



Securing a resilient future for water in the South East

Our Water Resources Management Plan
for 2020–70

Published December 2019

from
**Southern
Water** 

The Southern Water logo consists of three stylized, white, wavy lines representing water, positioned to the right of the company name.

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Introduction

Welcome to our Water Resources Management Plan, which sets out how we intend to supply healthy, reliable drinking water to more than one million homes and businesses for the next 50 years.

Our supply area covers Kent, Sussex, Hampshire and the Isle of Wight in the South East.

We publish a new plan every five years so we're continually updating it to reflect changes in your views, the need to protect the environment and the latest information on climate change and housing growth figures.

This plan is created by working out how much water we need to supply everyone in the future, including in a severe drought, while leaving enough water in rivers and the environment to keep them healthy.

We plan to secure the extra water you need in two ways:

Making best use of existing water – by reducing leaks, promoting water efficiency, installing more meters and improving the health of the catchments our water comes from.

Securing new water – through schemes like desalination (seawater), water recycling (treated wastewater) and transferring water from areas where there is spare.

Because things may change a lot over the next 50 years, we've planned for lots of different futures – ones where we need more water and ones where we need less. This makes sure our plans are flexible so we can adapt to whatever is ahead.

Our area of the South East is in serious water stress, so it's vital we're innovative and plan this way to secure resilient supplies to meet everyone's needs – people, wildlife, business, industry and farmers.

Planning for droughts

This Water Resources Management Plan works hand-in-hand with our Drought Plan.

We allow for the introduction of temporary restrictions on water use (hosepipe bans) in droughts, further restrictions in severe droughts and permits and orders to allow us to continue taking water from sources when it's dry.

Without these measures, we'd need to spend billions more on water sources, which may only get used once every few hundred years.

Our Drought Plan sets out how and when we'd introduce these measures:

southernwater.co.uk/our-drought-plan.

Our plans at a glance

Our plans are flexible – preparing us for the best case scenario and the worst. Our current plan includes:



32 catchment schemes
to improve water quality and river flows



2 desalination schemes
to treat seawater



3 water recycling projects
to recycle cleaned wastewater

Target 100 campaign

Our Target 100 campaign will bring personal water use down from 130 to 100 litres per person per day by 2040.



3.5 million people to supply by 2070



11% more water supplies needed by 2070 - 595 million litres of water each day

190 million litres
- the daily amount we need to find over the next 10 years in Hampshire - where we need the most new resources

10% predicted rise in business and industry water use by 2070



Temporary hosepipe bans and other water restrictions are part of our planning



We're planning to **reduce leakage** by half by **2050**



New reservoir

we're supporting the first new reservoir to be built in the South East since the 1970s - Havant Thicket in Hampshire



£450 million

- the pot we're tapping into to explore large-scale new water sources for the South East

£1,820 million
- the amount we're planning to invest by 2070

300 million litres
- the amount of water we'll need to find each day to leave more water in the environment to support wildlife

0.2% each year
- the very low likelihood of extreme water restrictions that we are planning for



56 million litres

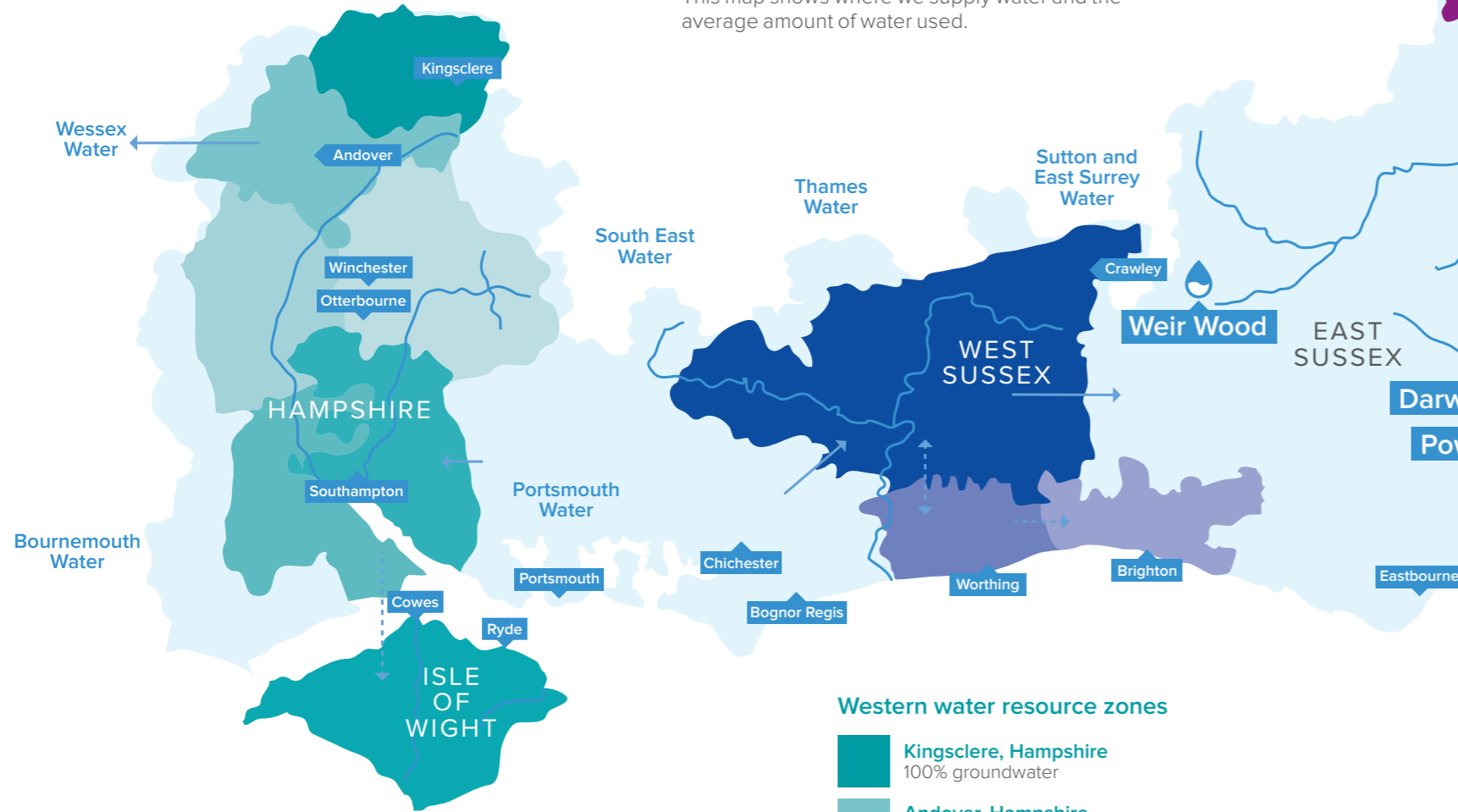
- the amount of extra water we may need to find each day due to climate change

Where your water comes from today

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

Most of the region is officially classed as seriously 'water-stressed', which means that at times the demand for water can be higher than the amount available. However, each county also has different water sources and experiences different weather. It's not unusual for one area to be in drought while supplies are normal in a neighbouring area. This is also because the area we supply is divided into 14 separate 'water resource zones'.

This map shows where we supply water and the average amount of water used.



Western area

North Hampshire takes all of its water from groundwater. South Hampshire takes one-third from groundwater and two-thirds from the River Test and the River Itchen. The Isle of Wight takes its water from the River Yar, the River Medina and groundwater, but also relies on water pumped across from south Hampshire for a third of its drinking water.



Metered water use per person per day:
Hampshire – 124 litres
Isle of Wight – 122 litres



Unmetered water use per person per day:
Hampshire – 147 litres
Isle of Wight – 215 litres

Western water resource zones

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

Central area

Brighton, Worthing and surrounding areas take all their water from groundwater, while North Sussex has a mix of water from rivers, groundwater, a reservoir and a water supply from Portsmouth Water.



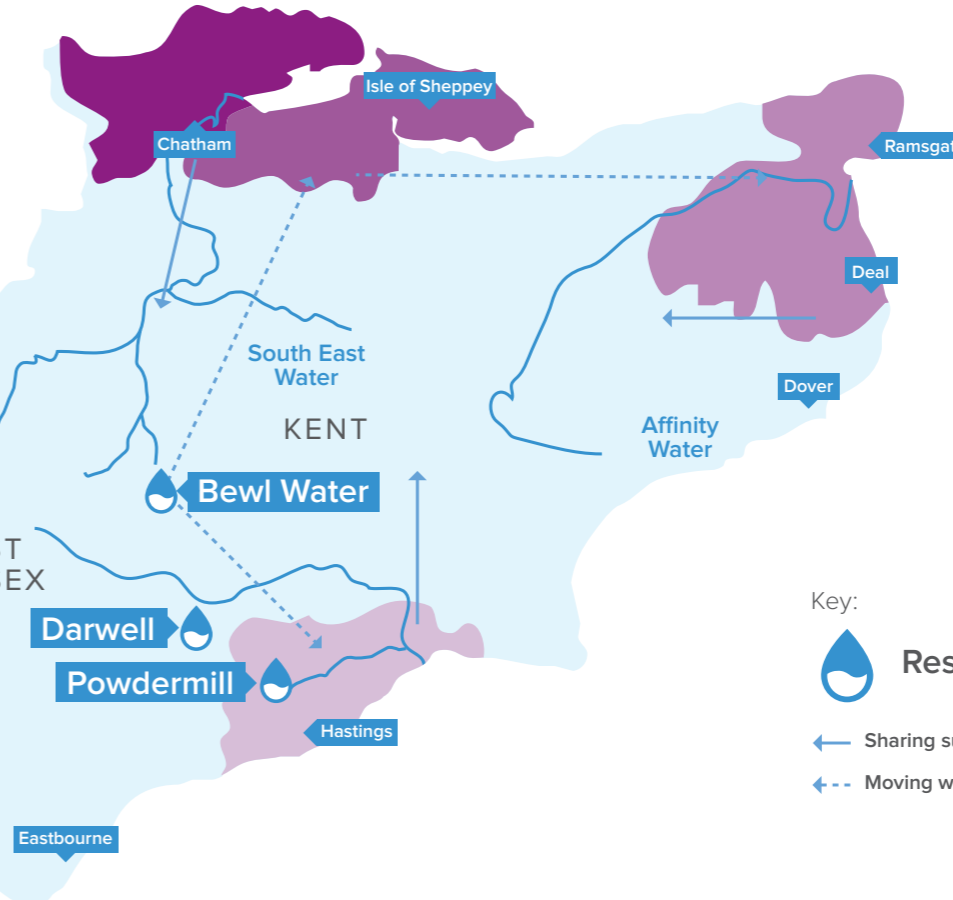
Metered water use per person per day:
127 litres



Unmetered water use per person per day:
179 litres

Central water resource zones

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



Key:



Reservoir

← Sharing supplies between water companies

← - - - Moving water in our supply zones

Eastern area

In Kent, Medway East, Medway West and Thanet take most of their water from groundwater and the rest from the River Medway, some of which is stored in Bawl Water reservoir and later released into the River Medway. Hastings in Sussex takes most of its water from Darwell reservoir and Powdermill reservoir, with the rest from groundwater. Water is transferred by pipeline from Medway to Thanet, and from Medway to Hastings.



Metered water use per person per day:
123 litres



Unmetered water use per person per day:
169 litres

Eastern water resource zones

- Medway East, Kent**
100% groundwater
- Medway West, Kent**
56% river and reservoir, 44% groundwater
- Thanet, Kent**
77% groundwater, 2% river, 21% transfers
- Hastings, Sussex**
5% groundwater, 79% reservoir, 16% transfers

How you've influenced this plan

We spoke to thousands of our customers, interested groups and water industry regulators to hear your feedback and help shape our plans.

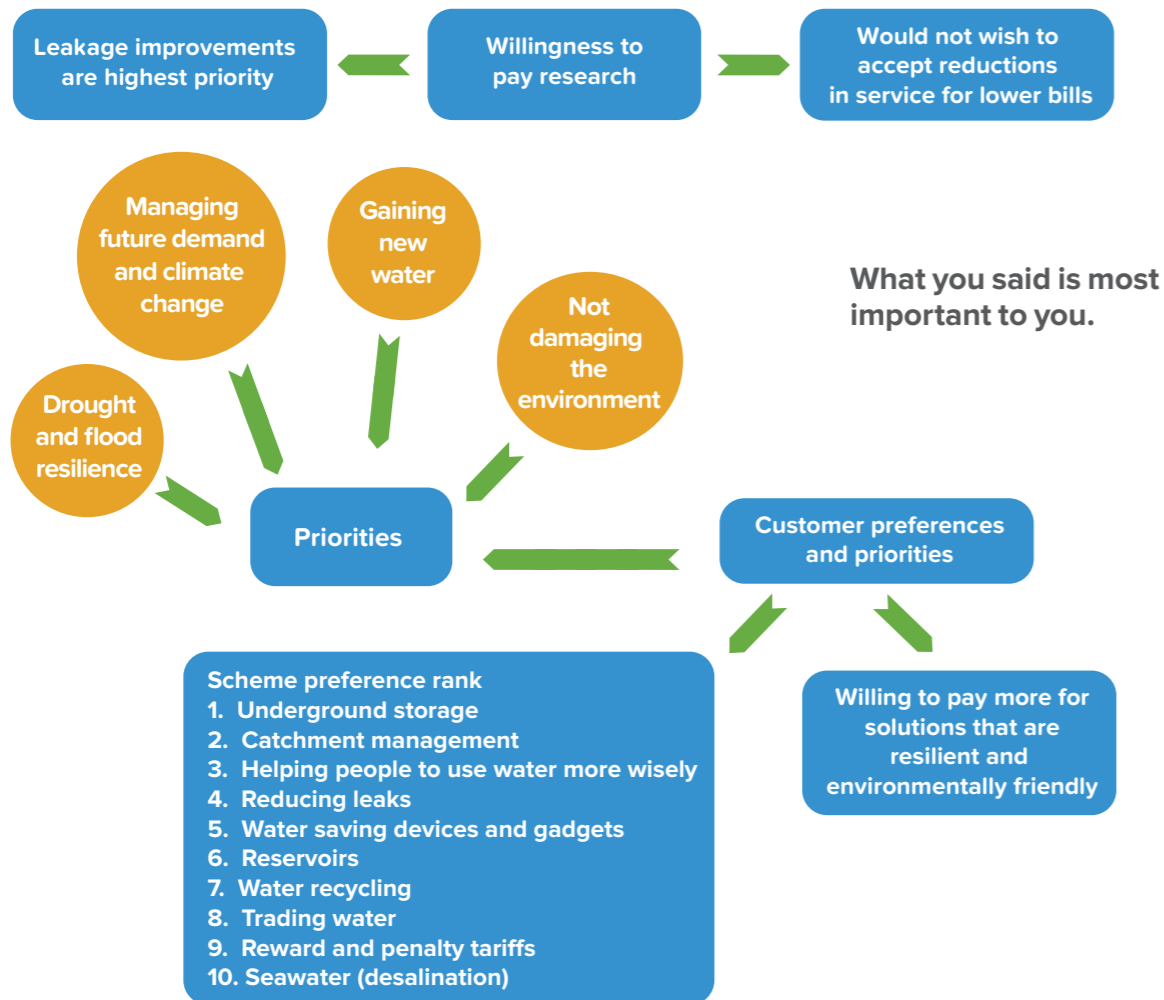
This started back in 2015 and included:

- Surveys on your preferences for how we secure water
- Workshops to discuss our plans and hear your views
- Surveys to understand what you're willing to pay for in your bills
- A three-month public consultation in 2018 where we shared our ideas
- Regular meetings with regulators including Ofwat, the Environment Agency and Natural England
- Discussions with our Customer Advisory Panel – a panel which makes sure we're engaging with our customers and acting on what they say.

We made sure we heard from young people, students, older people, young families and people struggling to pay their bills, as well as a wide range of environmental and economic groups.

What you told us helped shape our plan – including the type of schemes, how often we plan for water restrictions and how much we'll spend.

You told us reducing leaks is really important to you – so we increased our target to reduce them by 15% by 2025 and 50% by 2050.



How we'll supply your water

Our plans make sure you can rely on healthy, affordable water supplies for the next 50 years.

They take account of how much more water we'll need to cope with the effects of climate change, changing weather and to supply a population which is set to grow to 3.5 million in our area by 2070.

It also takes accounts of water we need to leave in the environment to protect the health of our rivers.

We've set out the schemes we'll progress to supply you with water in detail on the maps on the following pages. These fall into two types:

Making best use of water

Reducing leaks - we've committed to reduce leaks from pipes by 15% by 2025 and by 50% by 2050 – this is a priority for you.

Target 100 - we've committed to reduce personal water use to an average of 100 litres per person per day by 2040 – through smart meters, home audits, contacting customers with high water use and 'rewards' for households and customers who save water.

Catchment First – we're improving the environment to protect water quality and improve river flows to make sure we are looking after the sources we already have.

Securing new water

Desalination – turning seawater into drinking water. Desalination plants are expensive to build and operate but they are a reliable source of water whatever the weather.

Water recycling – returning cleaned wastewater to rivers and reservoirs to make better use of the water we already have. We recycle about 17% of our wastewater at the moment – so there's opportunity to do more.

Aquifer storage and recovery – creating an underground reservoir to store water pumped from the river during winter, when flows are high, to use in the summer when it's needed most.

Water grid – we're installing more pipes to extend our water grid so it's easier to move water to where it's needed most and share it between neighbouring water companies.

Import water – we're a member of Water Resources in the South East group, along with five other water companies, and together we've created a plan that works best for the whole region. As part of this we're planning to import water from Portsmouth Water and South West Water into Hampshire and from South East Water into Kent, wrse.org.uk.

We've chosen these schemes because we think they'll work best to supply your water at an affordable price that also protects the environment. However, because this is a 50-year plan, things may change.

We've studied a range of different futures and planned for all of them – some require more water and others less – but by planning in this innovative way we're ready for whatever the future brings.

The timescale

The water supply options planned in between 2020–25 are included in our investment plan for the next five years (Business Plan 2020–25) and are very likely to happen.

At the same time, we’ve agreed funding to explore and progress the larger schemes which are due between 2025–30, such as desalination and water transfers.

Our plans after this are likely to change, as we update this water resources plan every five years.

Water resources for England and Wales

During the next five years we’ll be exploring some large water resource options with other water companies across the country, which could benefit the South East with the support of a £450 million funding pot authorised by the water industry regulators to make sure there’s enough water for the future.

We are involved in five schemes in this process:

- A desalination plant on the Solent in Hampshire
- Water recycling schemes in Hampshire
- A transfer between Thames Water and our network in Hampshire
- New sources of supply in the South West
- A transfer between the South West and our network in Hampshire.

By 2025, we will know how much water these schemes could supply, how much they will cost to build and operate, their carbon footprint, if they will receive planning permission and which ones should go ahead.

The challenge in Hampshire

Securing new water supplies for Hampshire in the next 10 years is one of our biggest challenges.

In order to protect the unique chalk rivers in Hampshire, the River Test and River Itchen, we agreed changes to the amount of water we can abstract from them.

This means in droughts we only have access to about one fifth of the supplies we need, so we’ve developed a multi-million pound plan to secure alternative resources, including:

- Reducing leaks, installing meters and promoting water efficiency
- Building a desalination plant on the Solent
- Importing water from South West Water
- Importing water from Portsmouth Water (from the creation of a new reservoir and other sources)
- Environmental improvement projects to improve water quality and river flow.

These are our preferred options, but we’re also exploring others to make sure we secure reliable supplies as soon as possible, such as water recycling.

In the meantime, until at least 2027, we’ve agreed with the Environment Agency that we may need to introduce water restrictions more often to make sure we can maintain vital drinking water supplies during droughts.

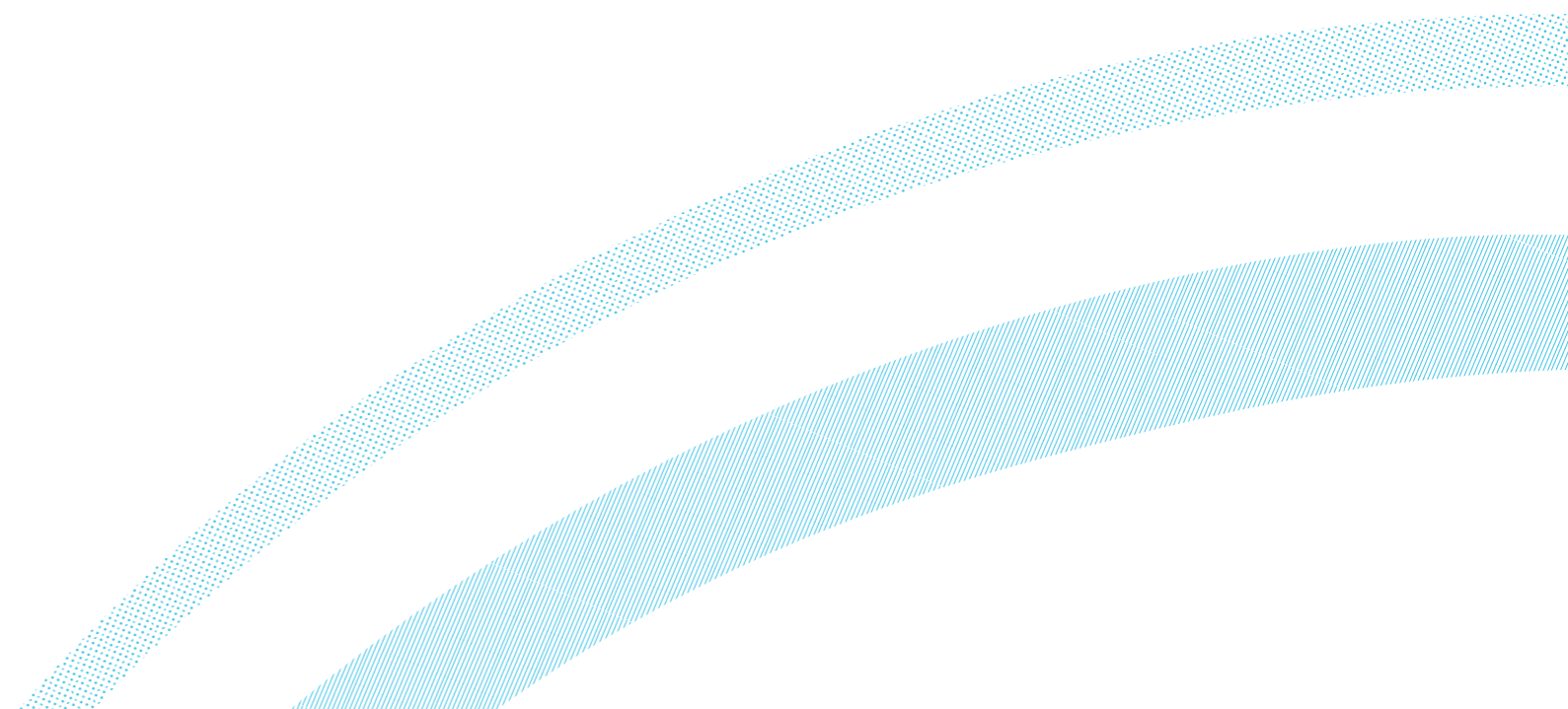
Because we also need to top up supplies to the Isle of Wight from Hampshire, through pipes under the Solent, the same restrictions could apply there in the short term.

What you can expect from us

Taking all this into consideration, the plan we've developed means we can make the commitments shown in the table below to you.

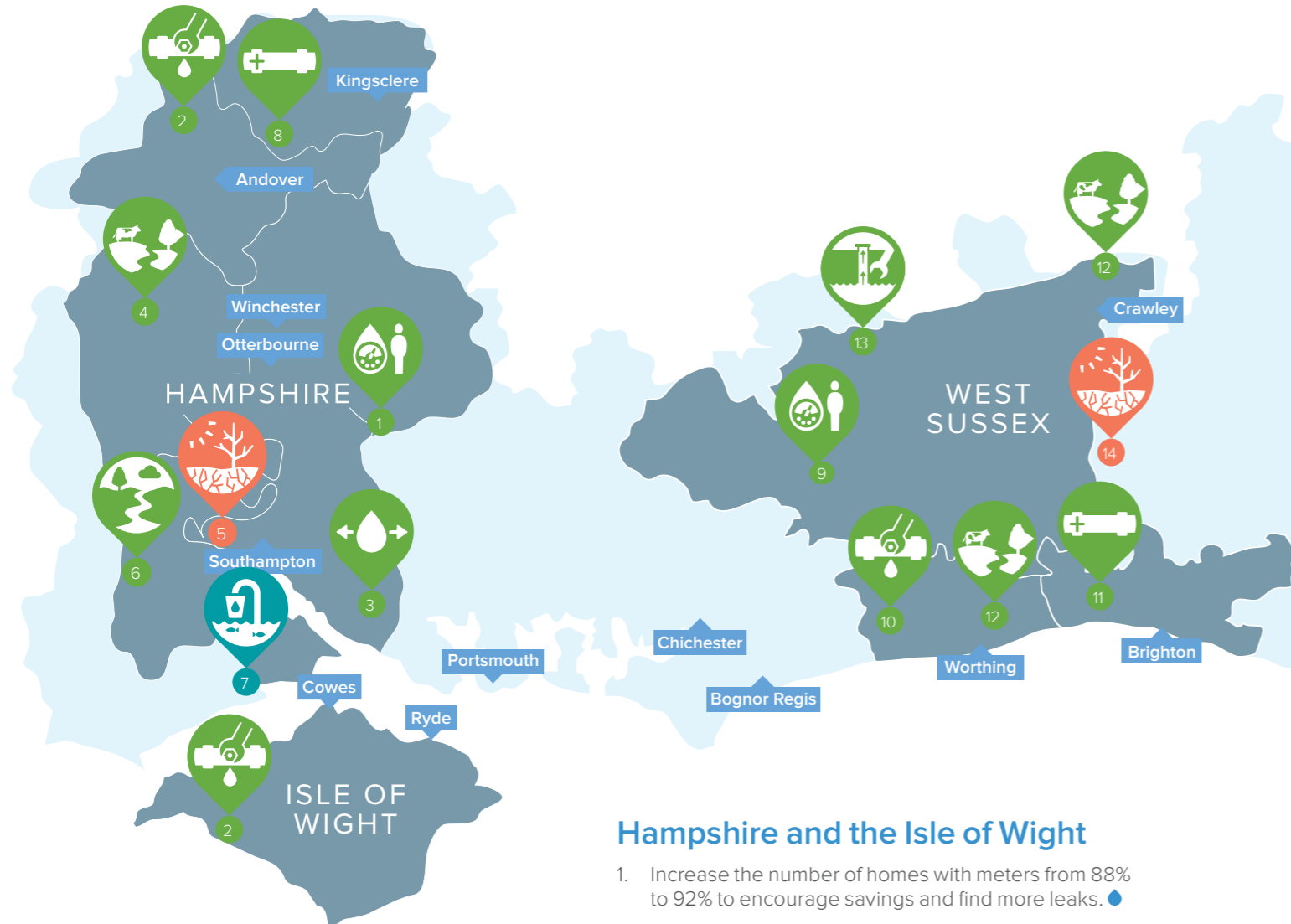
Drought actions	Likelihood of use	
	Sussex and Kent	Hampshire and the Isle of Wight
Temporary Use Bans	Water restrictions – once in 10 years on average.	Water restrictions – once every two or three years on average.*
Drought order to restrict water use (non-essential-use bans)	Wider water restrictions and for businesses – once in 20 years on average.	Wider water restrictions and for business – once or twice every 10 years on average.*
Standpipes and rota cuts (supplies limited to a few hours a day).	Emergency drought order for rota cuts and standpipes – unlikely to happen in our lifetime (once in 500 years) if drought permits and orders are introduced first.	Emergency drought order for rota cuts and standpipes – unlikely to happen in our lifetime (once in every 500 years) if drought permits and orders are introduced first.
Drought permits and orders to increase supplies	Applying for permission to take more water from rivers and aquifers – once in 20 years on average.	Applying for permission to take more water from rivers and underground aquifers – once every two or three years on average.*

* Until 2027, then the commitments will return to the same as in Sussex and Kent.



Water strategy for 2020–25

This map shows how we'll find the extra water we need to provide reliable water supplies for you and local businesses in the next five years.

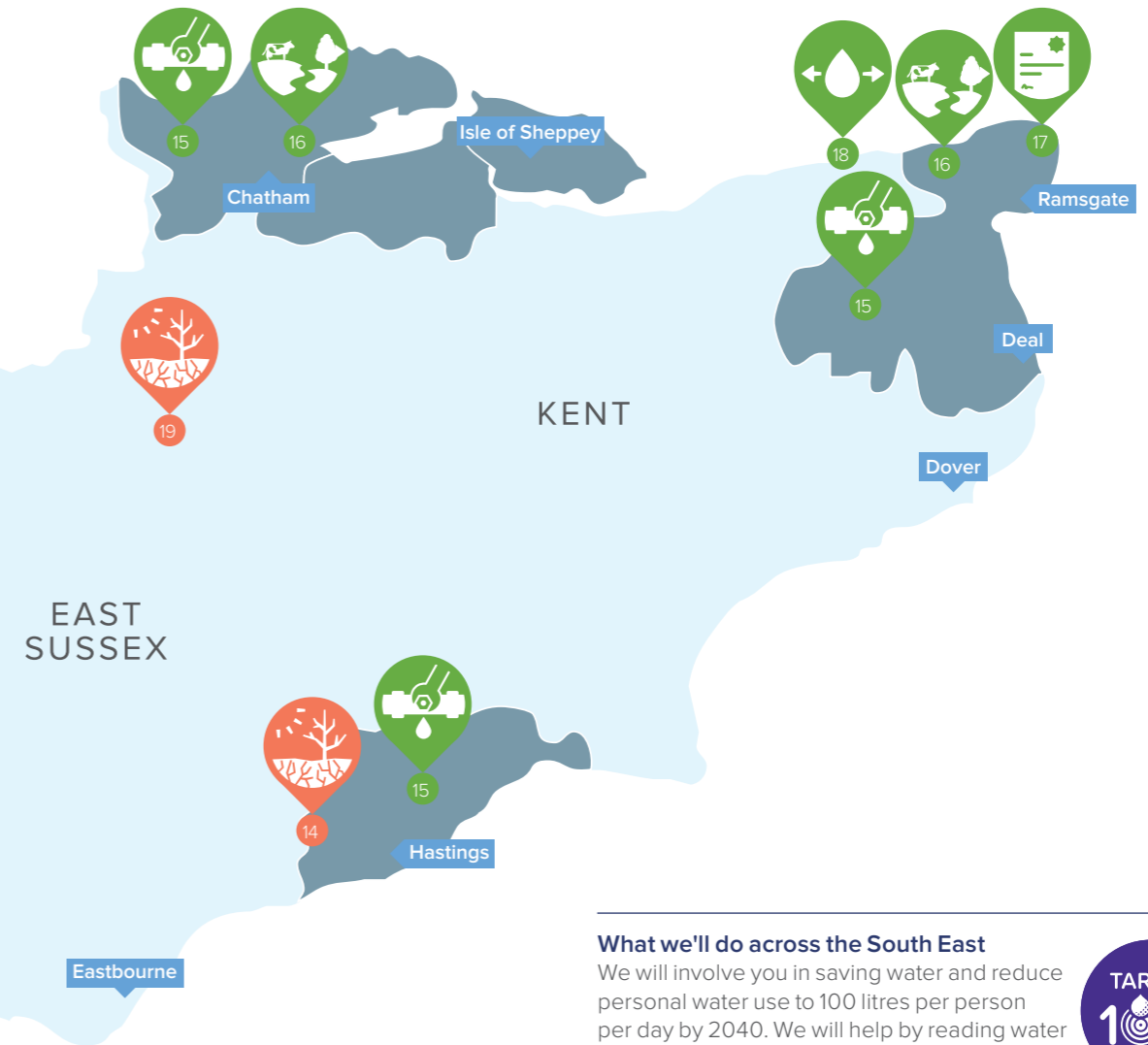


Hampshire and the Isle of Wight

1. Increase the number of homes with meters from 88% to 92% to encourage savings and find more leaks. ●
2. Reduce leaks. ●
3. Receive an extra nine million litres of water each day from Portsmouth Water through an existing pipeline. ●●
4. Introduce catchment schemes and take action to remove nitrates and protect against nitrates and pesticides at six water sources in Hampshire and the Isle of Wight. ●●
5. Apply for drought permits and orders on the Rivers Test and Itchen and on the Candover groundwater source to continue abstracting water in dry weather.
6. Work to improve the Test and Itchen rivers.
7. Progress plans for a major new resource in Hampshire - a desalination plant on the Solent or a water recycling scheme on the River Itchen. ●●●
8. Create a network of pipes to connect two water treatment works and the Andover, Winchester and Southampton East supply zones. ●●

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.
- Better use of existing water
- Drought action
- New sources of water



What we'll do across the South East

We will involve you in saving water and reduce personal water use to 100 litres per person per day by 2040. We will help by reading water meters every month, so you can track how much you're using, and we can find leaks quicker.



Sussex

9. Increase the number of homes with meters from 88% to 92% to encourage savings. ●
10. Reduce leaks. ●
11. Upgrade a pipe to transfer water from the Brighton zone to the Worthing zone. ●●
12. Introduce catchment schemes and take action to protect against nitrates and pesticides at nine water sources in Brighton and Worthing and a river and reservoir in North Sussex. ●●
13. Refurbish a groundwater source and water supply works in North Sussex. ●
14. Apply for drought orders and permits on the Western Rother River and Weir Wood Reservoir in North Sussex, two groundwater sources in the Brighton and Worthing zones and Powdermill Reservoir in the Hastings zone to continue to abstract water in dry weather.

Kent

15. Reduce leaks. ●
16. Introduce catchment schemes and take action to protect against nitrates and pesticides at fifteen water sources in the Thanet and Medway zones. ●●
17. Apply to the Environment Agency to change our licence at two underground water sources to take out more water when it's available. ●
18. Receive water supplies from South East Water through a new pipeline to extend the South East regional grid. ●
19. Apply for drought orders and permits on the River Medway and groundwater sources to continue to abstract water in dry weather.

Water strategy for 2025–30

This map shows how we could find extra water to provide reliable water supplies for you and local businesses for five years from 2025. We will review these options again in five years and they may change.



Hampshire and the Isle of Wight

1. Continue catchment management schemes to protect against nitrates and pesticides at six water sources in Hampshire and the Isle of Wight. ●●
2. Build a desalination plant on the Solent to clean seawater for drinking water and a new pipeline to transfer this water between the Winchester, Southampton East and Southampton West supply zones. ●●●
- or Recycle water from a wastewater treatment works in Portsmouth or Southampton to increase flows in the River Itchen to then abstract and clean for drinking water. ●●●

What we'll do across the South East

We will involve you in saving water and reduce personal water use to 100 litres per person per day by 2040. We will help by reading water meters every month, so you can track how much you're using, and we can find leaks quicker.



3. Receive an extra 21 million litres of water each day from Portsmouth Water through a new pipeline (sourced from developing a new reservoir in Havant). ●●
4. Apply for drought permits and orders on the Rivers Test and Itchen and a Candover groundwater source to continue abstracting water in dry weather.
5. Recycle water from our wastewater treatment works at Sandown to increase flows in the Eastern Yar river, to then abstract and clean for drinking water. ●●
6. Reduce leaks. ●—●●
7. Receive an extra 20 million litres of water each day from South West Water through a new pipeline. ●●



Sussex

8. Recycle water from our wastewater treatment works in Ford to increase flows in the Western Rother river, to then abstract and clean for drinking water. ●●
9. Build a new pipeline and upgrade a groundwater source and water supply works in North Sussex. ●
10. Build a desalination plant in Shoreham Harbour to clean seawater for drinking water. ●●
11. Create an underground reservoir to store water pumped from the Rivers Rother and Arun during the winter when flows are high, to boost supplies in summer. ●
12. Continue catchment management schemes to protect against nitrates and pesticides at nine water sources in Brighton and Worthing and a river and reservoir in North Sussex. ●●
13. Reduce leaks. ●—●●
14. Build a new pipeline to extend our network in Sussex and improve the link between Brighton and Shoreham. ●●

Kent

15. Recycle water from our wastewater treatment works at Aylesford to increase water in the environment to then abstract and clean for drinking water. ●●
16. Continue catchment schemes to protect against nitrates and pesticides at fifteen water sources in the Thanet and Medway zones. ●●
17. Reduce leaks. ●—●●
18. Refurbish a groundwater source in Medway. ●
19. Upgrade a key pipeline to move more water to where it's needed. ●●

How we'll adapt to change

This diagram shows how we are planning for different futures and how the way we secure water may change.

The worst-case scenario is a future with extreme climate change and large-scale changes to abstraction licences (top of the table). Or we could all become much more efficient with water and need to supply less than predicted (bottom of the table). The important thing is we are ready for all futures – and flexible to change.

Measures we need to provide water between 2020–25

TARGET
100%

- Reduce leaks
- Catchment management
- New pipeline
- Drought orders and permits

Measures we might need to provide water between 2025–30

- Catchment management
- Reduce leaks
- Recycling water
- Desalination
- Abstraction licence change
- Drought orders and permits

Extra measures we might need to provide water between 2030–45

- Catchment management
- Recycling water
- Recycle water for industry
- Desalination
- Catchment management
- Reduce leaks
- Recycling water

Extra measures we might need to provide water between 2045–70

- Catchment management
- Reduce leaks
- Recycling water
- Water transfers
- Catchment management
- Reduce leaks
- Reduce leaks

By 2070

Population growth: 63%

Climate change: Lose 56 million litres each day

Licence changes: Lose 306 million litres each day

Population growth: 13%

Climate change: Gain 52 million litres each day

Licence changes: Lose 166 million litres each day

The next 40 years after 2030

After 2030, our plans become more flexible so we can adapt to cater for changes in the need for water and its availability.

We'll continue our work in Sussex, Kent, Hampshire and the Isle of Wight to:

- reduce leakage by half
- deliver our Target 100 campaign to reduce personal water use to 100 litres per day
- improve our environment to protect the quality and flow of water in rivers and underground sources.

Other options we might need are:

Kent

Water recycling – return cleaned water from a wastewater treatment works to increase flows in the River Stour to abstract more water to supply to customers.

Water recycling for industry – recycle cleaned water from a wastewater treatment works to supply directly for industrial use.

Catchment management – introduce three more catchment schemes to protect against nitrates in drinking water.

Hampshire and Isle of Wight

Water recycling for industry – recycle cleaned water from a wastewater treatment works to supply directly for industrial use.

Underground source – upgrade a groundwater source on the Isle of Wight to supply more water.

Sussex

Water recycling – recycle cleaned water from a wastewater treatment works to increase flows in the River Ouse to abstract more water to supply customers.

At the same time, we'll continue to investigate other alternative schemes – particularly water recycling, desalination and transfers from other areas – which may be needed in the future.

Changing the way we plan

The way we, other water companies and the Government plan to secure reliable water resources is changing.

In the future, everyone will work together more closely to look at the country's need for water as a whole – not just the water we need to supply people and business – but the wider needs of farmers, industry and our environment to keep it healthy.

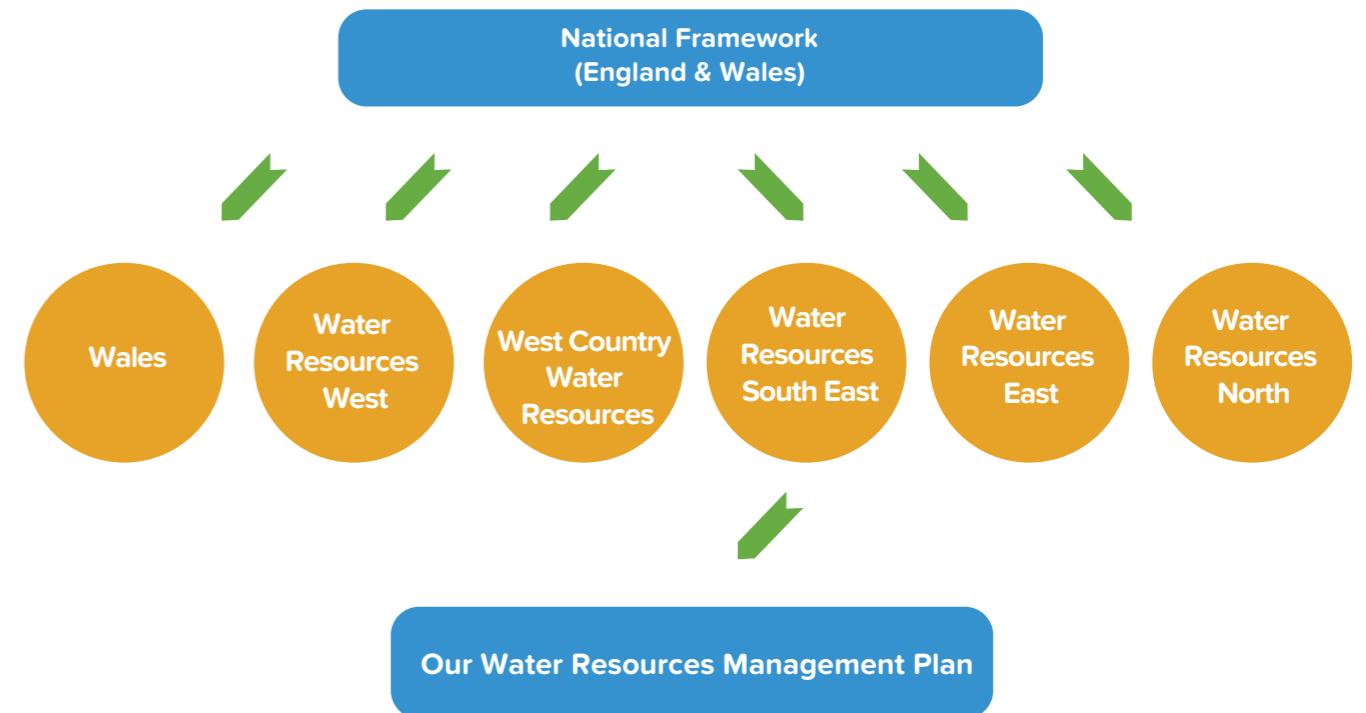
The Environment Agency has developed a 'National Framework' to set out the need for water nationally and regionally.

This will share guidance on making the best use of available sources, transferring water around the country and building new large-scale schemes, such as reservoirs or desalination plants.

This framework will go beyond water company boundaries and inform regional plans.

The regional plan we are part of is a multi-sector regional resilience plan being developed by Water Resources in the South East – along with South East Water, Affinity Water, SES Water, Portsmouth Water and Thames Water, as well as industry regulators.

It's this plan which will inform our next Water Resources Management Plan which will be published in 2024 – laying the foundations for a resilient future for water across the wider South East.





To read our full Water Resources Management Plan
for 2020–70 and supporting documents visit:
southernwater.co.uk

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**Southern
Water**® 

The logo graphic for Southern Water, featuring three stylized, wavy lines representing water.