

Hampshire Water Transfer and Water Recycling Project

Written briefing, July 2022



from
**Southern
Water** 

Welcome to this briefing

- This briefing provides an update on our Hampshire Water Transfer and Water Recycling Project (the Project), a major component of the Water for Life – Hampshire programme, which will help keep taps and rivers flowing, especially during a drought.
- The programme is progressing through a regulatory process overseen by the Regulators' Alliance for Progressing Infrastructure Development, comprising Ofwat, the Environment Agency and the Drinking Water Inspectorate.
- This briefing gives a simplified overview of the Project, the topics and timelines involved and the launch of our six-week public consultation on the 5 July, 2022.
- Further detailed design information on the Project is included in the consultation documents, which you can access here: <https://hampshirewtwrp.commonplace.is> between 5 July and 16 August.
- After the public consultation, we will share an overview of the feedback we receive, alongside further technical and environmental information, as we progress through the planning process.
- In the meantime, you can find out more here: www.southernwater.co.uk/water-for-life-hampshire



What is Water for Life – Hampshire?

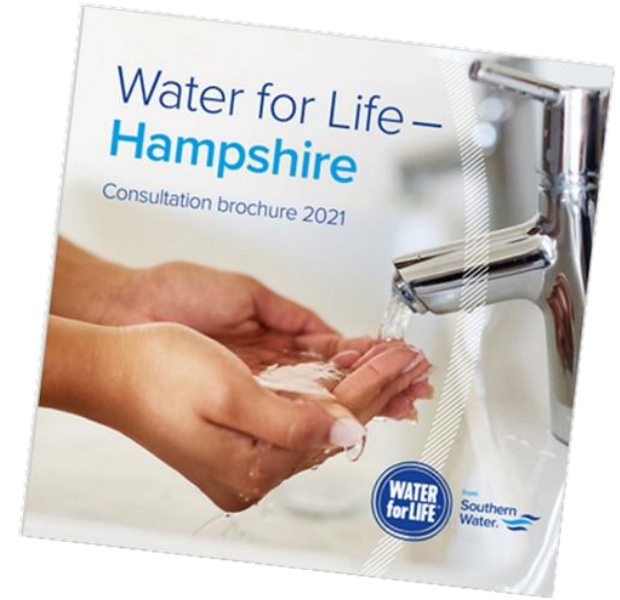
Water for Life – Hampshire is our commitment to deliver a resilient water future for the county.

- It's a holistic response to the pressures of a growing population and changing climate that will revolutionise the way we source, treat and supply water across Hampshire.
- It's driven by reductions in the amount of water we can take from the River Test and Itchen, which means we have a shortfall of 192 million litres of water a day during a drought.
- These ecologically-sensitive chalk streams support a wide variety of species and deserve protection, but they also supply water to more than 700,000 people.
- We need to find new sustainable sources of water to help keep taps and rivers flowing.
- Our response also includes significant reductions in leakage (by 15% by 2025, 40% by 2040 and 50% by 2050) and helping customers reduce their water use to 100 litres a day.
- The Hampshire Water Transfer and Water Recycling Project is a major component of the Water for Life – Hampshire programme and is the subject of our current consultation.



Our previous consultation

- Last year we consulted on a proposal to build a desalination plant in Fawley in the New Forest and introduced alternative water transfer and water recycling options.
- Desalination was not well supported by the 180 people who responded, with only 27% agreeing it was an acceptable solution to the challenge in Hampshire.
- The main issue raised was around the potential environmental impact of releasing the desalination by-product of hypersaline water back into the Solent.
- Meanwhile, 60% of respondents thought water recycling would be an acceptable solution if the desalination plans were not deliverable.
- As desalination fell away following an options appraisal process, we continued to work closely with Portsmouth Water to develop an alternative, which included using recycled water to top up Havant Thicket Reservoir.
- We called this alternative option the Hampshire Water Transfer and Water Recycling Project.
- We wrote to our regulators in September 2021 confirming that we would not be progressing our plans for desalination any further in this location. We then wrote to them again in December 2021 confirming that the Hampshire Water Transfer and Water Recycling Project had been selected as our new preferred solution.



What is the Hampshire Water Transfer and Water Recycling Project?

- The Hampshire Water Transfer and Water Recycling Project will ensure we can take less water from the sensitive chalk streams of the River Test and River Itchen during a drought, while maintaining essential supplies.
- The plans are centred around the wider Havant Thicket Reservoir project which we're funding and developing in collaboration with Portsmouth Water.
- The Project is separate from the current, approved plans for the reservoir.
- Under our plans, we propose to:
 - Build a new water recycling plant south of Havant to turn treated wastewater into recycled water.
 - Transfer this recycled water via a new underground pipeline to the reservoir.
 - Build a new pipeline to transfer water from the reservoir to our Otterbourne Water Supply Works, where it will be treated further to become drinking water.



The Project

Under the Project, we plan to:

- Build a new water recycling plant south of Havant to turn treated wastewater into recycled water.
- Transfer this recycled water via a new underground pipeline to the reservoir.
- Build a new pipeline to transfer water from the reservoir to our Otterbourne Water Supply Works, where it will be treated further to become drinking water.

The Project makes use of the existing long sea outfall from Budds Farm to release the reject water stream, produced by the water recycling plant, safely out into the sea.



Water recycling

- Water recycling plants use advanced treatment techniques to convert treated wastewater into highly purified water that can be used .
- Special membranes are used to remove salts and a range of other impurities. The process includes reverse osmosis, where water is forced through tiny membranes 50,000 times smaller than the width of a human hair, to remove dissolved salts and impurities.
- Water recycling is sustainable, reliable and safe but it is also relatively new to this country. Our customer insight so far shows that customers, once informed with the facts, see it as a viable way of supplying water in the future.
- Our current focus is on raising awareness of our plans to use water recycling in Hampshire and elsewhere in our region.
- Our Water for Life – Hampshire web pages are the hub for information.

www.southernwater.co.uk/water-for-life-hampshire



Water recycling

A guide to the stages of water recycling

Water recycling uses advanced treatment techniques to turn highly treated wastewater, that is usually pumped away into rivers and the sea, into drinking water.

Membrane process

Water, already extensively cleaned at a wastewater treatment works, is pumped through two filtering processes in the Water Recycling Plant. The first, micro-filtration, removes remaining impurities that could block the membranes used at the second stage of treatment – reverse osmosis. Here, dissolved salts and impurities are removed by pushing the water at high pressure through a membrane of tiny holes more than 50,000 times smaller than the width of a human hair. Dissolved impurities such as bacteria and pharmaceuticals are also removed.

Advanced oxidation process

Reverse osmosis is extremely effective at removing impurities. But, as an extra layer of protection, ultraviolet light (just like that found in sunlight) is applied along with a small dose of a chemical called hydrogen peroxide. Both of these treatments are used around the world in water recycling. Ultraviolet light is widely used in other drinking water treatment processes as it helps reduce the amount of chlorine that needs to be added at later stages of treatment.

Treated water conditioning

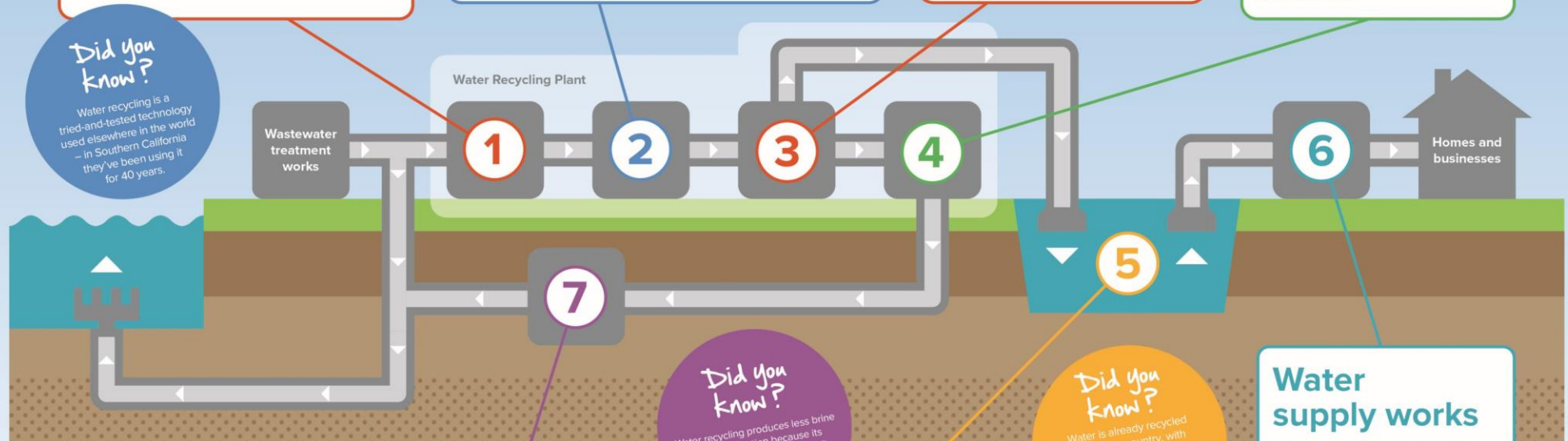
To make the water drinkable, minerals such as calcium and magnesium salts (that have been removed during the earlier stages of treatment) are added back in. As in traditional treatment methods, some chlorine may be added to the water to ensure it meets strict water quality standards.

Reject stream

Water and particles removed by each of the previous stages of treatment are taken away to be cleaned. The liquid is filtered to produce cleaned wastewater, known as reject water, which can be released back into the sea at Step 7. The process produces a concentrated solid matter which is removed and most commonly returned to the wastewater treatment works.

Did you know?

Water recycling is a tried-and-tested technology used elsewhere in the world – in Southern California they've been using it for 40 years.



Did you know?

Water recycling produces less brine than desalination because its source water contains less salt and other impurities that need to be filtered out.

Did you know?

Water is already recycled across the country, with highly treated wastewater being released into rivers, where it blends with river water before being reabstracted further downstream.

Reject water release

As about 20% of the source water is filtered out through the various treatment processes, reject water is released back into the sea. An underwater pipe with a series of holes at the end, called a diffuser, helps disperse it across a wider area.

Environmental buffer

The treated water is pumped to a lake, reservoir or watercourse, known as an environmental buffer, where it mixes with existing water from other sources.

Water supply works

Water can then be taken from the environmental buffer and pumped to a Water Supply Works where it is treated to the same rigorous standards as all water taken from the environment. Typically this involves a combination of filtration and the addition of chlorine before it is sent into supply.



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To view an animated version of this infographic, visit:

www.southernwater.co.uk/water-recycling

Public consultations

Feb 2021

Desalination

Alternatives
Potential environmental effects

Summer 2022

Water transfer and recycling

Preferred pipeline corridor
Preferred zones for plant
Proposed site for Water Recycling Plant

Early 2023

Water transfer and recycling

Proposed pipeline route
Proposed sites for plant and Water Recycling Plant
Likely environmental effect

Two further rounds of public consultation will be held to:

- Take people on the journey of how we have moved from Desalination to Water Transfer and Water Recycling
- Provide the opportunity for comment on our emerging proposals as part of the planning consent process

- The next consultation launches on 5 July and closes on 16 August.
- Notification letters have been sent to all occupiers of properties within 500m of the proposed infrastructure or pipeline corridors.
- Media adverts, social media and other promotion will promote awareness.
- Drop-in sessions (see table on right) are being held alongside an online portal. Consultation documents will also be available in local libraries/council offices.

Date	Time	Venue details
6 July	2pm – 8pm	Leigh Park Community Centre Dunsbury Way Havant PO9 5BG
9 July	10am – 4pm	Jubilee Hall Little Shore Lane Bishop's Waltham SO32 1ED
15 July	2pm – 8pm	Wickham Community Centre Mill Lane Wickham PO17 5AL
16 July	10am – 4pm	Meridian Shopping Centre Elm Lane Havant PO9 1UN
21 July	2pm – 8pm	Southwick D-Day Memorial Hall Priory Road Southwick PO17 6ED
22 July	2pm – 8pm	Colden Common Community Centre St Vigor Way Colden Common SO21 1UU

What is happening at the moment?

Nationally significant infrastructure:

- The Project has recently been confirmed by the Secretary of State for Environment, Food and Rural Affairs as a Nationally Significant Infrastructure Project.
- This means we will pursue this large, complex project through the Development Consent Order consenting regime and deliver it as quickly and efficiently as possible.

Consultations:

- Our six-week public consultation launches on 5 July and runs for six weeks until 16 August.
- It will be followed by a further public consultation early next year.
- The current consultation focuses on our proposed pipeline corridors and the innovative water recycling technology proposed.
- People can have their say at drop-in sessions held along the potential route of the pipeline, at one of a series of webinars or at <https://hampshirewtwrp.commonplace.is>

Hampshire Water Transfer and Water Recycling Project

Consultation Brochure
Public consultation 2022



Your support

- Our proposals will ensure Hampshire continues to have a safe and resilient water supply long into the future and that its sensitive chalk stream habitats are carefully protected.
- We'd greatly appreciate your help in promoting our consultation via your networks.
- We'd also welcome your written support and endorsement for our plans, either via the consultation process or directly with us.
- If you would like more information on the proposals, please get in touch.

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For more information on this and the other consultations
we're holding this summer, visit:
www.southernwater.co.uk/futureplans