# Shaping our wastewater future

## Our Drainage and Wastewater Management Plan 2025 - 2050

Non-technical summary

May 2023

# Contents



# Foreword

## Sarah Bentley
Chief Executive Officer

I'm delighted to present our first ever Drainage and Wastewater Management Plan (DWMP), which will make sure we have a resilient and sustainable wastewater service for the next 25 years and beyond.

This is a truly collaborative and partnership-led plan that's been developed over the last four years with input from our customers and stakeholders at a national, regional and local level. It will deliver positive outcomes for our customers, the communities we serve and the natural environment across our region, which follows the beautiful River Thames from Gloucestershire to Essex and includes our capital city.

Thank you to everyone who has contributed to this shared plan. We're particularly grateful for the feedback we received on our draft plan during the public consultation period last year, which demonstrates how aligned we are with our collective priorities. Your involvement has been so fundamental to the ongoing development of our final plan, and will continue to be critical to its successful delivery. Working in partnership, particularly with our Catchment Partnerships and the Thames Regional Flood and Coastal Committee, will create a strong foundation for the delivery of our DWMP, helping us really understand the specific issues in each of our catchments and giving us opportunities to share collective knowledge and resources.

At Thames, we've made it clear that any discharge of untreated sewage into the environment is completely unacceptable, and this plan will help us on our journey to stop all discharges.

We've got a lot to do. We know that our wastewater performance isn't where it needs to be. It will take time to really turn the dial, as there's so much to do to fix the basics. The first few years of this plan will establish a solid foundation on which we can build to drive the performance of our sewers and treatment works.

I care passionately about being a force for good in the communities we serve and working in partnership to make a bigger difference. It's brilliant that we've had supportive and constructive consultation feedback on our draft plan and about the positive outcomes we've already achieved together. We look forward to continuing to work with you to make sure future generations have a wastewater service that serves their needs and is kind to the environment.

## Ian Marchant

### Chairman

As a Board, we're committed to providing an excellent wastewater service now and in the future. The DWMP is an important long-term plan that will increase the future resilience of our business and enable customers, communities and the natural environment to thrive.

The Board has been focused on supporting the Executive team and DWMP team in the co-creation and finalisation of our first plan, in partnership with many stakeholders. We've been supporting decision-making and providing challenge to protect our essential service against future pressures, such as climate change and population growth.

As a Board, we fully endorse the increased focus on protecting the environment. It's unacceptable for any untreated sewage to be entering rivers and we're confident the DWMP will make a real difference to the health of our rivers, and to the flooding protection of our customers' homes and businesses across our region.

## Ian Pearson

### Workforce Engagement Lead Director

I've always been passionate about improving the environment around us and it's clear from the recent consultation feedback on our draft DWMP that this is also important to many of our customers and stakeholders. I'm delighted to see this development in drainage and wastewater planning that brings together all responsible and interested stakeholders for the benefit of our customers, communities and the natural environment.

Through my role as Workforce Engagement Lead Director I engage with employees who are interacting every day with our customers. The DWMP explores and addresses many challenges and aspirations that are at the forefront of our customers' long-term priorities, including flooding, the health of our rivers, sustainable nature-based solutions and environmental protection.

This important plan, and its partnership-led delivery, will have a positive and far-reaching impact across our region for generations to come.

For more information on our shared plan, to share your views or to work with us, please contact DWMP@thameswater.co.uk.

# A message from our partners

## Paul Jeffrey

Professor of Water Management
Cranfield University
Co-chair DWMP L1 stakeholder forum

Thames Water's approach to the development of their Drainage and Wastewater Management Plan has been driven by the belief that a robust and equitable plan can only be delivered through collaboration and co-development.

Having been involved in the process from the start, I have been hugely impressed by the benefits which have accrued from this inclusive and open-minded strategy. Informed engagement has afforded a constructive environment for discussion and debate, leading to opportunities for the co-production of solutions and wider appreciation by stakeholders of the challenges faced by others. The DWMP itself thereby reflects a shared vision and a collective ambition.

The importance of an effective and compliant Drainage and Wastewater System is front and centre of many customers' minds at the moment. Participation from customers and communities has been key in the development of the Drainage and Wastewater Management Plan and I have been encouraged to see the emerging benefits of collaboration, including data sharing, enabling solutions to be crafted, and decisions made, which are based on a powerful background of evidence taken from these sources. There is still much to be done and customer input will be key throughout the process.

## Kay Lacey

Chair Pang Valley Flood Forum
Chair Water Resources in the South East
Former member of the Customer Challenge Group

Collaboration on the development of the Drainage and Wastewater Management Plan has been crucial to find solutions to manage flood risk, mitigate climate change and urbanisation and protect and enhance our natural environment. Thames Water's approach to engagement and partnership involvement has clearly demonstrated that shared objectives and common purpose are the drivers of DWMP, and I look forward to seeing how opportunities are realised.

## Claire Bell MBE

Area Flood and Coastal Risk Manager London Environment Agency

Keep up to date with our latest DWMP work and stakeholder engagement activities by visiting the DWMP Customer portal on our website.

# Preface

## Our first DWMP cycle

We're proud of our first DWMP, and encouraged by the level of positive feedback we've received. By engaging and working collaboratively with around 2,000 of our customers and stakeholders, we've been able to deepen our shared understanding as well as develop new ways to approach drainage and wastewater management across our region. To the right, you can read the headlines from our first DWMP cycle.

We'd like to say a big thank you to everyone who got involved and collaborated with us in the development of our shared plan. We're really happy it's having a positive impact already, and encouraged by the shared benefits we can deliver in the future as we continue to move forward together.

Our plan aligns with wider industry strategic plans and delivery programmes, such as the Water Industry National Environment Programme (WINEP) and the Long-Term Delivery Strategy (LTDS), and we'll make sure it continues to do so as we tackle current pressures and future challenges.

The rest of this document summarises our final DWMP, including the progress we've made from draft to final. We look forward to building on this progress and our collaborative approach as we implement our shared plan and evolve into DWMP Cycle 2.

For more detailed insight into our DWMP please see our Technical summary.

## Our DWMP will:

**Invest**
**£31.9bn**
over the next 25 years, an increase of c.£8bn from our draft plan

**Improve**
to ≤10
storm overflow discharges per outfall, per year on average, into the environment

**Protect**
**187,000**
properties from the risk of flooding in heavy storms

**Upgrade**
**82**
sewage treatment works to cope with population growth*

**Manage**
rainwater falling on
**>7,500**
hectares of land across our region with sustainable drainage solutions (SuDS)

### Healthy rivers

Increasing storm overflows investment by
**£7.0bn to £10.9bn**
to respond to changes in regulatory targets through WINEP and business-as-usual investments

Delivering Defra's Storm Overflows Discharge Reduction Plan targets at a faster pace, in support of The Environment Act 2021. We're committed to achieving by 2030:
**50%** reduction in duration of storm overflow discharges
**80%** reduction in sensitive catchments

### Resilience

**207 STWs**
Increased protection from river flooding

### Flooding

Protecting properties investment increased by
**£1.1bn to £19.8bn**
Higher proportion invested later in the plan period to support faster-paced storm overflow discharge reduction delivery

Reducing flood risk through our long-term sustainable partnerships co-delivering nature-based solutions

### Evidencing best value

**c.£6 per month customer bill increase**
Our DWMP has been carefully developed to make sure our customer bills remain affordable**. It will require some investment from other sources

**2/3 of the cost**
In our Deephams catchment trial green solution options were much cheaper than grey alternatives

**9** Building flexibility into our plan for potential different futures through testing nine alternative pathways

### Partnership opportunities and working

Statements of intent with key partners to promote co-funding, planning and delivery, in place by the end of
**2023**

**>270**
partnership opportunities identified and developed through our collaborative working***

**>40%**
of partnership opportunities mature enough to be delivered in the first 5 years of our plan

### Engagement

In co-creating our plan we facilitated
**>1,000**
hours of interactive stakeholder engagement activities

Gained input from around
**2,000**
customers and stakeholders at a national, regional and local level

Received
**c.1,400**
responses to the consultation on our draft plan

* Including the potential new STW in the South East London area.
** Calculation based on the indicative customer bill impact (pounds per year per household), averaged across our region.
*** Including additional projects identified post publication of our draft plan and a number evolving from AMP 7.

# Preface

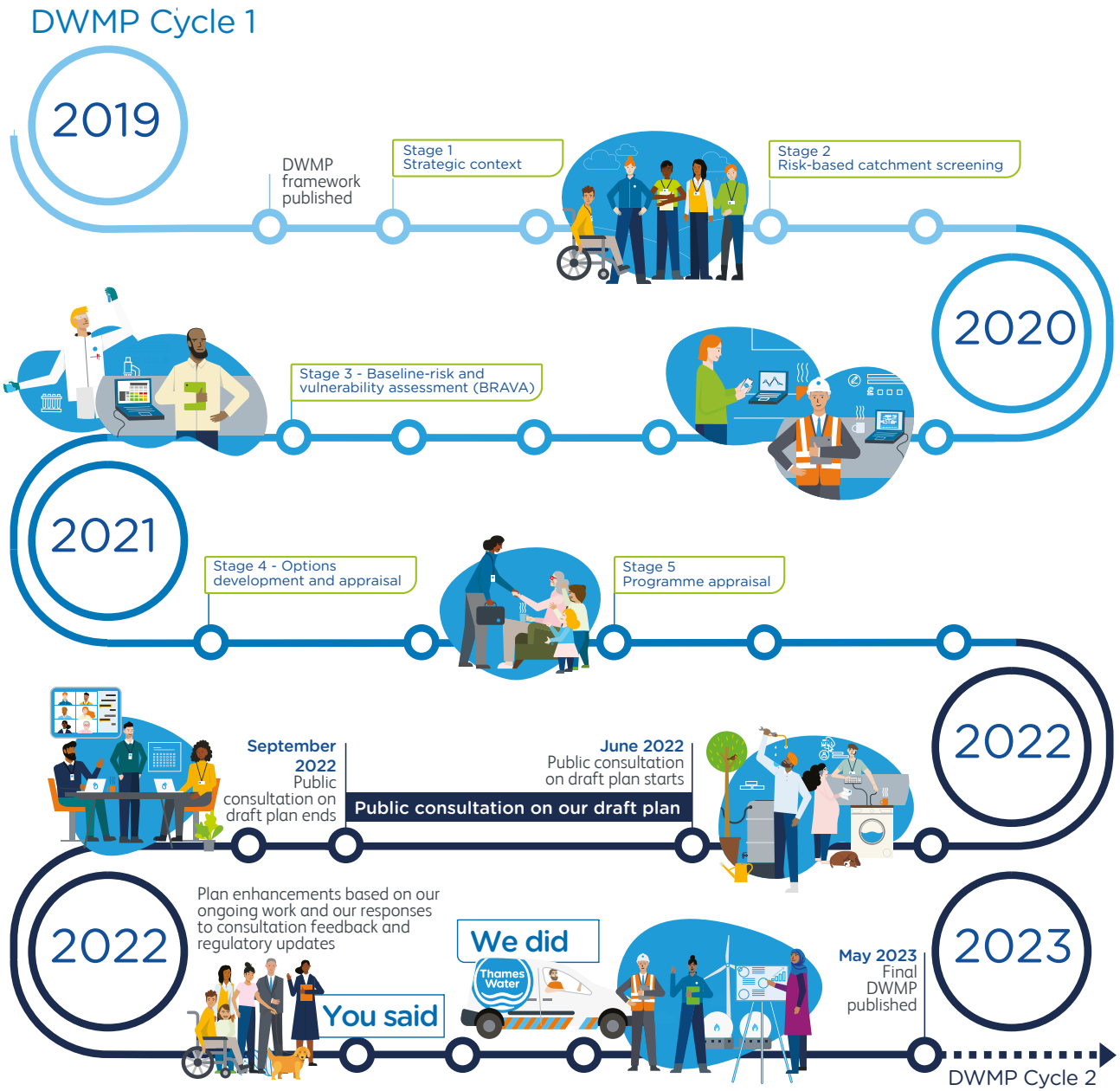
## Our progress and enhancements since our draft plan

Over the past four years, we've developed, tested and enhanced our DWMP by engaging with customers and stakeholders and working with their valuable input and feedback to create a final plan we can all support.

It's been almost a year since we first published our draft DWMP, and we've made some great progress since then. As customer and stakeholder requirements have evolved over time, our plan has evolved too.

We've enhanced our adaptive planning to increase the resilience of our final DWMP. We've also been testing its sensitivity against a range of alternative plans, risks and uncertainties to make sure our final plan is flexible to different potential futures. This approach will help us to make more proactive, adaptable and informed choices over time. It will also make sure that our interventions are set up for the future and can add the best value while providing ongoing opportunities for us to develop innovative solutions and ways of working.

We're delighted that our ongoing collaborative work, together with our responses to consultation feedback and regulatory updates, have significantly enhanced our final DWMP for our customers, stakeholders and environment across our region.



# Preface

## What you told us about our draft plan

We published our draft DWMP for public consultation in June 2022, and asked our customers and stakeholders for their feedback on it. We received around 1,400 responses from a wide range of local, regional and national stakeholder groups.

We received lots of positive comments on the quality and ambition of our draft plan as well as useful ideas for making our final DWMP even stronger.

The consultation feedback had six main themes, as outlined below. We've listened carefully and responded wherever possible within our final plan*.

This valuable feedback has further enhanced our DWMP and will help our customers, communities and the natural environment in our region to thrive now and in the future.

## You said

### You supported

- Our preferred plan with the majority of our customers and stakeholders agreeing with this choice
- Our proposed solution types from nature-based solutions to using the latest technologies to increase capacity in our sewer system
- Our partnership-working approach with our 200+ local authorities, organisations, action groups, catchment partnerships and national stakeholders

### You challenged

- Our targets – you wanted amendments or some new ones to be added
- Our programme – you wanted quicker delivery in certain areas and were concerned about such an ambitious SuDS plan
- The cost – you were worried about the impact on customer bills

### You offered ideas for

- New or amended solutions that we could consider including in our preferred plan
- Maximising the benefits of our preferred plan's positive outcomes
- Enhancements to our stakeholder engagement approach and ongoing activities

### You wanted more details on

- The resilience of our assets to flooding and power outage
- How our plan will be funded - by business-as-usual activities (base funding) or enhancement funds
- Adaptive planning scenarios to evidence how our plan could adapt to future influencing factors such as climate change

### Feedback themes

- **Protecting the environment** – Level of ambition and pace of delivery
- **Evidencing best value** – Affordability and bill impact
- **Delivering the plan** – Solutions and deliverability of the plan
- **Enhancing the plan** – Technical clarifications and ease of navigation
- **Working together** – Collaboration to achieve multiple benefits
- **Valuing your input** – Stakeholder engagement

## We did

We've used as much of your feedback as we could, together with the progress from our ongoing DWMP work and our responses to regulatory updates, to enhance our final plan including in the following ways:

- **More** ambitious storm overflow target delivery to help protect the environment
- **Increased** evidencing around best value and justification for our preferred plan
- **Increased** alignment of DWMP to other strategies and delivery plans
- **Increased** number of proposed solutions
- **Rewritten** and restructured parts of the documents to be clearer and more accessible
- **More** detailed content throughout, especially on strengthening partnership working and stakeholder engagement
- **Additional** future scenario testing
- **Increased** balancing of risk, ambition and deliverability
- **Earlier** planned implementations
- **New** dedicated technical appendices

* Some consultation feedback didn't require further action or wasn't relevant to the DWMP process. Other feedback was relevant to future DWMP planning cycles and will be used to inform this work.

Find out more about how we've addressed your feedback in our You Said, We Did Technical appendix.

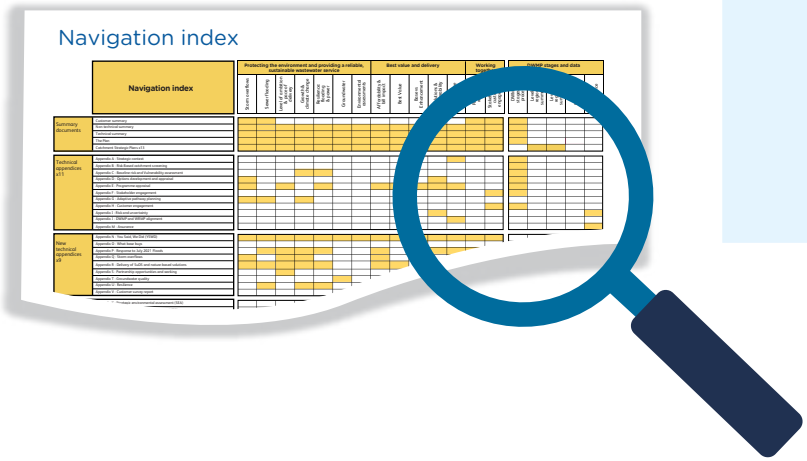
# Preface

## Navigating our final DWMP

We've enhanced our final DWMP since we published it as a draft for public consultation in June 2022, and we want to make it easy for you to see what's changed.

You can spot all the places we've updated our draft plan with our 'progress signposts', which we've used across all our final DWMP documents. Here's where they'll be:

- Preface summaries - We've put a summary table in each document's preface, excluding Summary documents and the Catchment Strategic Plans (CSPs)
- Relevant chapters - We've placed the appropriate signposts next to each relevant chapter, including Summary documents and the CSPs

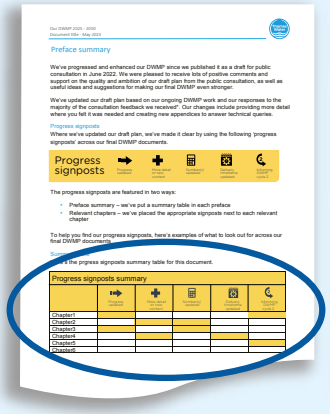



**Progress signposts**

- Progress updated
- More detail or new content
- Number(s) updated
- Delivery timeframe updated
- Informing DWMP cycle 2

To help you find our progress signposts across our final DWMP documents, here are examples of what to look out for:

### Preface summaries




### Relevant chapters


If you need help navigating our final DWMP and locating key content, you can find a navigation index on page 41 of this document.

# Planning for the future

We're delighted to have led the development of this Drainage and Wastewater Management Plan for London and the Thames Valley region.

This is a shared plan, developed collaboratively with other organisations and groups that have a shared responsibility and/or interest in drainage, flooding and environmental protection. Our DWMP sets out how we'll enhance our assets and networks over the next 25 years so that we can continue to deliver for our customers and the natural environment in a sustainable and affordable way; and in the face of future challenges including climate change.
Our DWMP supports our corporate strategy, builds on the work underway in the current planning period (2020 to 2025) and provides the context for the next planning period (2025 to 2030).

## Aligning to DWMP guidance and other strategic management plans

We've developed our shared plan in line with the DWMP Guiding Principles, 'Working Together' document and other national guidance and in alignment with wider industry strategic plans such as the WINEP and LTDS. We've also enriched it with wider water sector collaboration and the valuable lessons we've gained from developing other strategic plans, such as the Water Resources Management Plan (WRMP) and the Environment Agency's Flood Risk Management Plans. This has meant we've aligned our objectives as much as possible with other strategic plans and worked to identify areas of mutual benefit which can give rise to partnership solutions.

## Our wastewater region

Our regions are very different; from the densely populated commercial centre of London and outer conurbations, to the small villages and rural areas across the Thames Valley region. Our region is also unique, being home to many designated areas of outstanding natural beauty, sites of special scientific interest and world-famous, rare chalk streams, along with Europe's largest sewage treatment works – Beckton. Urban or rural, we strive to deliver an excellent wastewater service for our customers.

## Our region


## Our wastewater service

### Everyday we:

- **Collect** and treat 4.6 billion litres of wastewater from our **15 million customers**
- **Maintain** and enhance our 68,000 miles of sewers through our 1.77 million manholes
- **Pump** wastewater from our 5,123 pumping stations to be treated at our 354 sewage treatment works
- **Return** treated water safely back to our local rivers
- **Provide** access to more green spaces for our customers and communities to enjoy across our region

# Our DWMP stakeholders and planning area

To co-create our shared plan, we engaged our DWMP stakeholders across the following three levels. These were informed by the national framework as well as the existing planning boundaries and groups within our region.

## DWMP stakeholders

**Level 1** National stakeholders & Region-wide forums

Including Water UK Planning Forums, Environment Agency and Consumer Council for Water who cover the whole of the Thames Water region

**Level 2** Catchment Partnerships & Thames Regional Flood and Coastal Committee areas

Our 27 Catchment Partnerships (CPs) and 13 Thames Regional Flood and Coastal Committee Strategic Partnership areas (TRFCCs)

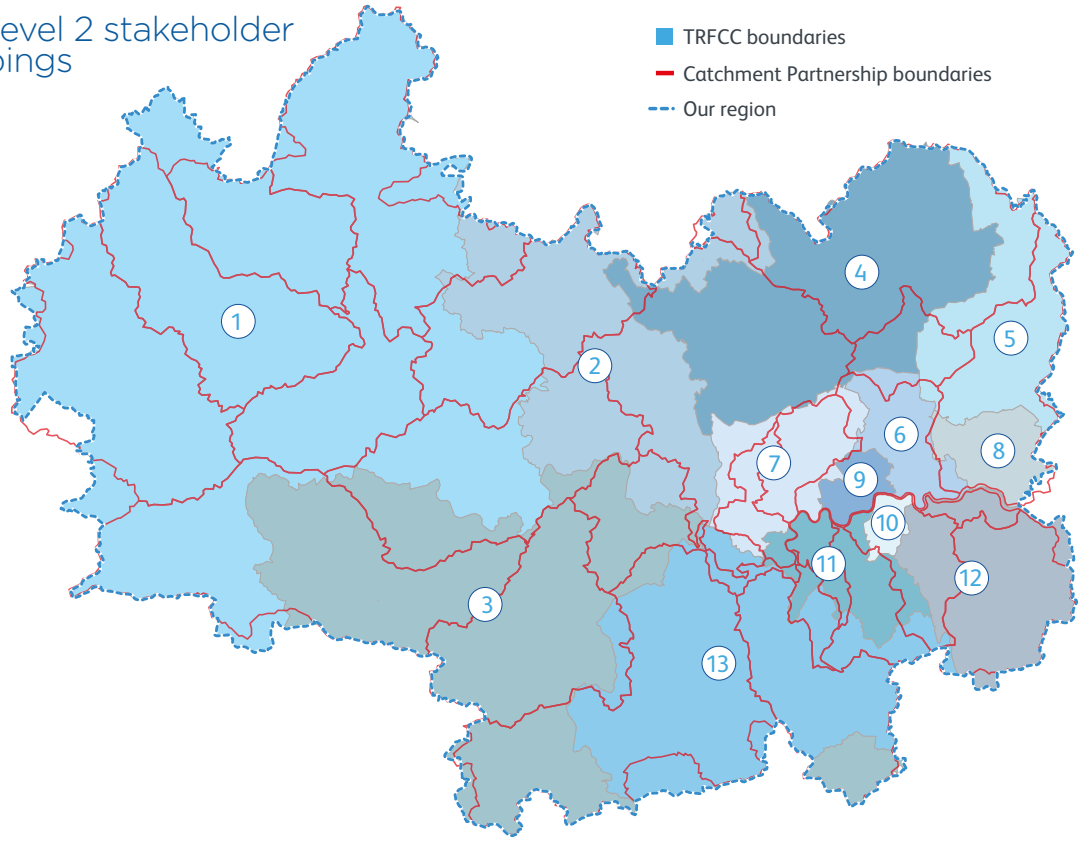
**Level 3** Local-level engagement & Customers

Including our customers, local organisations and local environmental action groups

For our Level 2 stakeholders and planning areas, we engaged with both our 27 Catchment Partnership (CP) networks who are primarily concerned with environmental protection and river health, and the 13 Thames Regional Flood and Coastal Committee (TRFCC) Strategic Partnership areas, who focus on local flooding. These partnerships are well-established, and their different but essential remits, boundaries and perspectives helped us to deliver joined-up thinking and planning based on detailed, local-level knowledge and experience.

We summarised our catchment-level data into the 13 TRFCC strategic partnership sub-regional boards, as illustrated on the map. Within these 13 Level 2 planning areas, we serve 382 Level 3 catchments.

## Our Level 2 stakeholder groupings




1. Oxfordshire, Swindon, Wiltshire, Gloucestershire, Warwickshire & Northamptonshire
2. Central Bedfordshire, Buckinghamshire, Slough, Luton
3. West Berkshire, Reading, Wokingham, Bracknell Forest, Windsor and Maidenhead, Hampshire, West Sussex
4. Hertfordshire
5. Essex and Thurrock
6. Lee Valley
7. North West London
8. North East London
9. Central North London
10. Central South London
11. South West London
12. South East London
13. Surrey

We co-created Catchment Strategic Plans (CSPs) with local stakeholders in Level 2 and 3 planning regions. These documents were developed through a series of workshops and include the risks and challenges each catchment could face in the future, and the long-term plans to address them.

Find out more about our plans for your specific CSP area on our Practitioner portal.

# Future challenges

Progress

In this first DWMP, our industry collectively prioritised the scope to focus on the future pressures that we consider to have the greatest impact on drainage and wastewater services, and that can be forecast using nationally-agreed data. These are climate change, population growth and protecting the environment, including through reducing storm overflow discharges.

## A growing population

Our region's population is predicted to grow by 2.5 million people over the period of this plan - a 16% increase to a total of 17.9 million people by 2050.

**We addressed this challenge in our shared plan by:**

Using the latest national and local population growth forecasts, projecting up to 2050. Using models of our sewer and wastewater treatment facilities, we predicted the future volume and treatment capacity required. Our sewage treatment works are most impacted, and our plan contains a forecast of the necessary upgrade work required at risk sites.

## A changing climate

Over the next 25 years, climate change will impact the weather patterns across our region. Extreme weather, such as heatwaves and flooding, will become more frequent and severe, with summer rainfall projected to become up to 20% more intense*.

**We addressed this challenge in our shared plan by:**

Modelling future scenarios to help evaluate the impact of climate change on the performance of our drainage and wastewater systems. Our plan contains a wide variety of solutions like relining sewers, upgrading sewage treatment works, addressing misconnections and increasing storm water storage or 'green' infrastructure, including sustainable drainage systems (SuDS) that mimic natural drainage.

* Betts, R.A. and Brown, K. (2021) Introduction. In: The Third UK Climate Change Risk Assessment Technical Report [Betts, R.A.,Haward, A.B. and Pearson, K.V.(eds.)]. Prepared for the Climate Change Committee, London.

## An environment in need

We must protect and enhance our natural environment, particularly the health of our rivers and wetlands, while balancing the costs of meeting environmental standards and keeping customer bills affordable.

**We addressed this challenge in our shared plan by:**

Modelling how the deficit in drainage or wastewater treatment could lead to unacceptable discharges. We've set ambitious targets in our Storm Overflows Discharge Reduction Plan to limit the impact on water quality. We've assessed the sensitivity of the receiving watercourse, expected environmental impact, discharge frequency and deliverability, to help us to prioritise investment and turn around our performance as quickly as we can. Our commitment is to deliver the requirements of Defra's Storm Overflows Discharge Reduction Plan, at a faster pace. This moves us closer to our ambition of stopping all storm discharges.

Find out more about our Storm Overflows Discharge Reduction Plan in our Storm Overflows Technical appendix.

# Our corporate vision

Progress

We set ourselves an ambitious corporate vision for 2050 to future-proof our wastewater service, stop wastewater pollution from our operation and be a force for good in our communities.

VISION2050

Our vision supports our purpose of delivering life's essential service so customers, communities and the environment can thrive.


## Customer

Providing outstanding service and value for all our customers; motivating them to save water and prevent blockages


## Community

Earning our place as a force for good: equipping local communities with the skills they need to thrive; using our land to benefit surrounding communities


## Water

Making sure everyone always has access to top-quality drinking water; investing in our network to prevent leaks and keep water flowing


## Waste and Rivers

Preventing all sewer flooding and wastewater pollution; leading wider efforts to restore river health and increase biodiversity


## Energy

Producing all the green energy we can to power what we do

# Our DWMP vision, planning objectives and level of service

Progress

Our DWMP supports our corporate vision by outlining solutions that account for the impact of population growth and climate change on our customers and the environment.

**Our DWMP vision** Working in partnership to co-create a 25-year plan for drainage and wastewater that sustainably benefits communities and the natural environment in our region.

**Our DWMP aims** To identify future catchment risks to our drainage and wastewater treatment systems from population growth and climate change and develop sustainable, efficient solutions to address them.

## Our 2022 performance

### Sewer flooding
3.46 internal sewer flooding incidents per 10,000 sewer connections in 2021/22.

### Storm discharges
17.0 storm discharges per overflow in 2022, totalling 74,693 hours.

### STW resilience
98.96% STW permit compliance achieved in 2021/22.

## Our 2050 DWMP service targets

### Sewer flooding to properties
Stop property flooding internally (within the home or business) and externally (outside the home or business) from our sewers where possible, up to a 1 in 50-year storm event*.

### Storm discharges of untreated sewage into the environment
Limit environmental impact by discharging on average, no more than 10 times per year, per storm overflow, and no more than three in designated bathing waters, by 2045**.

### Sewage treatment works (STW) resilience
Enhance the ability of our sewage treatment works to recover from difficulties, without impacting our service or the environment.

## Without the DWMP

## Our predictions for the future

### Sewer flooding
Growth and climate change could put an additional 187,000 properties at risk of flooding in a 1 in 50-year storm.

### Storm discharges
By 2050, growth and climate change would also have an effect, resulting in 45% of wastewater catchments having an unacceptable number of storm discharges.

### STW resilience
By 2050, the permit compliance of our STWs in almost half of our catchments (44%) could be at risk.

* This is a measure of how well our drainage systems can cope in extremely wet weather. The risk of sewer flooding in a 1 in 50-year storm is defined as the likelihood that flooding will occur as a result of rainfall in a storm that has a 1 in 50 (or 2%) probability of happening in any given year.

**Our sewers are designed to overflow to the environment to prevent homes and businesses from flooding. However, storm discharges that happen too often, or for too long, can impact the environment.

# Our DWMP planning objectives

Progress +

With our stakeholders, we drafted a set of 12 long-term planning objectives and level of service targets to help us achieve our 2050 vision.

Our 12 shared planning objectives are focused on the themes of addressing property flooding, limiting environmental impact from discharges and bringing wider benefits to communities, eg enhancing wellbeing via access to green spaces. Six of the 12 planning objectives are common across the water industry, and six are specifically designed for our region.

| Theme | Planning objective | What we're trying to achieve |
|---|---|---|
| Environment | Sewage treatment works quality compliance | Protection of our environment, looking after the health of our communities, rivers and aiming for zero pollution incidents |
| | Sewage treatment works flow compliance | |
| | Risk of pollution incidents | |
| | Storm overflow performance | |
| | Carbon | |
| | Wellbeing | |
| Property flooding | Internal sewer flooding risk | Development of our wastewater system to deliver a reliable and efficient service and to be resilient to the risks of flooding |
| | External sewer flooding risk | |
| | % of properties at risk of sewer flooding in a 1 in 50-year storm | |
| | Reduce surface water runoff | |
| | Reduce misconnections | |
| Asset health | Sewer collapses | |

Find out more about our 12 shared planning objectives in our Strategic Context Technical appendix.

# Co-creating our shared plan

Progress →

Stakeholder engagement and addressing feedback have been at the heart of the development of our first DWMP.

We've worked with our customers and stakeholders, particularly in our Level 1 and Level 2 planning forums, to test ideas, challenge assumptions, share information and develop detailed local level catchment plans. We've also gained customer and stakeholder insight and feedback through multiple channels including surveys and bespoke sessions, as well as through the formal public consultation process we carried out on our draft plan. At the same time, we've worked alongside our national stakeholders to align our DWMP to national policy.

Our aim was to co-create a DWMP that customers and stakeholders could own with us and trust, which would address the flooding and environmental protection issues related to the drainage and wastewater service required in our region over the next 25 years. We also wanted to develop a strong baseline for future planning cycles.

Due to Covid-19 restrictions, a lot of our stakeholder engagement work was carried out online or in virtual forums. We continued to use a broad range of online, offline and digital channels during the public consultation on draft plan to gain as much customer and stakeholder feedback as we could.

## Who we engaged with

## Customers

- Domestic
- Business
- Future
- Older
- Living in vulnerable circumstances

## Stakeholders

- Customer Challenge Group (CCG)
- Local authorities (planning, flooding and highways)
- National authorities
- Catchment Partnerships
- TRFCC strategic partnership areas
- Local environmental action groups
- Land and riparian owners
- Other organisations (eg TfL, GLA)
- Industry practitioner groups (eg LoDEG)


## Regulators

- Consumer Council for Water (CCW)
- Environment Agency
- Natural England
- Ofwat
- Defra
- National steering groups

For more information on this work see our Stakeholder Engagement Technical appendix and Customer Engagement Technical appendix.

# Delivering our shared plan

Progress

In the process of co-creating our shared plan, we've facilitated around 1,000 hours of interactive engagement activities and gained input from around 2,000 customers and stakeholders at a national, regional and local level.

Here are some examples of the diverse range of activities we've undertaken throughout the development of our shared plan. On the next page, you can see more details about how we gained your feedback on our draft plan during the public consultation period in 2022.

## How we engaged and collaborated

## Stakeholder engagement and collaboration

### Customers

"All day long, it's about future-proofing for me."
Customer online survey feedback

- >1,500 domestic customer responses and c.450 business customer responses
- 6 x 2 hour focus groups with 50 customers on optional solutions to our challenges
- 4 x website updates
- Draft plan online consultation form
- Draft plan online consultation survey
- Online survey to >500 customers on DWMP objectives and outcomes
- Regular opportunities for customer engagement
- 4 x Customer portal updates
- 12 hours of customer focus groups

### Stakeholders

- 7 x CCG updates and 7 x CCW updates
- 7 x Strategic forums
- >100 L2 bespoke workshops (local and regional)
- Strategic Context consultation documents
- Practitioner portal launched with access for >200 stakeholders
- 10 x Newsletters
- 22 x TFA-led webinars
- 13 x Catchment Strategic Plans
- 70+ BRAVA workshops 6 x Bespoke sessions
- 4 x CP and TRFCC presentations at regional sessions
- >70 collaborative catchment planning sessions
- Responses from >70 local authorities and >50 organisations
- 12 agreed planning objectives from consultation

"Stakeholder workshops have been broken into useful sections to enable more detailed discussions"
Stakeholder workshop feedback

### Regulators

- 8 x National Steering Group sessions
- 7 x Draft plan bespoke consultation sessions
- 27 x Environment Agency updates
- Stakeholder engagement approach approved/ developed with regulators
- 15 x Natural England updates
- 7 x Ofwat updates

"From a customer perspective, it's whether the scale and timeline of the ambition are right, and manage bill volatility within and between AMPs"
Level 1 stakeholder feedback

Progress →

# Gaining your feedback on our draft plan

It was great to have the opportunity to gain feedback on our draft plan through the DWMP public consultation process. We're grateful to all of our customers, stakeholders and regulators who took the time to share their views with us.

We were pleased to receive lots of positive comments and support alongside useful challenges, ideas and suggestions. You've all helped us to further strengthen and finalise the DWMP for our region.

## How we consulted


### Customers

- Online consultation form
- Online customer survey
- Customer portal updates
- Website updates
- Social media posts
- Dedicated DWMP mailbox

### Stakeholders

- Online consultation form
- Online workshops with local and regional stakeholders
- L1 stakeholder forums
- Thames Flood Advisors
- Catchment partnerships
- Practitioner portal updates
- Newsletters
- Website updates
- Dedicated DWMP mailbox

### Regulators

- Bespoke regulator sessions
- Practitioner portal updates
- Newsletters
- Website updates
- Dedicated DWMP mailbox

## Consultation timeline

**June 2022** – Public consultation

**September** – Feedback analysed

**October** – Feedback incorporation and plan enhancement

**November** – Final DWMP published

**May 2023**

For more information see our You Said, We Did Technical appendix.

## Our consultation highlights

**>1,300**
Customer online survey responses

**95**
Public consultation responses

**Every Catchment Strategic Planning area**
Responses from across our region, from Gloucestershire to South East London

**Every key stakeholder group**
Responses from local authorities to local action groups across our region

**Positive feedback**
Lots of positive and supportive responses including:

> "I really like how the information was set out in the showcards"
> Customer online survey respondee

> "Reading the information, followed by a question made it very easy to follow"
> Customer online survey respondee

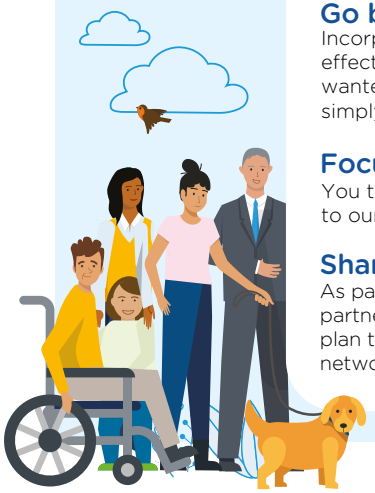
> "The consultation document itself is helpful because it provided links to relevant sections of the plan and was open in the wording of the questions"
> Public consultation respondee

# What you told us

Progress

While engaging with our customers and stakeholders about our DWMP, we asked some important questions. We wanted to understand the parts of our service you'd like us to prioritise over the next 25 years, the solutions you find acceptable and your final plan preferences.

Our customers and stakeholders shared valuable experiences, feedback and information with us in answering these questions. Here's a summary of what you told us you want to see in this DWMP.



### Storm overflows
Lots of our customers and stakeholders generally supported more stringent storm overflow discharge targets. Some stakeholders were seeking even more ambitious targets.

### Sewer flooding
Reducing the risk of property flooding from sewers was consistently a high priority for everyone we engaged with.

### Use nature-based solutions
Our customers and stakeholders wanted and expected us to use 'green' nature-based solutions as a sustainable solution in the DWMP, where possible. You were keen for our final shared plan to achieve a strong balance between traditional 'grey' and green' solutions.

### Go beyond standard industry metrics
Incorporating wider metrics as measures of our shared plan's effectiveness was important to everyone we engaged with. You wanted to include community and wellbeing metrics, rather than simply conventional industry standards.

### Focus on good asset health
You told us you considered good asset health as fundamental to our shared DWMP's success.

### Share data on surface water networks
As part of our shared planning and to help further facilitate partnership working, many stakeholders told us they wanted our plan to map and enable the sharing of data on surface water networks.

### Adopt ambitious DWMP objectives
Our customers and stakeholders were clear that they wanted and expected our shared plan to have stretching and aspirational long-term objectives and targets.

### Work with customers to reduce run off
It was important that our shared plan included more work with customers to help reduce runoff volumes. You particularly wanted our plan to encourage measures such as downpipe disconnection and installation of water butts.

### Clarify partnership project funding
You wanted clarity around how DWMP partnership project opportunities would be funded, particularly what a co-funded model would look like.

### Make water bills affordable for all customers
It was fundamental to you all that our shared plan was developed to be affordable for all customers and that any cost implications were smoothed over the long term to avoid any customer bill volatility.

### Improve the environment
Our customers and stakeholders wanted our shared plan to focus on protecting the environment across our region as well as enhancing it for existing customers and generations to come.

## A preference for nature-based solutions

Nature-based solutions absorb rainwater from buildings and impermeable areas. These include the use of SuDS, which mimic natural drainage. Good examples are tree planting and rain gardens, which absorb and slow down surface water run-off.

Photo: Example of a rain garden scheme in Godolphin Road, London; Thames Water.

For more information on this work see our Stakeholder Engagement Technical appendix, Customer Engagement Technical appendix and You Said, We Did Technical appendix.

# Delivering priorities and regulatory requirements

Progress

As we've developed our final DWMP together, the feedback we've received over the last four years has demonstrated just how aligned our priorities are. To get our wastewater performance where it needs to be, we're ready to deliver the priorities below while making sure bills stay affordable for our customers. But this is difficult to achieve given the scale of the commitments and deliverables required, and we don't expect all of the expenditure to be funded through customer bills.

## Keeping customer bills affordable

**Including:**

- Building flexibility into our plan for potential different futures through testing nine alternative pathways
- Increasing the average customer bill by c.£6 per month
- Obtaining additional funding from alternative sources

## Commitments and deliverables

**Including:**

- Meeting or over-achieving Defra's Storm Overflows Discharge Reduction Plan targets
- Limiting the environmental impact of storm overflow discharges
- Improving STW resilience to maintain permit compliance
- Stopping property flooding
- Championing sustainable 'green' solutions

## Adapting our plan

We've adapted our final plan to deliver as many of these commitments as possible. We haven't removed or reduced any of the commitments or deliverables we outlined in our draft DWMP, and we've made some more positive changes too. But to deliver some of these changes sooner, we've had to adjust some delivery timescales in other parts of our final plan.

**Storm overflows** — **Increased** storm overflows discharge reduction investment by £7.0bn to £10.9bn to respond to changes in regulatory targets through WINEP and business-as-usual investments

**Property flooding** — **Increased** investment by £1.1bn to £19.8bn to protect 187,000 properties from the risk of flooding in heavy storms

**Faster-paced storm overflow reduction** — **Directed** a higher proportion of property flooding investment later in our plan period to support faster-paced delivery of storm overflows discharge reduction to meet new regulatory requirements

**Focus on partnership working** — **Reduced** flood risk through increased focus on our long-term sustainable partnerships to co-deliver nature-based solutions

**Resilience** — **Increased** resilience by investing in protecting 207 STWs from river flooding

**Affordable customer bills** — **Spread** the delivery of our DWMP programme of work and its investment costs further over the plan period to keep customer bills affordable

Find out more about our challenge to balance our collective priorities in Section three of The Plan.

# Shaping the plan together

Here are just some of the ways your valuable input has shaped our shared plan.

Progress

## Doubled our planning objectives
and broadened our scope.

## Reintroduced catchments
excluded by the initial screening criteria.

## Increased property flooding investment
by £1.1bn to £19.8bn.

## Incorporated additional flood risk hotspots
by adding over 500 flood risk hotspots collaboratively to interactive catchment maps.

## Focused on reducing flood risk
through our long-term sustainable partnerships co-delivering nature-based solutions.

## Prioritised storm overflow discharge reduction and environmental protection
to make our rivers better at a faster pace, increasing our investment by £7.0bn to £10.9bn alongside sustainable 'green' solutions and carbon reduction.

## Incorporated your 25-year wastewater priorities
established for the first time.

## Developed 13 bespoke Catchment Strategic Plans
with local-level detail.

## Increased focus on community and wellbeing benefits
based on preferences and priorities.

## Jointly commissioned assessments
using data and findings to inform our plan.

## Collaboratively identified >270 potential partnership projects
we can explore and work on together in future.

## Increased evidencing and balancing of our plan's 'best value' and cost
based on customer and stakeholder value ratings.

## Focused on smoothing impacts on our customer bills
over the long term.

Customer and stakeholder feedback examples

> "We need to aim bigger and better, so not just restore back"

> "More collaboration could drive down cost, and there needs to be a link that you can capture this and that can be fed back into future bills"

> "Include more on the risks of climate change"

> "Ensuring wastewater is treated and returned safely to the environment seems to be the priority and correctly, that should be the case"

> "Go beyond industry business as usual of protecting to 1 in 50-year storms – what about protecting Londoners from the storms that we saw in July 2021?"

> "Can you make sure that as well as taking care of the future you're also repairing assets broken today"

Consultation on our draft plan
Stakeholder feedback example

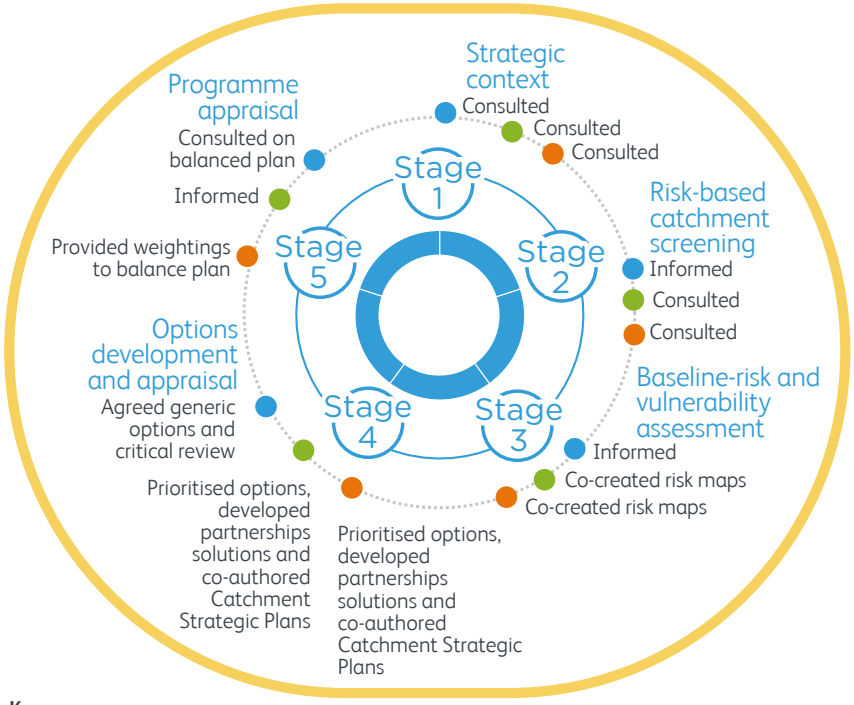
> "Provide more evidence around the costs and benefits of solutions - in particular schemes that deliver multiple benefits, how they compare to alternatives and how this has evolved since the draft DWMP"

# Realising the outcomes

We followed the nationally-agreed framework to co-create our DWMP, which includes the five-stage development process illustrated here.

By collaborating with our customers and stakeholders throughout each of the plan's development stages, we were able to agree what should be included in our first round of DWMP planning. We made sure all our engagement activities were accessible and easy for everyone to contribute to and we considered all the feedback we received. Our DWMP development process also included working with the feedback we received from the public consultation on our draft plan and responding to regulatory updates.

## DWMP development process




**Key**

DWMP stakeholders:

- Level 1 - National stakeholders and region-wide forums
- Level 2 - CPs and TRFCC areas
- Level 3 - Local-level engagement and our customers

Final DWMP enhancements:

- Based on our ongoing work, responses to public consultation on our draft plan and regulatory updates.

Progress

# Stage 1
# Strategic context

## What is this stage?

This is the first step in the development of a DWMP. It establishes the partnership working principle, defines the scope of the plan and how it will be measured.

## What you told us and what we did

We worked with stakeholders from over 70 organisations, institutions and groups at a local, regional and national level throughout this stage. We carried out a stakeholder consultation and produced summary documents to drive the consultation and summarise the responses. To support this, we launched the DWMP portal on our website, which showed our progress in local areas as we developed our shared plan. As part of the consultation on our draft plan our regulators reiterated their views on how we address both property flooding from sewers, and storm overflow discharges.

## What was delivered?

- Agreed that the scope of the first cycle would focus on population growth and climate change
- Established our main engagement framework with the Thames Regional Flood and Coastal Committee, supported by input from 27 catchment partnerships and a region-wide forum to give oversight
- Co-created and agreed 12 shared planning objectives
- Launched the DWMP portal on our website
- Updated the Strategic Context Technical appendix to incorporate the latest regulatory updates, including Defra's Storm Overflows Discharge Reduction Plan

Find out more about this stage in our Strategic Context Technical appendix. Find more information on the consultation feedback we recieved and our responses in our You Said, We Did Technical appendix.

# Stage 2
# Risk-based catchment screening (RBCS)

Progress

## What is this stage?

This second stage is a high-level screening process that looks at the performance of all 382 of our drainage and wastewater catchments (the areas that each drain to one sewage treatment works). It aims to filter-out those catchments that aren't as vulnerable to long-term pressures as others within our region, and therefore are not in need of long-term planning via the DWMP.

## What you told us and what we did

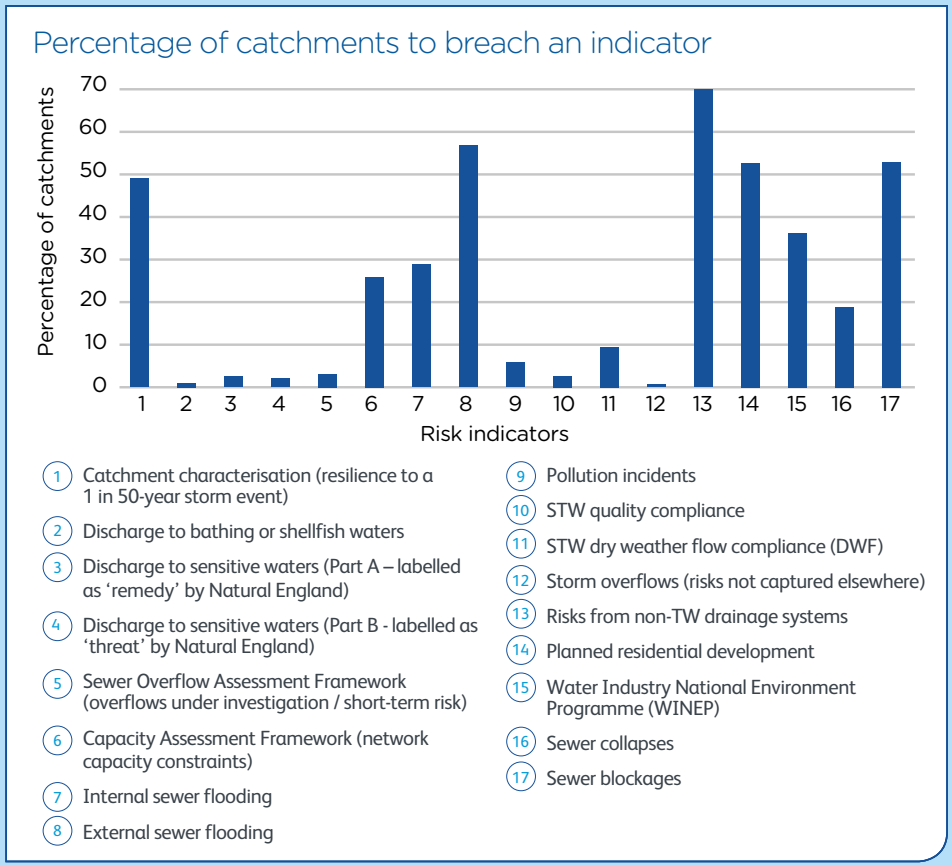
We followed the screening approach set out in the DWMP framework and applied 17 different risk indicators to our wastewater and drainage service in each of the catchments in our region. The indicators covered themes such as flooding, pollution and STW compliance. We worked with stakeholders to fully capture all of the risks, and re-instated two previously screened-out catchments in Wiltshire, due to stakeholder input on the extent of surface water flood risk.

Every five years, when we update our plan, we'll redo this screening process to make sure we capture new and emerging risks and any changes to our future predictions. Consultation feedback on our draft plan included a request to review our screening metrics in DWMP Cycle 2.

## What was delivered?

- Screened each catchment, which showed that most of our catchments (77% to 99.8% of the total population in our region) would need DWMP planning – this meant our first cycle needed to take a comprehensive view of long-term needs for most of our area
- Carried out a sensitivity analysis to see how changing the rules might affect the number of indicators breached - this analysis had little impact on the catchments we screened in terms of population served
- Shared the results via an online mailbox for stakeholder feedback

## Example from our work




Find out more about the risk indicators we used in our RBCS Technical appendix. See how your catchment did against these indicators, and if it needed more detailed analysis, on our Customer portal.

# Stage 3
# Baseline-risk and vulnerability assessment (BRAVA)

Progress

## What is this stage?

This is the main risk assessment stage within the DWMP development process. BRAVA helps us to understand in detail the level of risk to our service over time, faced by each of the catchments progressed from the RBCS stage.

## What you told us and what we did

We carried out catchment risk assessments to score the level of future service risk in each catchment due to growth and climate change, and defined the level of solution complexity needed to address them. We modelled the performance of these catchments at several time horizons: 2030, 2035 and 2050, using existing catchment data and models.

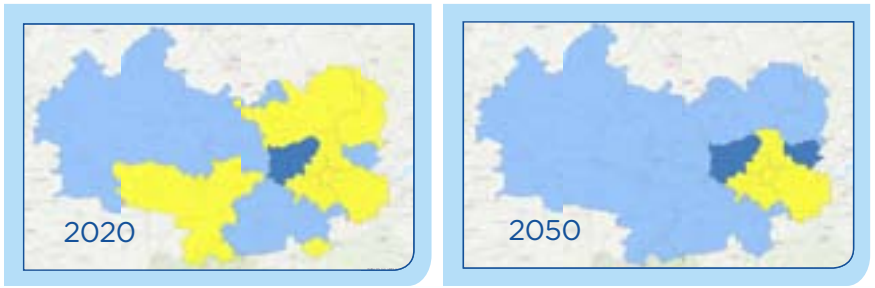
Throughout this stage we also worked with our partner organisations, wider stakeholders and customers, holding over 70 virtual partnership workshops to share BRAVA results and identify additional areas of risk. This detailed work helped us to fully understand the severity of risks in each catchment, prioritise our work and focus solution options. During the consultation period, we were asked to add further information to our plan around how our assets would react to fluvial and coastal flooding and power failure.

## What was delivered?

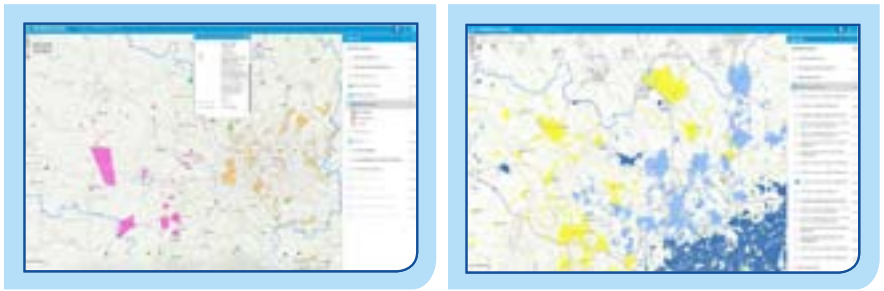
- Confirmed that, if not addressed through our shared plan and partnership work, the future pressures of climate change and population growth could significantly impact our wastewater service, the natural environment and communities across our region
  - Without continued investment, population growth will erode our treatment capacity and cause significant compliance issues, impacting 34% of our catchments by 2050
  - If we do nothing, over a third of our wastewater catchments will have an unacceptable frequency of storm overflow discharges by 2050 – although the Thames Tideway Tunnel will help to protect the Tideway region by reducing the total volume of storm overflow discharges by 95% in a typical year
- Highlighted that areas in North West London and the Surrey region are particularly vulnerable to flooding in the future
- Detailed risk and opportunities for each catchment and added >500 additional risk hotspots collaboratively to regional maps
- Added additional GIS layer of risks within our Practitioner portal
- Set out plans to increase protection for 207 STWs from river flooding
- Revised AMP 8 property flooding solutions to align with WINEP over the first five years of our plan
- Enhanced our BRAVA technical appendix to include more information on our approach to fluvial resilience – we'll address stand-alone power resilience assessments in DWMP Cycle 2

## Examples from our work

### Projected risk of STW storm overflow performance example maps

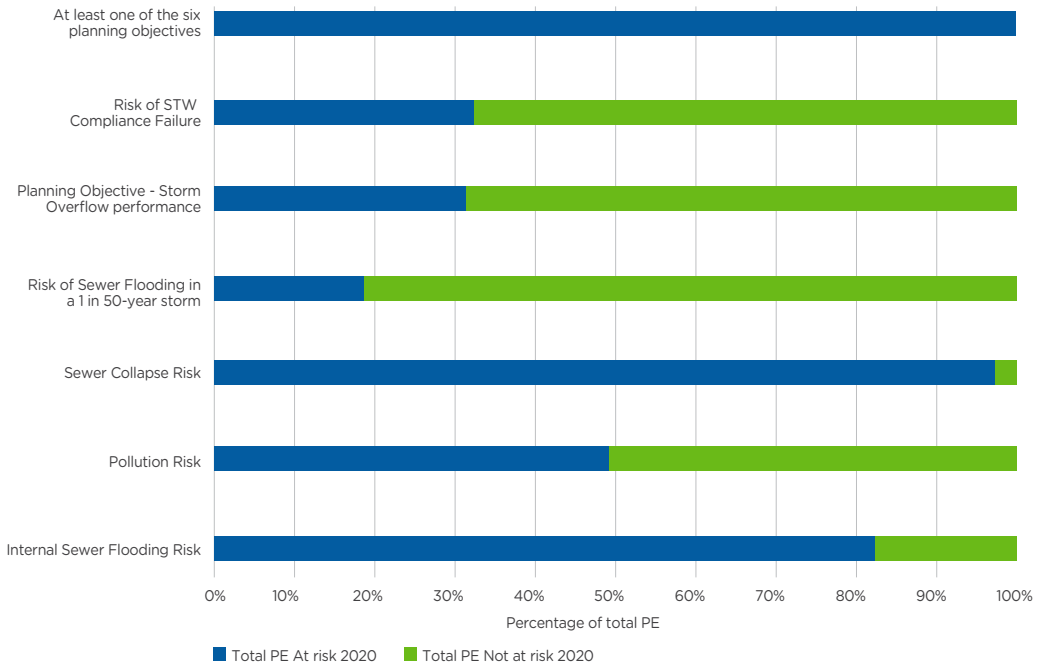



### Risk and hotspot mapping examples

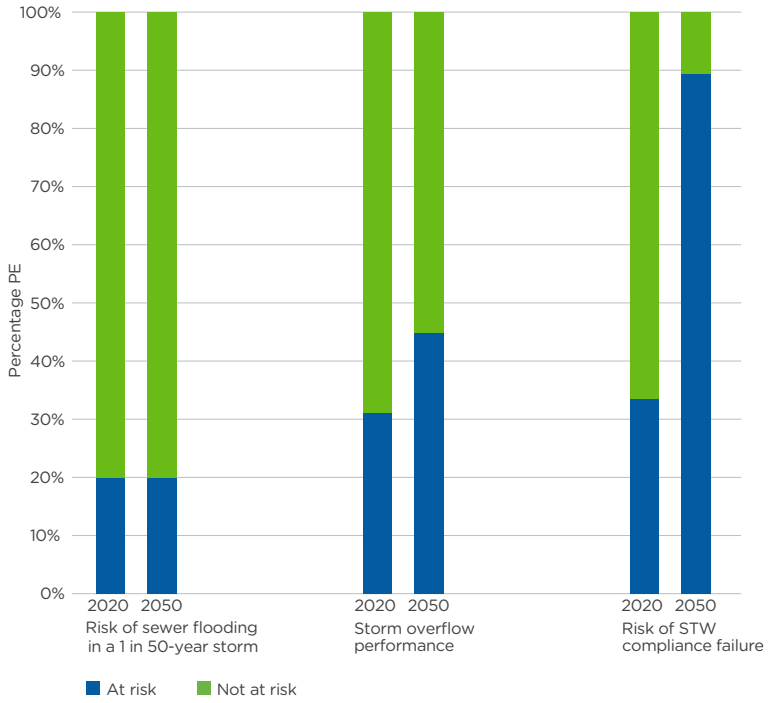


# Examples from our work

## BRAVA: The size of the problem - the percentage of our population equivalent (PE) at risk of failing a planning objective




## Modelled impact of population growth and climate change between 2020 and 2050




Find out more about this DWMP development stage in our BRAVA Technical appendix. Track the region's performance over time and find out which catchments progressed to the next stage on our Customer portal.

# Stage 4
# Options development and appraisal (ODA)

Progress

## What is this stage?

The ODA stage develops a set of 'best value' solution options to address the risks and challenges identified in the BRAVA stage, within relevant catchments. Best value means using a benefits framework incorporating broader factors such as natural capital value, wellbeing and biodiversity.

## What you told us and what we did

We worked extensively with our customers and stakeholders throughout this stage and in response to consultation feedback on our draft plan. We worked collaboratively to identify, assess and shortlist the best solutions for our shared plan. We filtered down the solution options based on their operational feasibility, performance and investment costs, as well as assessing the value and benefits they provided to our customers, communities and the natural environment in our region.

The filtered solution options were generally similar across the region, with some notable differences. In smaller catchments, particularly in our Thames Valley region, the solution options were narrower, reflecting common local circumstances. Whereas, in our larger more complex London catchments, the solution options were wide-ranging and focused more on SuDS.

We delivered an extensive engagement programme associated with this stage of DWMP, including webinars for orientation and stakeholder workshops to challenge the narrowed list of options. Additionally, we delivered 13 interactive workshops attended by over 100 Level 2 stakeholders to help start the co-authoring of sub-regional Catchment Strategic Plans. Our stakeholders responded to the consultation on our draft plan with additional solution options including property and community-level water management.

## What was delivered?

- Identified >270 partnership project opportunities, including additional projects identified post publication of our draft plan and a number evolving from AMP 7
- Produced alternative pathway plans for our complex STWs, Beckton and Mogden
- Developed a 'SuDS-first' plan for London based on the success of our trial in the Deephams catchment
- Identified the common option types for our Thames Valley catchment, as illustrated in the example below
- Delivered bespoke customer research on solution option types and preferences – customers showed the strongest support for the options they considered realistic, already proven to work and the right thing to do, such as managing rainwater with 'green' infrastructure, which was successfully demonstrated in our Deephams catchment trial
- Identified the potential for a new STW in the Kent area with water and wastewater benefits
- Aligned our plans with WINEP and integrated them into wider PR24 planning

## Example from our work

### Typical solution options selected for Thames Valley catchments

| | | |
|---|---|---|
| Property-level protection | Re-configure network to optimise spare capacity | Separation of surface water to foul misconnections |
| Reduce unwanted flow (Infiltration) | Increase sewer capacity and storage | Manhole sealing in flood-prone areas |
| Reduce unwanted flow (Surface water) | Increase treatment capacity | Monitor and investigate future exceedances |
| Integrated surface water network modelling | Surface water source control | Separation of network |

Find out more about this DWMP development stage in our Options Development and Appraisal Technical appendix. See the Catchment Strategic Plan for your area on our DWMP Homepage.

# Stage 5
# Programme appraisal

Progress

## What is this stage?

Programme appraisal is the final stage within the DWMP Framework. It optimises the cost and benefits of each option to derive a preferred long-term investment plan that balances multiple DWMP objectives.

## What you told us and what we did

We developed 14 criteria to assess our plans. These were based on our planning objectives, incorporating additional environmental benefits such as natural capital, biodiversity and carbon impact. We commissioned bespoke quantitative customer research to provide the weightings for the criteria to balance the plan. Finally, we developed a bespoke decision support tool based on one used for plan balancing in the WRMP.

We ran multiple plan versions through the tool and agreed with stakeholders on a handful of alternative plans to compare, along with a set of investment profiles. Stakeholders were clear that they wanted to see a plan that achieved ambitious targets in the long term. The plan that best delivered on this, whilst also scoring the highest against the 14 criteria within our deliverability and affordability constraints, was selected as our draft plan. Our customers and stakeholders gave us lots of positive feedback as well as suggestions to align our priorities even more closely. We collaborated with stakeholders to develop our final DWMP, which now incorporates both draft plan feedback and recent regulatory updates.

## What was delivered?

- Created a bespoke DWMP decision support tool to allow us to optimise our plan based on our value criteria
- Carried out customer research to understand our customers' value preferences
- Engaged with stakeholders to set out potential alternative plans
- Held Level 1 stakeholder sessions to agree possible plan assessment and balancing
- Co-created a shared plan with a forecast investment requirement of £31.9bn over the next 25 years to tackle growth and climate change
- Used our alternative pathways approach to demonstrate our shared plan is much more sensitive to climate change than population growth

## Examples from our work

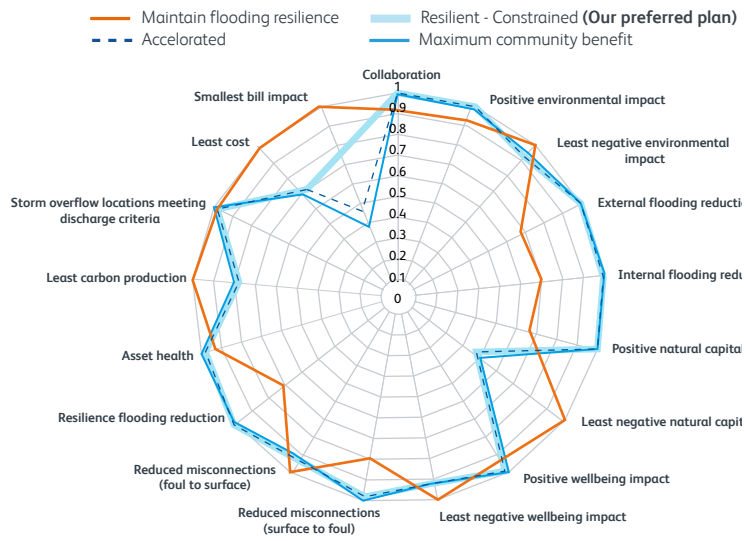
In the example radar plot below, we show the value and benefit performance for the following alternative plans, each include delivery of the storm overflow discharge reduction targets:

- **Maintain flooding resilience plan** – maintains current flooding performance
- **Resilient - Constrained plan (Our preferred plan) -** meets our targets while managing the impact on customer bills and deliverability
- **Accelerated plan** – delivers the commitments and targets sooner
- **Maximum community benefit plan** – achieves the maximum benefit for our communities and the environment

Overall, we looked for the plan that plotted the largest circle, indicating that it was delivering 'best value' against the criteria. This was selected as our preferred plan.

### Relative performance of our preferred plan for the London and Thames Valley catchments

A score of one represents the maximum benefit (or minimum adverse effect) possible across the four potential alternative plans.




Find more details on our alternative plans in our Programme Appraisal Technical appendix. See the radar plot for your area on our Customer portal.

# A snapshot of our shared plan

Progress

This shared plan will take our drainage and wastewater performance from where it is today to where it needs to be by 2050, while providing the best value for our customers, communities and our region's environment for generations to come. It will substantially resolve sewer property flooding and limit the environmental impact of storm overflow discharges, together with delivering benefits for our customers and the communities we serve.

The use of nature-based solutions in this plan has been carefully balanced with the use of traditional solutions, such as sewer upsizing. 'SuDS-first' is at the heart of our plan, as is providing greater access to green spaces for everyone to use and enjoy. Our plan aims to positively impact health and wellbeing as well as creating the additional environmental and societal benefits that 'green' solutions bring, such as storing carbon and regulating the air quality across our region.

## Our plan will:

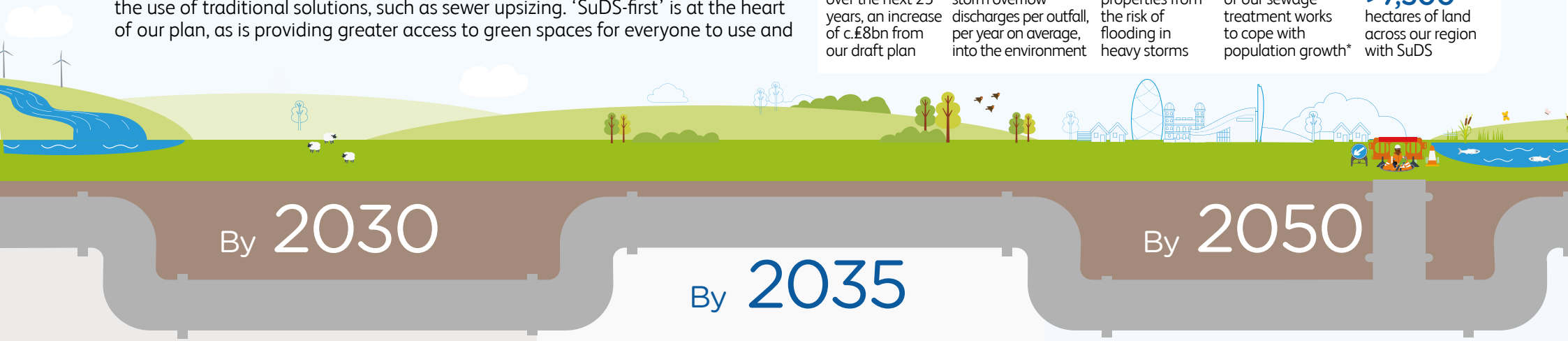
**Invest**
**£31.9bn**
over the next 25 years, an increase of c.£8bn from our draft plan

**Improve**
to **≤10**
storm overflow discharges per outfall, per year on average, into the environment

**Protect**
**187,000**
properties from the risk of flooding in heavy storms

**Upgrade**
**82**
of our sewage treatment works to cope with population growth*

**Manage**
rainwater falling on
**>7,500**
hectares of land across our region with SuDS



## By 2030

### Sewer flooding in properties

Tackle the worst flooding hotspots across our region

### Storm overflow discharges into the environment

Address storm overflow discharges at sites that discharge to our most sensitive rivers

### Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at the most sensitive sites, and no more than three in a typical year at our designated bathing waters
- Manage the rainwater falling on 99 hectares of land in London that drains into the sewer network, using SuDS
- Reduce the number of properties at risk of internal and external sewer flooding in a 1 in 50-year storm by 5% in our Thames Valley region
- Ongoing upgrades of 30 STWs across the Thames Valley
- Investigate options for a new STW in the London area to take pressure off the sewer network

## By 2035

### Sewer flooding in properties

Roll-out partnership solutions to tackle all types of sewer flooding

### Storm overflow discharges into the environment

Address storm overflow discharges at sites that discharge to sensitive rivers

### Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all sensitive sites
- Manage the rainwater falling on 63 hectares of land in London that drains into the sewer network, using SuDS
- Reduce the number of properties at risk of internal and external sewer flooding in a 1 in 50-year storm by 16% in our Thames Valley region
- Upgrade our largest STW, Beckton, and three further sites across London and 43 STWs across the Thames Valley
- Potentially commence delivery of the new STW in the South East London area

## By 2050

### Sewer flooding in properties

Eradicate flooding risk to properties in all but the most extreme storm events

### Storm overflow discharges into the environment

Reduce storm overflow discharges to such a low number that they will have no impact on rivers

### Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all storm overflow locations, by 2045
- Manage the rainwater falling on 6,851 hectares of land in London that drains into the sewer network, using SuDS
- Eliminate the risk of sewer flooding at properties in a 1 in 50-year storm in our Thames Valley region where feasible
- Upgrade two STWs in London and two in the Thames Valley, and revisit 11 STWs across our region for their next round of upgrades

See what we're planning to do in your area on our DWMP Homepage.



* Including the potential new STW in the South East London area.

# A snapshot of our shared plan in London

Progress

Our strategic intent for London's asset base is primarily to reduce and remove the impact of surface water via a transformational SuDS plan. London is a green city with a track record of delivering strategic SuDS enabling a platform to support a 'SuDS-first' plan. The scale of the endeavour and our knowledge of diminishing benefits means that we cannot rely on SuDS alone and so in some areas upsizing, retention tanks and individual property-level protection measures will continue to be appropriate.

This is a transformational plan to address future pressures, reduce the risk of customer property flooding and limit the environmental impact from storm overflows discharging untreated sewage during heavy storms. Central to our plan are 'green' nature-based solutions. Our ambition is to deliver them on the scale of the traditional infrastructure-based or 'grey solutions' of the past, although we'll use some grey solutions in the near term to address storm overflow issues and meet regulatory requirements.

Partnership solutions are a fundamental part of DWMP delivery due to the shared ownership responsibilities for drainage. Our DWMP will involve multiple projects across all London catchments, including our proposed ramp-up of SuDS delivery to over 160 hectares over the next ten years (99ha in AMP8 and 63ha in AMP9). London has a wealth of green spaces and we want to build on the success of our recent pilot projects across the city.

Alongside SuDS, we're planning to increase capacity in our sewerage systems to cope with future pressures by potentially investing in the development of new STW as well as upgrading our largest STW, Beckton, and five other sites. We'll also be intensifying our treatment capacity by using the latest and emerging technologies, as space to build and extend our treatment sites is so limited in this area.

We're improving access to the environment and green spaces around our London sites, to have a positive impact on the health and wellbeing of our customers and the communities we serve here. This plan also includes the development of partnership opportunities with other key stakeholders including the London Borough Councils.

## Targets and solutions

Here are our DWMP targets for our London catchments and the solutions and activities we'll be delivering in this part of our region over the next 25 years. Our shared plan has been designed to support the growth of the city and minimise disruption in doing so.

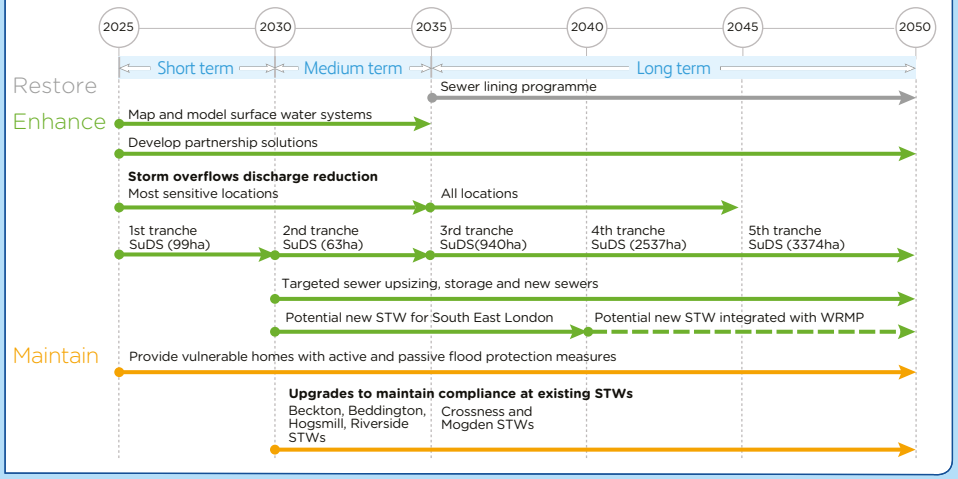
### London DWMP targets

**Sewer flooding**
95% of properties are protected from sewer flooding in a 1 in 50-year storm

**Storm overflows**
No more than 10 discharges per overflow on average per year, by 2045

**Treatment**
100% permit compliance by enhancing resilience at our STWs

### Our high-level plan for London



Progress

## In the near term (2025 -2035), we'll:

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at the most sensitive locations by 2030, and all sensitive locations by 2035. Support these targets by enhancing our network with sewer upsizing, new sewers and tank storage
- Improve our surface water modelling
- Increase SuDS delivery to over 160 hectares
- Develop partnership solutions
- Provide homes with active (human intervention required eg manual flood barriers) and passive (self-operating) flood protection measures, where appropriate
- Provide upgrades at four STWs to maintain permit compliance
- Investigate the potential for a new STW in South East London serving the Kent area
- Investigate a potential new STW in West London as part of an integrated water resources scheme
- Create a positive impact on the environment and community wellbeing in key locations through partnership work

## In the medium to long term (2035 -2050), we'll:

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all locations, by 2045
- Continue to enhance our network with sewer upsizing, new sewers and tank storage
- Address asset condition by relining high-risk sewers
- Continue SuDS delivery and ramping up to a total of over 7,000 hectares of land in London, that drains into the sewer network
- Maintain ongoing partnership working
- Continue the upgrades of four STWs across this part of our region to keep pace with demand and population growth
- Provide STW upgrades to two further sites across London
- Potentially commence delivery of two new STWs - South East London and STW integrated with WRMP
- Continue upgrades to prevent our storm overflow discharges increasing due to climate change and population growth
- Continue creating a positive impact on the environment and community wellbeing in key locations through partnership work

## A 'best value' plan

We developed specific flooding and storm overflow performance options for the London catchments to take through our decision support tool. Recognising the potential delivery challenges around the proposed scale of SuDS implementation, we limited the delivery scale and pace within the near term.

The shared plan we selected for the London catchment, our preferred plan, plotted the largest circle against all the value priorities and preferences our customers and stakeholders had told us, and so achieved the greatest 'best value' score.

### Relative performance of our preferred plan for the London catchments

A score of one represents the maximum benefit (or minimum adverse effect) possible across the four potential alternative plans.


Find out more about our how we're reducing storm overflow discharges in our Storm Overflows Technical appendix.

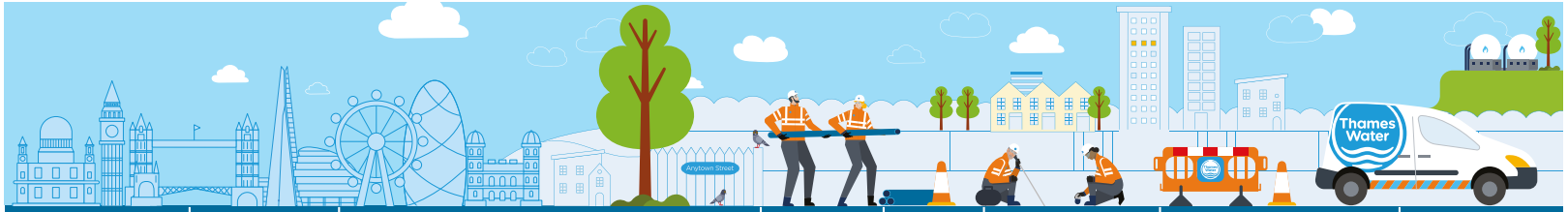
Progress

# Our plan for London (2025 to 2050) - Level 2 planning areas

We've worked closely with local stakeholders across our region to co-create Catchment Strategic Plans for each of our Level 2 planning regions, of which there are seven in London.

Organisations taking part in developing these plans with us included the Environment Agency, lead local flood authorities, non-government organisations (NGOs) and our Catchment Partnerships. The documents include a long-term shared vision with our stakeholders, the challenges that each catchment will face in the future and the long-term plans to address these issues.

Through working together, we believe these plans are a great representation of our stakeholders' concerns and preferences. They represent balanced plans that will tackle the future challenges facing our region, including climate change and population growth. We provide a high-level view of our plan for the Level 2 areas of our London catchments below.




| **London** L2 planning area | **Storm overflows** (Number of discharges reduced) | **Property flooding protection** | | | **STW new/ upgrades** | **Sewer relining** (Km) | **Surface water runoff** (Ha removed) | **Carbon** (Tonnes) | | **Capital cost** (£m) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Internal | External | 1 in 50-year storm event | | | | Removed | Used | |
| Beckton | 259 | 8,006 | 8,207 | 20,920 | 1 | - | 1,104 | 8,417 | 417,010 | 3,754 |
| Beddington** | 2 | 1,995 | 3,077 | 5,481 | 1 | 32 | 157 | 266 | 57,222 | 611 |
| Crossness | 32 | 17,275 | 11,696 | 32,033 | 1 | - | 2,412 | 9,325 | 441,900 | 3,367 |
| Deephams | 147 | 4,154 | 6,678 | 12,225 | - | - | 613 | 3,560 | 210,778 | 1,516 |
| Hogsmill** | 202 | 14,438 | 24,618 | 44,241 | 1 | - | 357 | 513 | 480,149 | 4,765 |
| Long Reach | 128 | 4,251 | 7,451 | 13,440 | 1 | 423 | 306 | 402 | 264,672 | 2,367 |
| Mogden | 722 | 14,991 | 12,078 | 32,270 | 1 | - | 1,885 | 28,619 | 717,382 | 5,706 |
| Riverside | 357 | 1,449 | 2,721 | 4,096 | 1 | 201 | 79 | 642 | 86,132 | 624 |
| Non region specific | - | - | - | - | - | - | 99 | - | - | 211 |
| TOTAL (approximate*) | 1,849 | 66,559 | 76,526 | 164,706 | 7 | 656 | 7,012 | 51,744 | 2,675,245 | 22,922 |

* These are approximate figures as they're subject to rounding.

**Beddington and Hogsmill form one Level 2 planning area however, they're listed individually in this table to provide a more granular breakdown.

See the full Catchment Strategic Plan for your area on our DWMP Homepage.

# A snapshot of our shared plan in the Thames Valley

Progress

Our plan for the Thames Valley is primarily focused on reducing the risk of customer property flooding, limiting the environmental impact from storm overflow discharges and addressing future pressures.

At the core of our plan is eliminating the additional water that flows into our sewer network which shouldn't be there, such as from misconnected plumbing, groundwater infiltration and surface water drainage. This unwanted water reduces the capacity of our sewer system, sometimes leading to flooding into properties, and overflows to the environment.

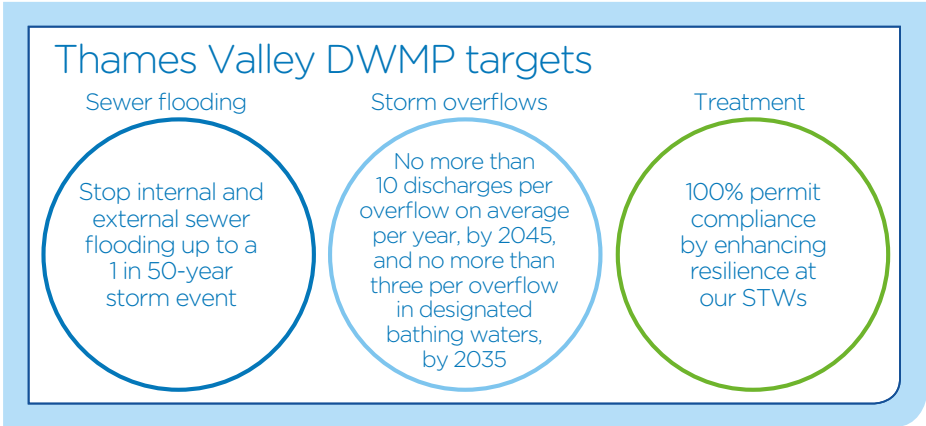
Our plan is adaptive, aiming to aggressively target this unwanted water and restore sewer capacity incrementally at system level. We'll do this through a significant programme of sewer relining, manhole sealing and replumbing of property misconnections, while at the same time educating our customers on how to avoid misconnections in the future. To prioritise which storm overflows to tackle first, a risk assessment was carried out looking at the sensitivity of the receiving watercourse, expected environmental impact, discharge frequency and deliverability. Our approach aims to deliver the maximum benefit of reducing storm overflow discharges to the environment, in the shortest time for our customers.

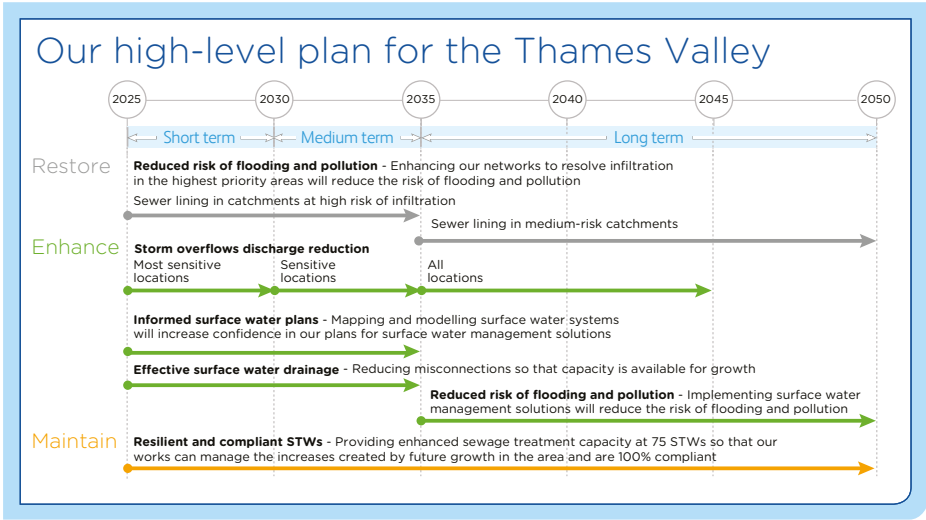
We're addressing the future pressures with plans to upgrade 75 STWs across this part of our region, intensifying our treatment capacity by using the latest and emerging technologies and using nature-based solutions such as rainwater gardens to absorb rainwater. This plan also includes the continued development of partnership opportunities with our key stakeholders.

It's important to us that this plan is a force for good in the communities we serve. We're improving access to the environment and green spaces around our Thames Valley sites, to have a positive impact on the health and wellbeing of the area.

## Targets and solutions

This area covers the Thames Valley and Home Counties areas in our region, outside of London. Here are our DWMP targets for the Thames Valley catchments, the solutions and activities we'll be delivering in this part of our region over the next 25 years.



Progress

## In the near term (2025 - 2035) we'll:

- Map and model our surface water networks and establish partnerships to enhance our shared knowledge, understanding and solution development for the medium to long term
- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at the most sensitive locations by 2030, and all sensitive locations by 2035, and no more than three per overflow in a typical year at our designated bathing waters, by 2035
- Target sewer network enhancements to address sites sensitive to storm overflow discharges
- Tackle surface water misconnections to our sewer system with replumbing
- Reline sewers to reduce infiltration from groundwater and manhole sealing to reduce inundation from surface water
- Work in partnership where possible to evolve surface water systems, championing 'green' infrastructure
- Upgrade our STWs to make sure they can cope with the impacts of climate change and population growth

## In the medium to long-term (2035 - 2050), we'll:

- Continue our approach, but with our improved understanding of our local areas gained from improved maps and increased coverage with models
- Reduce the risk of flooding and pollution by implementing surface water management solutions. This will help us mitigate the impact of climate change, and keep us on track for hitting our target of eradicating property flooding by 2050
- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all locations, by 2045
- Maintain ongoing partnership working
- Continue upgrades to prevent our storm overflow discharges increasing due to climate change and population growth
- Create a positive impact on the environment and community wellbeing in key locations through partnership work

## A 'best value' plan

We developed specific flooding and storm overflow performance options for the Thames Valley catchments to take through our decision support tool. We recognised the need in the near term to map and model our surface water networks.

The shared plan we selected for the Thames Valley catchment, our preferred plan, plotted the largest circle against all the value priorities and preferences our customers and stakeholders had told us, and so achieved the greatest 'best value' score.

### Relative performance of our preferred plan for the Thames Valley catchments

A score of one represents the maximum benefit (or minimum adverse effect) possible across the four potential alternative plans.

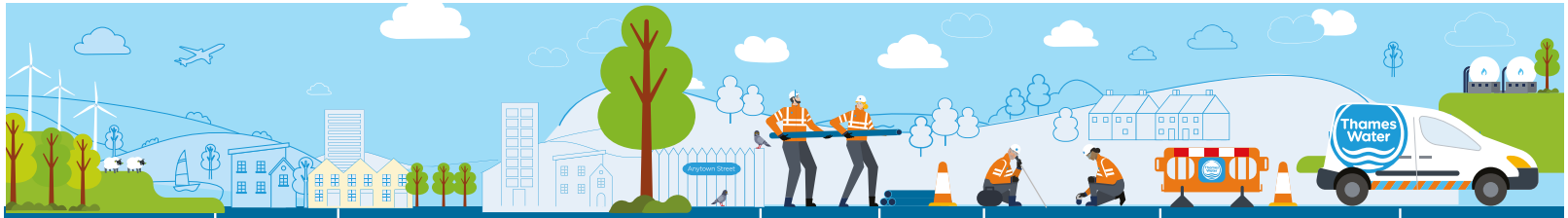

Find out more about our how we're reducing storm overflow discharges in our Storm Overflows Technical appendix.

Progress

# Our plan for the Thames Valley (2025 to 2050) - Level 2 planning areas

As stated on page 31, we've worked closely with local stakeholders across our region to co-create Catchment Strategic Plans for each of our Level 2 planning regions, of which there are six in the Thames Valley.

Here's a high-level view of our plan for the Level 2 areas of the Thames Valley.




| Thames Valley L2 planning area | Storm overflows (Number of discharges reduced) | Property flooding protection | | | STW upgrades | Sewer relining (Km) | Surface water runoff (Ha removed) | Carbon (Tonnes) | | Capital cost (£m) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Internal | External | 1 in 50-year storm event | | | | Removed | Used | |
| Hertfordshire | 1,098 | 677 | 1,213 | 2,521 | 5 | 125 | 116 | 148 | 156,803 | 1,119 |
| Central Bedfordshire, Buckinghamshire, Slough and Luton | 1,195 | 493 | 1,337 | 2,588 | 6 | 107 | 75 | 52 | 143,070 | 1,123 |
| West Berkshire, Reading, Wokingham, Bracknell Forest, Windsor and Maidenhead, Hampshire and West Sussex | 1,403 | 1,186 | 3,162 | 5,747 | 20 | 337 | 81 | 93 | 275,459 | 1,971 |
| Surrey | 1,465 | 1,349 | 2,607 | 5,072 | 7 | 23 | 115 | 282 | 326,234 | 2,136 |
| Essex & Thurrock | 452 | 130 | 242 | 475 | 5 | 17 | 19 | 9 | 50,667 | 398 |
| Oxfordshire, Swindon, Wiltshire, Gloucestershire and Warwickshire | 5,567 | 1,106 | 3,040 | 5,911 | 32 | 588 | 179 | 84 | 328,109 | 2,257 |
| Non region specific | - | - | - | - | - | - | - | - | - | 17 |
| TOTAL (approximate*) | 11,180 | 4,941 | 11,601 | 22,314 | 75 | 1,196 | 585 | 668 | 1,280,342 | 9,020 |

* These are approximate figures as they're subject to rounding.

See the full Catchment Strategic Plan for your area on our DWMP Homepage.

# DWMP partnership projects

We've extensive experience of collaborative working with drainage and wastewater stakeholders. Over the years, we've successfully delivered many major and long-term integrated plans and solutions together, which have achieved sustainable benefits for our customers, the communities we serve and our region's environment.

Through our DWMP stakeholder engagement, we've captured many more areas of common risk, highlighting the partnership opportunities that, if developed, could contribute to us meeting our shared goals.

Outlined below are six examples of drainage and wastewater solution partnerships. Not all were solely instigated by our DWMP development, but we've included them because the DWMP has provided focus and momentum for these projects, or they demonstrate just what we can achieve by working together. We look forward to continuing this collaborative work as part of our DWMP going forward.

Progress

## Case studies - Silk Stream Flood Resilience Innovation, North West London

### Background and challenge

Silk Stream is a unique, catchment-wide, and collaborative project to manage flood risk along the River Brent and the Silk Stream. Its aim is to build nature-based and sustainable solutions within the area such as new wetlands, river restoration and new areas of natural drainage. This will simultaneously help to enhance the natural environment and the wastewater system, better enabling it to cope with the future pressures of population growth and climate change. This is a six-year project with delivery by 2027.

### Partners

Our partners include the London Borough Councils of Barnet and Harrow, Defra, Thames21, Environment Agency, Greater London Authority, Canal and River Trust, Brent Catchment Partnership, Friends of the Silk Stream Resident Group, Silk Stream Flood Action Group and others.

### Partnership solutions

We've been working in partnership on this project with the London Boroughs of Barnet and Harrow to test new techniques and technologies for the identification of surface water entering our foul sewer network and reduction of blockages within the sewer network.

We're continuing testing to see if temperature sensors can help us to identify where surface water is entering the foul sewer network across the Silk Stream catchment. Finding these locations is important as the colder surface water can make dissolved fats, oils and greases solidify and cause sewer blockages. In addition, this project is exploring the targeted use of nature-based solutions, such as SuDS and natural flood management, to prevent surface water from entering the foul sewer network.

### Benefits

The project aims to make the wastewater system resilient against the impacts of population growth and climate change. Additionally, it will build nature-based and sustainable solutions within the area to provide benefits for:

- The environment
- Water quality
- Biodiversity
- Education
- Society - engaging with schools, youth groups and community training
- Community - through greenspaces

### Funding

Awarded £6m from the Environment Agency as part of the Flood and Coastal Resilience Innovation Programme, in addition to further partner contributions.

### Timeframe

2023 → 2027

Photo: Silk stream within the River Brent catchment; Thames Water.

See Partnership Working and Opportunities Technical appendix for more detail.

Progress

# Bourton-on-the-Water, Gloucestershire

## Background and challenge

The village of Bourton-on-the-Water experiences property flooding, pollution and compliance issues due to elements of unwanted flow such as groundwater and rainwater. This reduces the wastewater system's capacity, which can lead to storm overflow discharges and flooding events.

This partnership is a catchment-wide, collaborative project which recognises the need to map and model the surface water sewer network. This will enable us to better understand the risks and identify locations to remove surface water. The aim is to significantly reduce or eliminate storm overflow discharges of untreated sewage into the River Windrush catchment, and help reduce the risk of property flooding, in turn reducing the reliance on tankering which can cause disruption for our customers.

## Partners

Our partners include Gloucestershire County Council, Windrush Catchment Partnership and Windrush Against Sewage Pollution group (WASP).

## Partnership solutions

We've been working in partnership on this project to identify the sewers most at risk of receiving unwanted flow.

The scope of the project is to:

- Reduce or eliminate groundwater from entering (infiltrating) our sewer network
- Reduce or eliminate surface water from entering (inundating) our foul sewers
- Identify and correct surface water sewers incorrectly connected (misconnected) to our foul sewers

We're focusing on sealing our manholes to protect them from unwanted standing water and protecting the highest risk sewers from groundwater entry. We'll be identifying and developing possible options for Natural Flood Management in the upstream catchment to further remove the risk of standing water. Going forward, we'll work with partners to map the surface water sewers in this area so that we can model the wider risks to the resilience of our sewer network and essential service.

We're looking forward to working with WASP and to further opportunities to test data sharing, particularly as our DWMP recognises that a longer-term adaptive solution will be required in this area.

## Benefits

- Reducing flooding incidents
- Reducing storm overflow discharges and pollution incidents
- Increasing local engagement in the proper use of the sewerage system
- Creating capacity for population growth

## Funding

Awarded up to £500k as part of Thames Water's ongoing Green Economic Recovery programme.

## Timeframe

2023 → 2030

Photo: The River Windrush, Bourton-on-the-Water, Gloucestershire; Thames Water.

Progress

# Sevenoaks STW and Wetlands, Kent

## Background and challenge

The Long Reach sewerage system extends into the River Darent catchment. Designated as a chalk stream, the river is an environmentally sensitive habitat with an abundance of diverse wildlife, but can suffer from periods of low flow. The river is located in a region classified as being 'water stressed' due to low rainfall and high demand for water resources. This will be exacerbated further by the impact of climate change and population growth in the region.

## Partners

Our partners include Kent County Council and South East Rivers Trust.

## Partnership solutions

There's an opportunity to improve the environmental health of the river catchment by mitigating periods of low flows and recycling high-quality treated effluent further upstream via a new STW to the north of Sevenoaks. We've had initial discussions with our partners and the Environment Agency. The next stage is to undertake feasibility investigations and further stakeholder engagement.

## Benefits

In addition to benefits to the wastewater system, this opportunity could potentially provide:

- Additional water to the chalk stream
- Reuse of a brownfield landfill site
- Wetland development with improved access, community use and biodiversity

## Funding

Estimated total cost £90m. Part of a future Thames Water capital investment programme.

## Timeframe

2035 → 2050

Photo: A new wetland, created in Aylesbury, Buckinghamshire; Thames Water.

Progress

# Southwark Camberwell SuDS, South London

## Background and challenge

Camberwell has a combined sewer network, meaning that it's designed to drain rainwater as well as sewage. However, the impact of population growth and climate change is increasing the pressure on the combined sewer network, increasing the risk of flooding.

The London Borough of Southwark has identified opportunity areas for the use of SuDS within Camberwell to reduce the flood risk by slowing the flow of rainwater into the combined sewer network.

## Partners

Our partners include Southwark Borough Council.

## Partnership solutions

Three opportunity areas were investigated and as a result the Coleman Road SuDS scheme was constructed. This project installed a new surface water pipe which outlets into a large tank under the playground of a local school. Working in partnership with Southwark Borough Council is essential to identify optimal locations for SuDS features. The Council has obtained funding from the Environment Agency to build a 2D hydraulic model of the area which will be completed by the end of 2023.

## Benefits

- Reducing flood risk
- Increasing biodiversity via the new garden/roof habitats
- Providing additional greenspace

## Funding

Estimated total cost £50k – 500k, dependent on the number and scale of SuDS schemes to be delivered.

## Timeframe

2025 → 2030

Photo: SuDS scheme under construction in Coleman Road, Camberwell; Southwark Borough Council.

Progress

# Kingsway Rainwater Gardens, Hampshire

## Background and challenge

There's a history of flooding in the Kingsway area of Blackwater in Hampshire. Finding and addressing the root cause of the flooding is important to us, but in the interim it's vital that our customers are protected from internal flooding to their properties.

## Partners

Our partners include Hart District Council and the Loddon Catchment Partnership.

## Partnership solutions

We've been working with partners to provide joint funding for a property asset survey, cost benefit analysis and integrated catchment modelling. Hart District Council obtained funding from the Environment Agency to install property level protection at 42 properties. This is due to be completed at the end of 2023.

Modelling concluded that multiple solutions are required. Developing small scale schemes could help address the flood risk to the community. One of these is a proposal for rainwater gardens to be installed in key locations to capture, store and slowly release surface water into the drainage network.

## Benefits

- Reducing flood risk
- Increasing biodiversity via the new garden habitats
- Providing additional greenspace

## Funding

Awarded £200,000 from the Environment Agency and Hampshire County Council.

## Timeframe

2023 → 2030

Photo: Example of a rain garden scheme in Godolphin Road, London; Thames Water.

Progress

# Barking Town Centre SuDS, East London

## Background and challenge

Barking Town Centre regeneration offers a unique collaborative project to design SuDS, including parks or green areas that can relieve future pressure on the sewerage network, reducing flood and pollution risk.

## Partners

Our partners include Barking and Dagenham London Borough Council, the Environment Agency, Transport Agencies.

## Partnership solutions

Barking and Dagenham Borough Council is looking to provide green infrastructure wherever possible in the design of public space. This includes paths and roads, as access to good quality infrastructure improves people's wellbeing and physical health.

## Benefits

- Reducing flood risk
- Increasing biodiversity via the new green infrastructure habitats
- Providing additional greenspace

## Funding

Estimated total cost £200k —500k, dependent on the number and scale of SuDS schemes to be delivered.

## Timeframe

2023 → 2030

Photo: Example of permeable paving scheme, Mendora Road, London; Thames Water.

# What happens next?

Progress

It's the first time that a long-term plan for drainage and wastewater has been co-created with other organisations. We're going to continue to align this plan with our wider business plan and investment activities, and create the foundation for DWMP Cycle 2.

Here are the main next steps we'll take:

2023

## Publishing our shared plan

The detail of the first five years of our DWMP's investment plan will be proposed as part of our Business Plan (2025 to 2030), and we'll ask for your feedback.

## Aligning with our Business Plan

2023

In October 2023, we'll resubmit our DWMP data tables to Ofwat, our economic regulator, which we'll have aligned to our five-year Business Plan (PR24 Price Review).

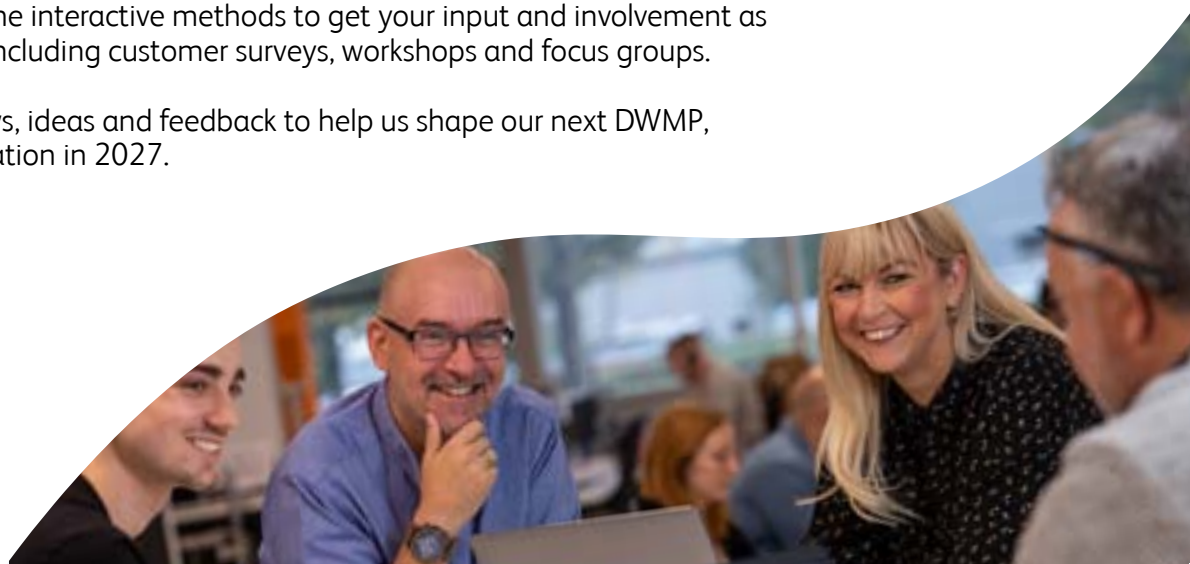
We'll hear the outcome of our proposals for DWMP interventions as part of our PR24 Price Review, and confirm our plan for partnership working from 2025 to 2030.

2024

## Reviewing our DWMP

We'll update the DWMP collaboratively every five years, and ask for your views and feedback as part of this process. We'll use the same interactive methods to get your input and involvement as we've used in this first DWMP cycle, including customer surveys, workshops and focus groups.

We'll continue to work with your views, ideas and feedback to help us shape our next DWMP, which we'll publish for public consultation in 2027.



# Work with us

We want to build on this DWMP progress and continue to collaborate with our stakeholders to meet the future needs of drainage and wastewater services in our region.

We invite you to work further with us and look forward to collaboratively developing DWMP Cycle 2 together.

Get in touch or provide feedback on this document by emailing our DWMP team at DWMP@thameswater.co.uk.

For more information on our DWMP work or to share your views, please visit our DWMP webpage and DWMP Practitioner portal on our website.

# Navigating our DWMP

We've developed a comprehensive document suite to share our final DWMP. This includes five summary documents, that contain increasing levels of detail, as well as Strategic Catchment Plans. To help you to navigate around our document suite and to find key DWMP content, we provide a navigation index below.

| Navigation index | | Protecting the environment and providing a reliable, sustainable wastewater service | | | | | | | Best value and delivery | | | | | Working together | | DWMP stages and data | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Storm overflows | Sewer flooding | Level of ambition & pace of delivery | Growth & climate change | Resilience: flooding & power | Groundwater | Environmental assessments | Affordability & bill impact | Best Value | Base vs Enhancement | Solutions & deliverability | Programme alignment | Partnership working | Stakeholder & customer engagement | DWMP stages & process | Level 2 regional summaries | Level 3 regional summaries | Data tables | Risk & Assurance |
| Summary documents | Customer summary | ■ | ■ | | | | | | | | | | | ■ | ■ | ■ | | | | |
| | Non-technical summary | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| | Technical summary | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| | The Plan | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| | Catchment Strategic Plans x13 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | |
| Technical appendices x11 | Appendix A - Strategic context | | | | | | | | | | | | ■ | | | ■ | | | | |
| | Appendix B - Risk-Based catchment screening | | | | | | | | | | | | | | | ■ | | | | |
| | Appendix C - Baseline risk and Vulnerability assessment | | | | ■ | ■ | | | | | | | | | | ■ | | | | |
| | Appendix D - Options development and appraisal | ■ | | | | | | | | | | ■ | | | | ■ | | | | |
| | Appendix E - Programme appraisal | ■ | | ■ | | ■ | | | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | |
| | Appendix F - Stakeholder engagement | | | | | | | | | | | | | | ■ | ■ | | | | |
| | Appendix G - Adaptive pathway planning | ■ | ■ | | ■ | | | | | | | | | | | ■ | | | | |
| | Appendix H – Customer engagement Part A – Draft DWMP | | | | | | | | | | | | | | ■ | ■ | | | | |
| | Appendix I - Risk and uncertainty | | | | | | | | | | | ■ | | | | | | | | ■ |
| | Appendix J - DWMP and WRMP alignment | | | | | | | | | | | | ■ | | | | | | | |
| | Appendix M - Assurance | | | | | | | | | | | | | | | | | | | ■ |
| New technical appendices x9 | Appendix N - You Said, We Did (YSWD) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| | Appendix O - What base buys | | | | | | | | | | ■ | | | | | | | | | |
| | Appendix P - Response to July 2021 Floods | | ■ | ■ | ■ | ■ | | | ■ | | | ■ | ■ | ■ | ■ | | | | | |
| | Appendix Q - Storm overflows | ■ | | ■ | ■ | | | | ■ | | | | ■ | | | | | | | |
| | Appendix R - Delivery of SuDS and nature-based solutions | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | | ■ | ■ | ■ | ■ | | | | | |
| | Appendix S - Partnership opportunities and working | | | ■ | | | | | | | | ■ | | ■ | ■ | | | | | |
| | Appendix T - Groundwater quality | | | | | | ■ | | | | | | | | | | | | | |
| | Appendix U - Resilience | | ■ | | ■ | ■ | | | | | | | ■ | ■ | ■ | | | | | |
| | Appendix V – Customer engagement Part B – Consultation Survey Report | | | | | | | | | | | | | | ■ | | | | | |
| Environmental assessments | Appendix K - Strategic environmental assessment (SEA) | | | | | | | ■ | | | | | | | | | | | | |
| | Appendix L - Habitats regulations assessment (HRA) | | | | | | | ■ | | | | | | | | | | | | |
| Portals and data | Customer portal | ■ | ■ | | | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ | | |
| | Practitioner portal | ■ | ■ | | | | | | | | | | | ■ | ■ | | ■ | ■ | | |
| | Data tables | | | ■ | | | | | | | ■ | | | | | | | | ■ | |
| | Data tables commentary | | | | | | | | | | | | | | | | | | ■ | |

Find all the documents in our DWMP suite on our website.

Contact our DWMP team at
DWMP@thameswater.co.uk.