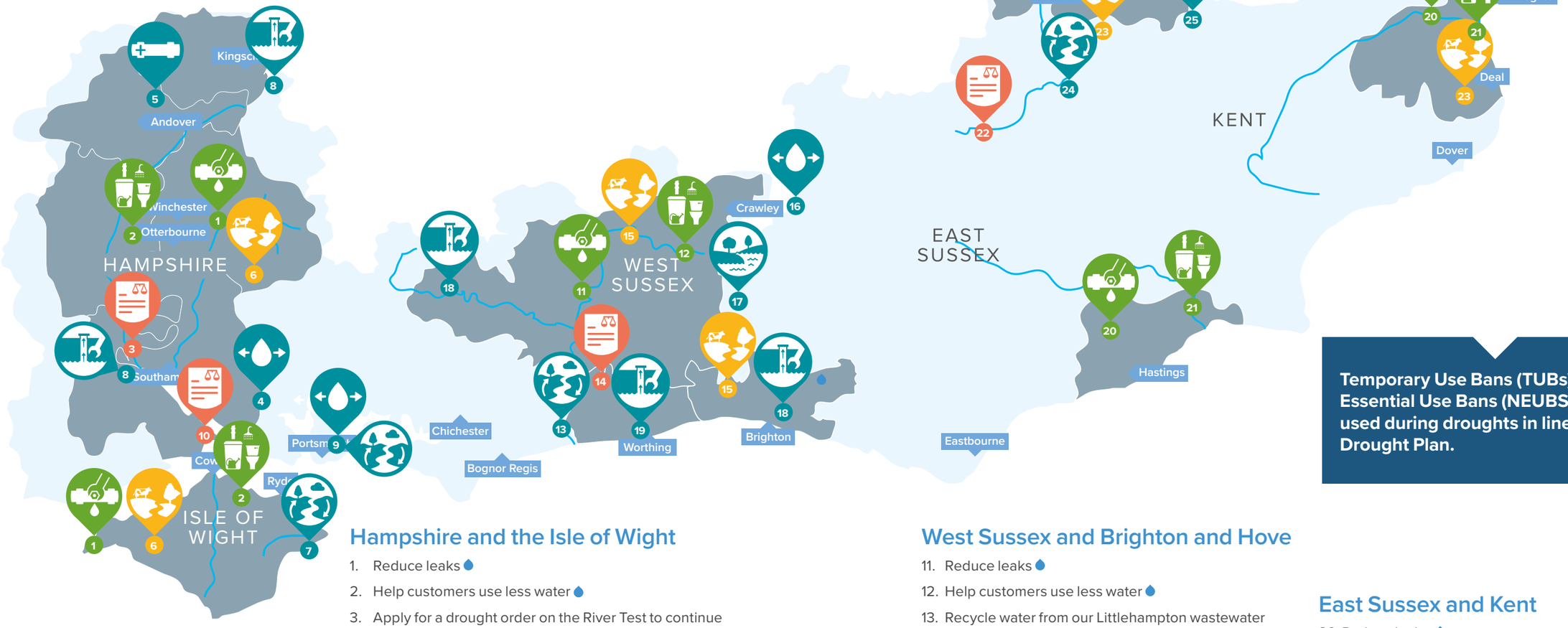
We will continue investigating the impact our abstractions have on the environment. Where we can, we will deliver schemes that improve the water bodies we rely upon, so we don't need to make such significant reductions to our abstractions. The amount of water we do abstract will be sustainable for the future.

Reducing nitrate levels in groundwater
Nitrate pollution will impact both the quality and quantity of our groundwater sources. By working with farmers and other land users we will take action to protect 42 of our groundwater sources and make them more resilient.

Improving the resilience of our rivers and streams
Where we abstract from rivers and streams, we will work with partners to understand what could impact the quality of our raw water sources. We will take action to mitigate these while delivering wider environment benefits such as increasing natural capital and reducing flooding.

Water strategy for 2025–35

This map shows how we could provide resilient and sustainable water supplies between 2025 and 2035.



Temporary Use Bans (TUBs) and Non Essential Use Bans (NEUBS) to be used during droughts in line with our Drought Plan.

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.

- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

Hampshire and the Isle of Wight

1. Reduce leaks
2. Help customers use less water
3. Apply for a drought order on the River Test to continue abstracting water during dry weather in droughts until 2033-34 and after that only in droughts more severe than 1-in-200 year likelihood; apply for a drought permit and order on the Lower Itchen until 2029-30 and a drought order at Candover until 2033-34
4. Receive up to 21 million litres of water from Portsmouth Water following the construction of Havant Thicket Reservoir
5. Build new pipelines so we can move water around our Hampshire area
6. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
7. Recycle water from our Sandown site
8. Develop groundwater sources near Newbury, Romsey and Kings Somborne
9. Recycle water at Budds Farm wastewater treatment works and store it in Havant Thicket Reservoir before transferring up to 90 million litres through a new pipeline to our Otterbourne water supply works for treatment, including upgrading the works
10. Bring in water from Norway in sea tankers in droughts between 2031 and 2034

West Sussex and Brighton and Hove

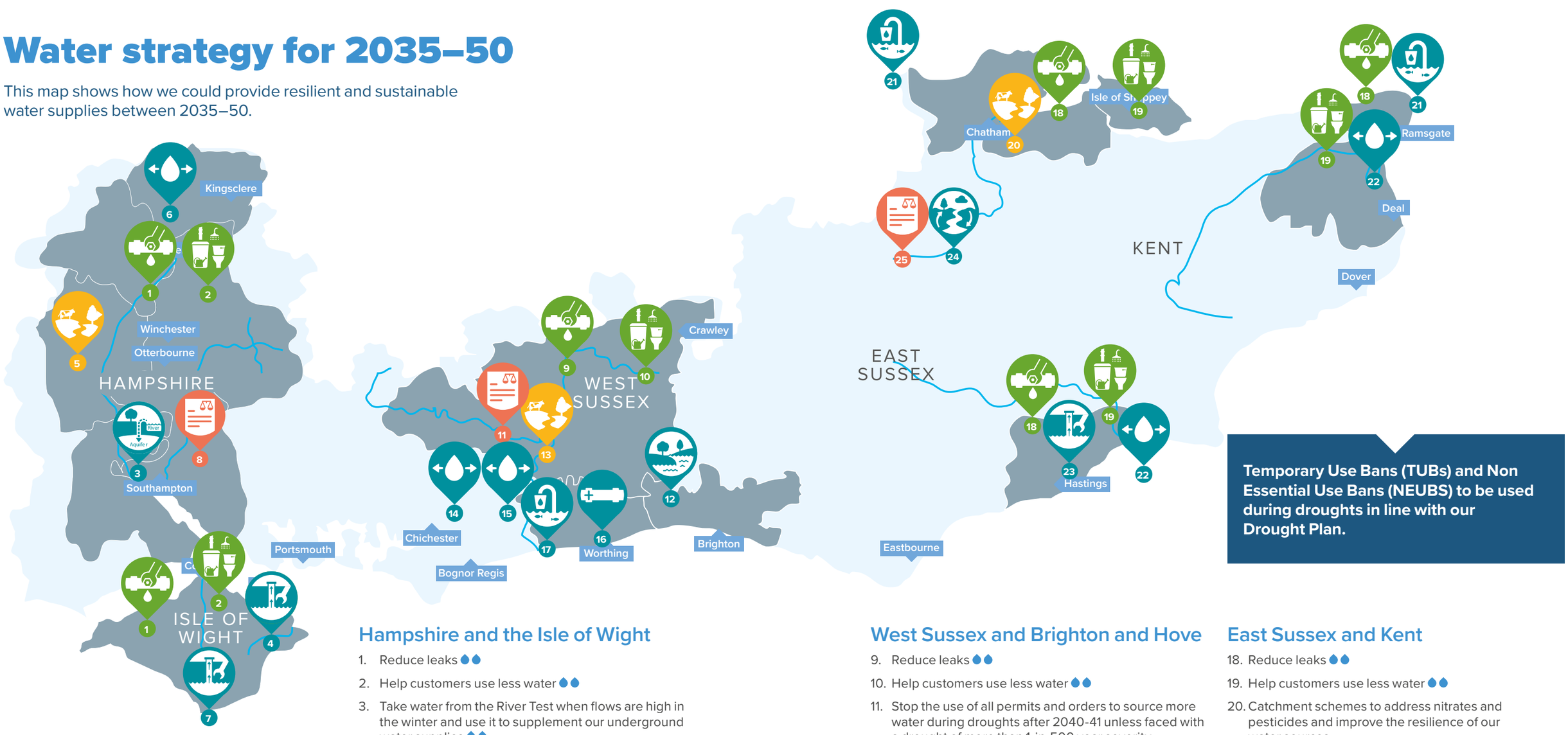
11. Reduce leaks
12. Help customers use less water
13. Recycle water from our Littlehampton wastewater treatment works and transfer it via the River Rother to our water supply works near Pulborough
14. Apply for a drought permit or order on the River Rother to continue abstracting water during dry weather until 2029-30 and after that only in droughts more severe than 1-in-200 year likelihood
15. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
16. Import up to 4 million litres per day from SES Water to north Sussex –
17. Deliver upgrades to Weir Wood Water Supply Works
18. Groundwater improvement schemes in West Sussex and a groundwater scheme in Brighton to provide more water
19. Develop a groundwater source near Petworth

East Sussex and Kent

20. Reduce leaks
21 Help customers use less water
22. Apply for a drought permit/order on the River Medway to continue abstracting water during dry weather
23. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
24. Recycle water from a water recycling plant near Aylesford and release it into the River Medway from where it will be abstracted and treated at a water supply works
25. Work with a large industrial water user to provide them with recycled wastewater and enable us to use their existing groundwater sources
26. Make improvements to an existing groundwater source near Gravesend

Water strategy for 2035–50

This map shows how we could provide resilient and sustainable water supplies between 2035–50.



Temporary Use Bans (TUBs) and Non Essential Use Bans (NEUBS) to be used during droughts in line with our Drought Plan.

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.
- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

Hampshire and the Isle of Wight

1. Reduce leaks
2. Help customers use less water
3. Take water from the River Test when flows are high in the winter and use it to supplement our underground water supplies
4. Make improvements to an existing groundwater source on the Isle of Wight
5. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
6. Receive up to 120 million litres a day from Thames Water
7. Develop our groundwater source at Newchurch
8. Stop the use of all supply-side drought permits and orders after 2040-41 unless faced with a drought of more than a 1-in-500 year severity

West Sussex and Brighton and Hove

9. Reduce leaks
10. Help customers use less water
11. Stop the use of all permits and orders to source more water during droughts after 2040-41 unless faced with a drought of more than 1-in-500 year severity
12. Build a new reservoir in Sussex to store water from the River Adur
13. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
14. Import water from Havant Thicket Reservoir in Hampshire to Pulborough
15. Import water from South East Water to Pulborough
16. Build pipelines to extend our grid to transfer water between Pulborough and Worthing and between Worthing and Brighton
17. Build a desalinaton plant on the tidal River Arun

East Sussex and Kent

18. Reduce leaks
19. Help customers use less water
20. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
21. Desalination plants on the Thames Estuary, and Thanet coast
22. Import water from South East Water to Canterbury and Rye
23. Improve a groundwater source near Rye to provide more water
24. Recycle water from Tonbridge and store it in Bewl Water before treating it at a nearby water supply works
25. Stop the use of permits and orders to source more water during droughts after 2040-41 unless faced with a drought of more than 1-in-500 year severity

Water strategy for 2050–75

This map shows how we could provide resilient and sustainable water supplies between 2050–75.

Temporary Use Bans (TUBs) and Non Essential Use Bans (NEUBS) to be used during droughts in line with our Drought Plan.

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.

- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

Hampshire and the Isle of Wight

1. Reduce leaks
2. Help customers to maintain a sustainable level of water use
3. Ongoing work to use catchment management and nature-based solutions to improve the environment

West Sussex and Brighton and Hove

4. Reduce leaks
5. Help customers to maintain a sustainable level of water use
6. Recycle water near Horsham and transfer it through a new pipeline to an existing reservoir near Pulborough before it is treated and supplied to customers
7. Ongoing work to use catchment management and nature-based solutions to improve the environment
8. Import water from South East Water to Brighton

East Sussex and Kent

9. Reduce leaks
10. Help customers to maintain a sustainable level of water use
11. Ongoing work to use catchment management and nature based solutions to improve the environment
12. Recycle water near Hastings and store it in Darwell reservoir before treating it at a nearby water supply works
13. Increase the size of Bewl Water reservoir
14. Desalination on the Isle of Sheppey

9. Carbon footprint and costs of a reliable water supply

Carbon and net zero

We recognise the water sector is a significant contributor to the UK's greenhouse gas emissions and we have an important role to play in achieving net zero targets.

We are committed to aligning our plans with the Government's 2050 net zero target, including an interim target of a 35% reduction in Scope 1 and Scope 2 emissions by 2030 (based on a baseline year of 2022-23). Scope 1 emissions are direct emissions from the sources we own or control and Scope 2 emissions are indirect emissions from the purchase and use of electricity, steam, heating and cooling.

When developing this plan, we considered the carbon impact of all the options.

Our plan includes options which drive down greenhouse gas emissions from our operations by reducing leakage and demand so we need to source, treat and pump less water.

The options with the highest carbon impact include the Hampshire Water Transfer and Water Recycling Project and the transfer from Thames Water, although when assessed against alternatives these compared favourably on carbon. The carbon impact of tankering imports from Norway is also expected to be significant.

To mitigate the operational greenhouse gas emissions associated with the energy use of these and other options, we are embracing innovation and technology to become more efficient. We're also generating more renewable energy from solar and combined heat and power plants (CHP) on our sites and in 2022-23 we generated 11% of our needs this way.

Where we cannot reduce or remove the emissions for options in our plan, we will carry out nature-based solutions, such as planting trees and restoring wetlands and peatlands on our land. We are engaging with the regional wildlife trusts to find opportunities for carbon removal and storage for carbon insets, as well as creating wider environmental benefits.

We calculate this 50-year plan will create 915,500 tonnes of capital emissions and 2,853,583 operational emissions (based on an average of potential future scenarios).

Cost of our plan

This plan outlines significant investment to make sure we can secure reliable, high-quality water for homes and businesses for the future while also improving our environment and increasing resilience to drought and the wider impacts of climate change.

On average between 2025 and 2030, this would increase customer bills by £53 each year, with lower increases in the first few years and higher increases in 2028-30.

The average annual increase between 2030 and 2035 is projected to be £136 and between 2035 and 2040, it is projected to be £181.

10. How you can respond to our consultation

We would like to hear your feedback on our revised draft plan and have outlined 10 questions to help you share this. There are several ways you can share your answers, or send other feedback and these are outlined on the next page.

1. Our plan includes options to reduce demand (e.g. reducing leaks and encouraging customers to use less water) and increase supply (e.g. building new reservoirs). **Do you agree we have struck the right balance between supply and demand measures?**

2. Our plan includes development of new storage options, such as the River Adur Offline Reservoir. **Do you support more storage options to provide resilience to droughts?**

3. To help protect the environment, our plan sets out how we intend to progressively reduce the volumes of water we take from the environment. **Do you agree with our plans to reduce the amount of water we take from the environment by 2050?**

4. Developing new, more sustainable and resilient sources of supply has a financial cost. **Do you think we have struck the right balance between cost, resilience and protecting the environment in our plan?**

5. Droughts and water scarcity are forecast to become more frequent and severe. **Would you support more frequent restrictions, such as temporary use bans and non-essential use bans, on customers' use to improve resilience and reduce the amount of water we take from the environment during droughts?**

6. By 2050, the government requires water companies to reduce the amount of water each person uses daily. Currently, each person uses an average of 128 litres per day. **Do you support our target of an average of 110 litres per person per day in a dry year, by 2045, five years earlier than the Government requirement?**

7. In order to meet demand for water in the Hampshire area, we may sometimes have to apply for drought permits/orders to abstract from the River Test during droughts. **In order to protect the River Test do you support temporarily importing water from Norway via sea tankers first over the use and reliance on drought orders and permits, which may still be needed?**

8. Our plan includes desalination. **Do you support the use of desalination for public supply to improve resilience to droughts and reduce the amount of water we take from the environment?**

9. Our plan includes schemes involving recycling of water. **Do you support the use of recycled water for public supply to improve resilience to droughts and reduce the amount of water we take from the environment?**

10. Do you have any other comments on our plan?

There are lots of ways you can have your say

The consultation runs from September 11 to December 4, 2024.

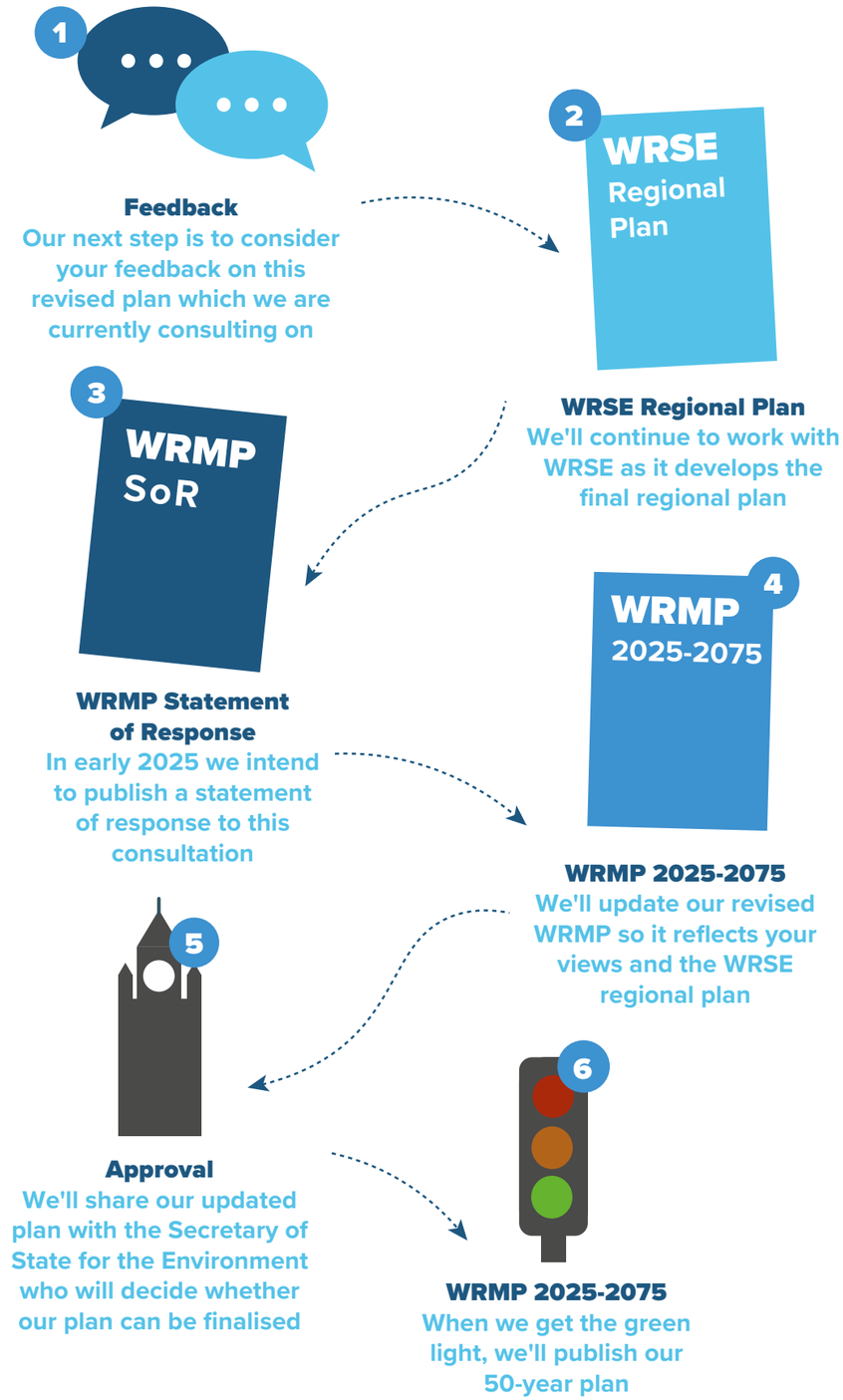
1. Take part in our **online survey**.
2. Email **Defra** at **water.resources@defra.gov.uk**, putting Southern Water revised draft water resources management plan in the subject line, and copying in **wrmp@southernwater.co.uk**.
3. Write a response and send it to Defra at:

   Water Resources Management Plan Consultation (Southern Water)
   Defra
   Water Resources
   Seacole
   2 Marsham Street
   London
   SW1P 4DF

If you have any issues accessing our consultation or have any questions relating to it please contact us at **wrmp@southernwater.co.uk**.

You can read the technical documents that accompany this consultation at **waterresources.southernwater.co.uk/find-out-more**.

11. Next steps



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from Southern Water

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