South West Water

Drainage and Wastewater Management Plan

Our Regional Plan

southwestwater.co.uk

Our Drainage and Wastewater Management Plan

Our Regional Plan – Securing a step change in investment in our wastewater networks

Contents

Navigating our plan

This document is the South West Water DWMP. It contains a summary of our plans. More detailed information is contained within the rest of the suite of documents that makes up our plan.

Customer Summary

Level 1 Technical document – for the company as a whole

Level 2 Technical documents – one for each of our 22 planning areas

Level 3 Technical documents – one for each of our wastewater treatment catchment areas available for stakeholders/ authorities/potential delivery partners

Foreword

I'm pleased to share our Drainage and Wastewater Management Plan.

Each and every day, we operate a water recycling system for the region. We take in wastewater draining from our homes, businesses and roads, we treat it to make it safe for all, and we release it back into the environment where it travels to the sea and the cycle repeats. We have been stewards of this recycling system for over 30 years.

Our wastewater systems stem from the innovative thinking of the Victorians. But much has changed since the Victorian sewage system was designed and built.

30 years ago, we were the Dirty Man of Europe. The Victorian system successfully removed sewage and rainfall away from homes and businesses through a network of combined sewers, but it was routinely discharged untreated onto beaches and into rivers through storm overflows and sea outfalls. Since then, we have fixed a lot of this as we have built new treatment works, closed sea outfalls, and upgraded sewers. The result is c.98% of what goes into sewers is treated to our high standards.

But over the last two years our customers, politicians, regulators, policy makers, the media and our stakeholders have all rightly made their frustrations clear that the continued reliance on storm overflows, **is no longer acceptable.**

We have been installing technology and monitoring devices which have helped us to understand far more about the performance of our network, and it's limitations than ever before.

New environmental laws and the way that we are regulated have also changed, helping us to plan action and investment at the scale required to tackle the challenge, in the wider context of climate, ecological and cost of living crises.

In June 2022 we launched a consultation on our draft plans and engaged extensively with customers, stakeholders, regulators and businesses through face-to-face meetings, online workshops and written consultation responses and we are grateful to all who took part.

The feedback was clear. A step change is needed.

So, whilst the investment we have made to date has delivered improvements, the feedback has been consistent – we need to take more action to reduce our reliance on storm overflows, and at pace, if we are to rebuild trust in the performance and ethical motivations of the water sector.

As a direct result of the consultation, we've listened and changed our plans, accelerating our investment to reduce the average number of spills to minimal, if at all, within 15 years – 10 years ahead of the Government target.

Whilst we do not directly measure the volume of sewage leaving our network, we estimate around 2-3% is discharged through storm overflows. We agree that treating around c.98% of wastewater is not enough – and we need to go further.

This plan will reduce the average number of spills from 40 in 2021 to minimal, if at all, over 15 years – by 2040.

This plan will close the gap aiming to treat all wastewater which enters the system.

We have also heard about the importance of doing things differently, taking a "Green First" approach. We will work with natural processes and nature-based solutions, which provide wider public benefits with a lower carbon footprint and collaborate with partners, where possible.

So, here we set out how we will evolve our water recycling system into one that future generations can be proud of which will:

- Protect people, homes and businesses from flooding
- Support sustainable tourism and the long-term economic health of the region
- Increase the use of nature-based solutions, innovating to protect our unique environment and managing our carbon footprint
- Eradicate pollutions and the damage caused by plastics, fats and wet-wipes for the long-term benefit of all.

Our plan is ambitious, and we estimate it will cost around £7.5 billion between now and 2050, which means we will need to raise more investment, a proportion of which will impact on customer bills. However, if we change how we charge for wastewater services we can make bills fairer, more affordable and progressive.

The plan will deliver environmental improvements across the region, and its implementation will also bring significant opportunity for the regional economy and our communities as jobs and careers are created and local places enhanced.

We are determined to deliver the change that people and our environment deserve, delivering a water recycling system that future generations can be proud of. We look forward to working with local communities, stakeholders, the regulators and businesses to make it happen.

Susan Davy
Chief Executive Officer

Introduction

We all use and rely on water every day, with most of the water we use ending up in our wastewater network, along with the rainwater that falls on roofs and roads that has nowhere else to go. How we manage this network affects the lives of people and the environment across the region. We take this responsibility very seriously.

The South West is beautiful, there's nowhere else quite like it. Everywhere you look, we are surrounded by water, be it coastal, rivers, reservoirs or lakes. We have two National Parks and nine Areas of Outstanding Natural Beauty. There are plenty of places to enjoy the abundant natural beauty and wealth of species and habitats. Recognising this, millions of tourists flock down here every year to enjoy everything the South West has to offer.

This strong, healthy environment has been a great leveller for the region – freely accessible water, moorland and forestry contribute to wellbeing, support resilient and cohesive communities, and benefit society as a whole. This is important as the South West suffers from high levels of low skill, low pay employment and a growing skills gap. As we invest for the future, we need to recognise that the South West is set apart from the rest of the UK.

This means we need to manage our region's wastewater carefully. We inherited an outdated system that today is at odds with the environmental ambition for the region. The landscape and topography of hills and valleys means that water moves relatively quickly into our system. Coupled with relatively poor connectivity for transport and digital infrastructure, managing our wastewater network is a challenging operation compared to most of England. We are on a journey to modernise and transform, as we continue to invest to take away and treat sewage across our remote communities. For example, last year, for the first time, 100% of bathing waters met environmental standards, with 99% at good or excellent, compared to 28% in 1991.

But what is being demanded of our networks is changing. We have seen a 20% increase in the population in the region in the last 30 years. And there has been a 50% increase in tourism and 25% extra flows into our treatment works over the last 15 years. Each day over 200,000 wet wipes find their way into our systems – enough to fill 30 double decker buses a year. These cause havoc in the system, especially when they mix with fats and greases to form solid rock-like formations called "fatbergs" – ultimately causing thousands of blockages a year, which in turn can cause pollution and flooding. And with the pandemic, we have seen a shift in the number of people wanting to live and work in the region.

Moreover, our environment is changing. We're dealing with the impacts of climate change and increasing extremes in our weather and for us, rises in sea levels. Also, as the population grows, there are more houses, driveways and roads. This means ever more waters that we need to take away from homes and businesses, and ever more threats for our assets to cope with.

By 2050 storm events are expected to produce

13% more rainfall

than today – meaning that sewers will more easily become overloaded

At the same time, customers, politicians, regulators, the media and stakeholders have been clear that we need to do things differently as the current system relies too much on storm overflows. This is no longer acceptable.

So, whilst we have invested £8 billion over the last thirty years, without further intervention our wastewater networks risk failing to deliver resilient and effective services. That is why we have been working with our customers and stakeholders to develop our future plan.

Drainage and Wastewater Management Plans – or DWMPs – are for the period 2025 to 2050. DWMPs are new for the sector and an industry developed framework with a strong focus on nature-based solutions and partnership working has been developed to guide their production. The role of the DWMPs is to develop plans for the management of environmental performance, drainage and wastewater systems to ensure there are sustainable and resilient to the needs of the future.

For us this means ensuring we can continue our wastewater recycling processes effectively. Our role is to collect wastewater from our homes and businesses, along with the rain that falls and has nowhere to go, to treat it to make it safe to release it back into the environment – where it travels to the sea and the cycle repeats. But the key challenges we face, such as climate change, have the potential to disrupt this recycling process, impacting on drainage and treatment and causing flooding and pollution.

So an important part of our plans is to build on existing stakeholder relationships, clarifying responsibilities across flood risk and environmental agencies, and promoting a better general understanding of drainage and flooding issues.

This document is our final DWMP. It reflects customer insight, our consultation to date with key stakeholders and flood risk management agencies, and the legal targets being proposed by government to protect rivers and seas.

Meeting these challenges and expectations will involve a step change in investment. We estimate we will need to invest as much in the future as we have in the past. As we look to 2050, we will need to remove an additional 1,447 hectares of surface water, install 550,890m^3 of additional storage, upgrade 2,785km of sewers, upsize 123 works, upgrade 230 works, and increase coastal protection at 28 more sites.

And given our reliance on storm overflows is unacceptable, and we face extreme pressures from climate change, growth and plastic pollution – we aim to deliver at pace where possible, especially around storm overflows, as we look to deliver most of the outcomes within the next 15 years.

This is a plan for the environment. It covers all of our wastewater investments to 2050. By publishing this document, we want to encourage further opportunities to partner and innovate. The affordability of customer bills is of paramount importance to us – with bills today lower than they were 10 years ago, we are on track for all customers to have an affordable bill by 2025. So by publishing this document we hope to encourage debate around how we can innovate around charging to ensure progressive, affordable bills for all – so we can fund the environment we all want to see without anyone worrying about how they will pay their bill.

Our DWMP is a living plan. We will continue to measure and update where we are, and what we future plans are, as we look to ensure that services are resilient and we deliver the outcomes we all want to see.

Executive Summary

Our Final DWMP is about **bringing water to life.**

DWMPs are new for the sector, and an industry-led technical framework has been developed to aid consistency across companies. From following this framework and listening to our customers and stakeholders, we predict we need a step change in investment to deliver resilient and effective services over the long term.

The main drivers of risk are:

- **Climate change** – as a coastal region with 860 miles of coastline and over one third of the country's bathing waters, we are particularly vulnerable to climate change. Many of our assets are situated in coastal locations, meaning that increasingly volatile weather, severe rainfall events, sea level rises and coastal erosion all have a significant impact on our operations and services
- **Population growth** – new housing developments and increased occupancy of existing homes produces greater wastewater flows to deal with in our networks
- **Urban creep** – paving over of urban areas such as parks and gardens and removing natural soakaways for rainwater surface run off all means more rainwater goes into our sewers rather than drains away naturally.

Our wastewater operations also need to respond to tightening environmental standards and water quality monitoring needs, and support net zero operational carbon. It needs to address the risks that plastics cause – from blockages in our sewers to the increase in microplastics and microcontaminants entering our environment.

Ultimately, when the drainage system is overwhelmed, the results can be devastating – causing flooding to homes and businesses and pollution to rivers and seas. Over time, without further action we can expect to see:

- Increased risk of sewer flooding to homes and businesses in times of heavy rain – despite three decades of investment to bring sewer flooding to historic and industry leading low levels
- Increased risk that wastewater treatment works do not comply with current environmental standards – risking our target of 100% compliance each year with ever improving standards
- Increased use of storm overflows – potentially impacting on the environment and reversing current plans to lower storm overflow use across the region and particularly at coastal locations.

We have developed a plan to address these risks based on our continuous engagement with customers, and in consultation with key stakeholders and other flood risk management agencies.

Customers have long told us that they worry about the impacts of climate change and growth across the region, and the impact that this has on all infrastructure. And increasingly customers are telling us that the environment is more of a priority, and they want us to be an environmental leader in the region. It is important that customers trust in our services and operations – so we need to respond to these growing concerns.

Bringing water to life – supporting the lives of people and the places they love for generations to come

Trusted

Collaborative

Responsible

Progressive

Reducing the number of pollution incidents across the region is also a significant area of focus for us and we know that we need to do more to improve our performance.

Regulators and policymakers are also calling for a step change – with recent environmental legislation setting out a steep reduction in the use of storm overflows and improvements in wastewater treatment standards over time, meaning that by 2050 water company operations will not impact adversely on the health of our rivers and seas. Our final DWMP delivers ahead of the 2050 and interim legal targets for overflows, as we look to front end deliver our investment plans where possible.

We are already taking action through our current plans

We know that our customers and stakeholders want to see ambitious DWMP plans – but we are not waiting until 2025 to take action.

Our wastewater system has developed over many decades – we inherited an outdated system which today is at odds with the environmental ambition for the region. Over the last three decades we have been on a journey to evolve the system to meet future demands and protect the environment along the way. This is the focus of our current plans.

We know how devastating it can be when sewer flooding or pollution occurs from our network – and our current plans reflect our commitment to reducing the risk of these incidents happening. We are working with communities to look for innovative and sustainable ways to manage the amount of surface water that enters our sewer network. At South West Water, we call this programme **Downstream Thinking**.

And we want everyone in the South West to feel confident about the water at their favourite beach, or river and to know we are serious about reducing pollutions, our impact on water quality and the use of storm overflows. So, in April 2022 we published our plan to 2025 for healthy rivers and seas – **WaterFit** – which outlines our three-year plan to 2025 to protect and enhance our precious water environment, working with partners, customers, visitors and local communities so that we all play our part.

One year on we have made good progress – whilst accepting there is more to do.

94%
of customers support WaterFit plans to **work with local partners to stop pollutants** from 125,000 hectares of regional farmland getting into rivers and seas by 2025

69%
feel the local water environment where they live is good

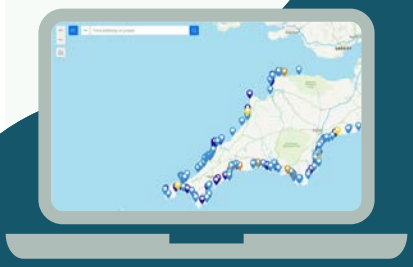
84%
of customers worry about the impact of manufacturing and farming on rivers and coastal waters

Downstream Thinking

For the second year running we have achieved 100% bathing water quality across all beaches. Spills at our overflows have reduced by 30% on average in the year, and pollutions have reduced by 50% over two years. As we look to put nature on everyone's doorstep, we are progressing the introduction of coastal water quality standards to rivers, and have restored or created over 100,00 hectares of habitats – an area bigger than the size of Dartmoor National Park.

With 100% monitoring of storm overflows now in place, a year ahead of plan, we have launched WaterFit Live platform, giving customers and visitors live information about the region's bathing beaches, storm overflows and our investments.

We know our customers and communities are passionate about the quality of our beautiful bathing waters in the South West and are rightly are asking for more information. WaterFit Live is our way of giving customers and visitors the information they need when they want to visit their favourite beach.



For more information about WaterFit click **here**

96%
customers think WaterFit Live is easy and clear to use

WaterFit

76%
consider the site important to view before visiting their local beach
– SWW Customer Forum

What is the future plan?

Our DWMP picks up from WaterFit.

It is a plan for the environment.

Our DWMP provides the opportunity for a further step change in investment which ensures that our assets remain strong and resilient in light of the pressures we face in the South West. It allows us to continue to modernise and transform our wastewater networks to provide services to customers, protecting and enhancing the environment now and for future generations, mitigating and addressing the impacts of pressures such as climate change and population growth.

This means our wastewater system will mitigate and address the threats from sea level rises, coastal erosion, flash flooding, and increasing amounts of wastewater and rainwater entering our system. And it will do this whilst maintaining high levels of service to customers and protecting our environment.

But we cannot do this alone – others have a vital role to play, and success will require new ways of thinking, unheralded levels of collaboration, and above all, changes across all levels of societal behaviour. This is at the core of our DWMP.

Many organisations work together to manage the risk of flooding across the region so we're setting out our priorities so that we can work effectively with our partners. This helps us to manage any conflicts or disagreements where responsibilities may be unclear, identify partnership opportunities where we can work together for mutual outcomes and share resources.

What is next?

We consider this to be the right plan given the environmental targets proposed by the government, and the priorities of our customers and stakeholders.

We have set out how we will work in partnership with others to ensure sustainable, reliable wastewater services in the future.

We want our DWMP to be a living plan, so we will continue to monitor our performance and adapt our plans as pressures change over time to ensure that our services remain resilient and reflect what matters most to customers.

Our region

South West Water is the wastewater service provider for Cornwall, Devon, parts of Dorset and Somerset and the Isles of Scilly.

OUR REGION
DID YOU KNOW?

c.1.8 million
resident population equivalent (over 700,000 customers) and
up to **10 million**
visitors to our area each year

36%
of all the designated Bathing Waters in England

30
designated Shellfish Waters

8
Areas of Outstanding Natural Beauty

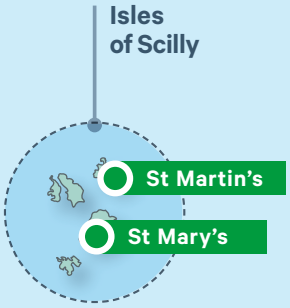
137
Sites of Special Scientific Interest

2,447
local wildlife sites

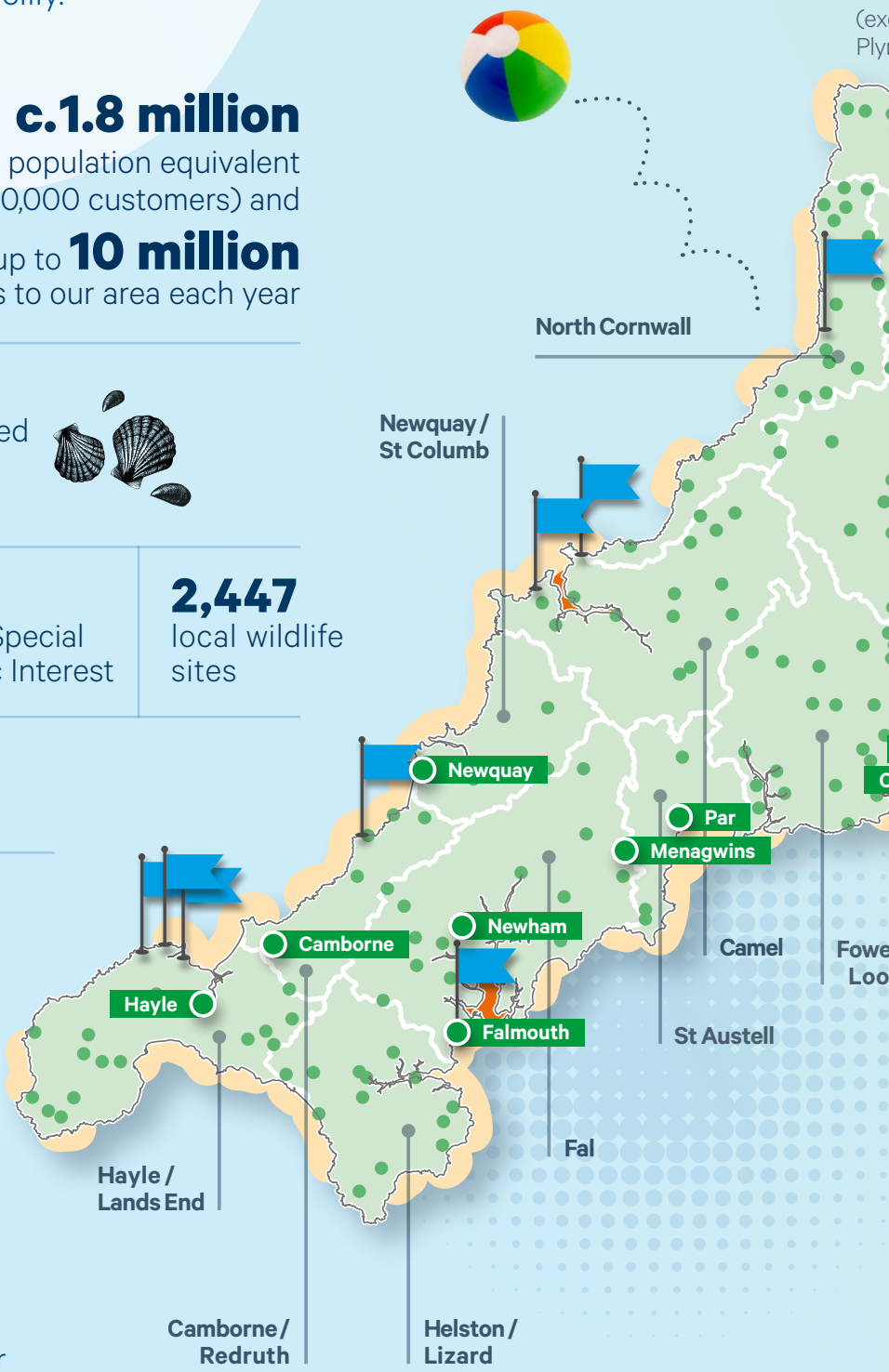
4,890km
of rivers

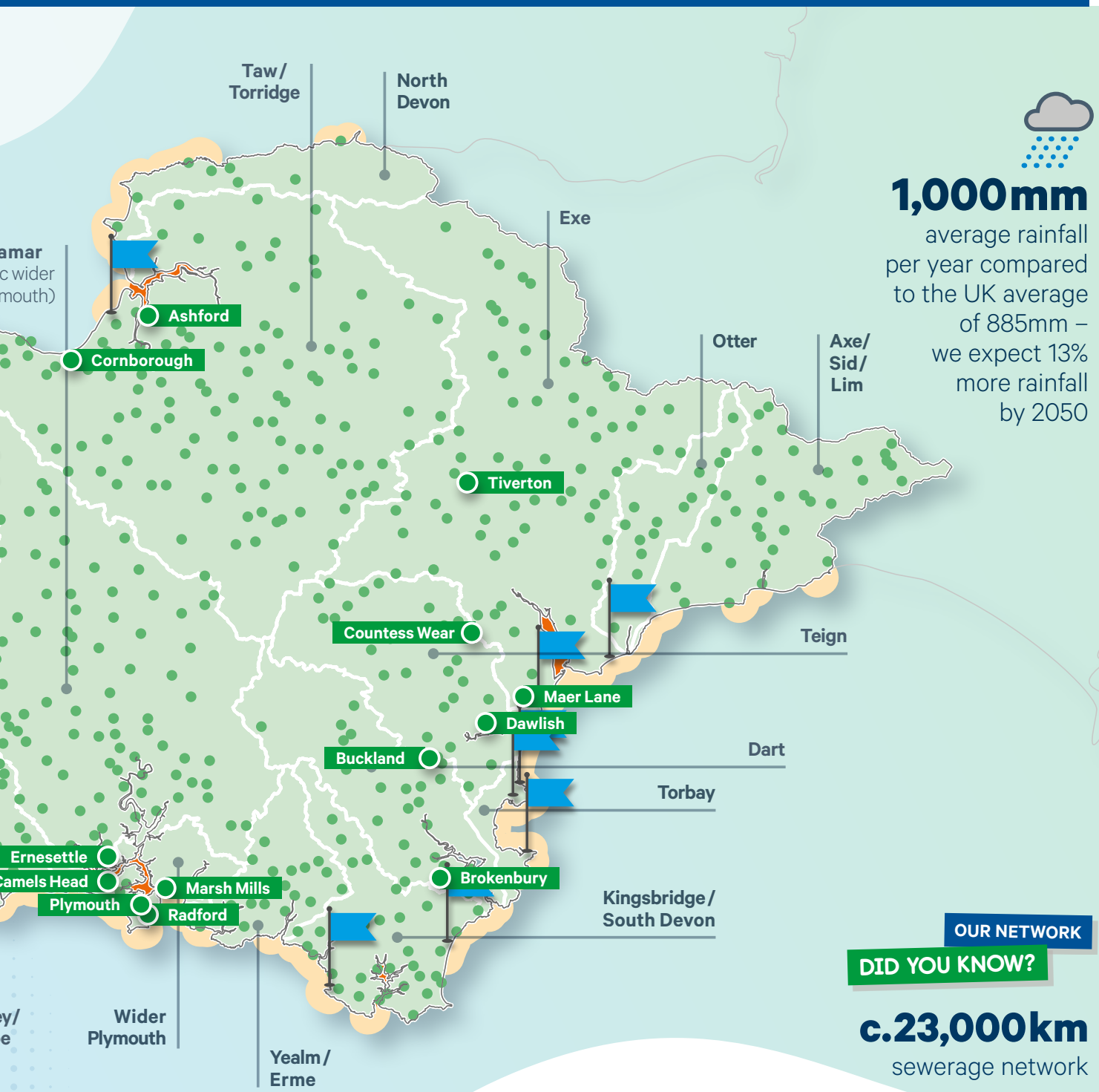
1,384km
of coastline

1/3
of all bathing waters in the UK



We provide wastewater services to approximately
1,100 customers
on St Mary's and Tresco





1,000mm
average rainfall per year compared to the UK average of 885mm – we expect 13% more rainfall by 2050

OUR NETWORK

DID YOU KNOW?

c.23,000km
sewerage network

1,223 wastewater pumping stations
– to move wastewater through our network and on to treatment works

653 wastewater treatment works
– using a diverse range of processes and technologies

Provision of ultra violet disinfection or membrane filtration at

more than 65 wastewater sites

to protect Bathing and Shellfish Waters to the highest standards

Introducing our first ever DWMP

DWMPs reflect two of Defra's aims: its 25-year environmental plan and its flooding risk action plans. They reflect long-term plans for the period 2025 to 2050.

For us, our DWMP is an important part of our overall business plan. Today the DWMP is about more than just flooding and covers our entire wastewater plan including our response to the Storm Overflow Discharge Reduction Plan reflects future pressures on our networks and treatment works, and the step change in environmental protection that we all want to see, along with the investment required to make it happen.

This is our first DWMP and we will publish one every five years. Our plan is informed by the specific views and insights from our customers and stakeholders on our draft plan that we published in 2022, and also reflecting the ongoing insights from them which we have gathered over time.

What is a DWMP?

DWMPs are long term, collaborative plans for the next 25 years.

They are an opportunity for customers, stakeholders and regulators to understand the investments needed to address future risks such as:

- **Population growth** – new housing developments and increased occupancy of existing homes
- **Climate change** – more volatile weather, severe rainfall events, sea level rises and coastal erosion
- **Urban creep** – paving over of urban areas such as parks and gardens, removing natural soakaways for rainwater surface run off.

The industry-led technical framework set for DWMPs means that all water companies are required to look at a specific set of risks in a consistent way, namely how to prevent sewers, treatment works and storm overflows from getting overloaded with increasing levels of rainfall and growth in order to protect customers and the environment. All water companies are facing these future risks and a consistent framework allows for comparisons across companies and at the national level.

But DWMPs have the flexibility to allow other bespoke risks that water companies face to also be explored – and we have also considered the wider impacts of climate change risk on our assets, and improvements in wastewater treatment standards to reflect customer and stakeholder views and be in line with proposed legal targets on future discharges.

Our DWMP therefore sets out the risks that we face now and in the future with and without investment, increasing the transparency of our plans, and providing a clear linkage between risks that we face and investment decisions that we make.

The principles behind DWMPs

All DWMPs are based on a common set of principles and a technical framework developed by the water sector in conjunction with UK and Welsh Governments and the environmental and economic regulators (Natural Resources Wales, Environment Agency and Ofwat).

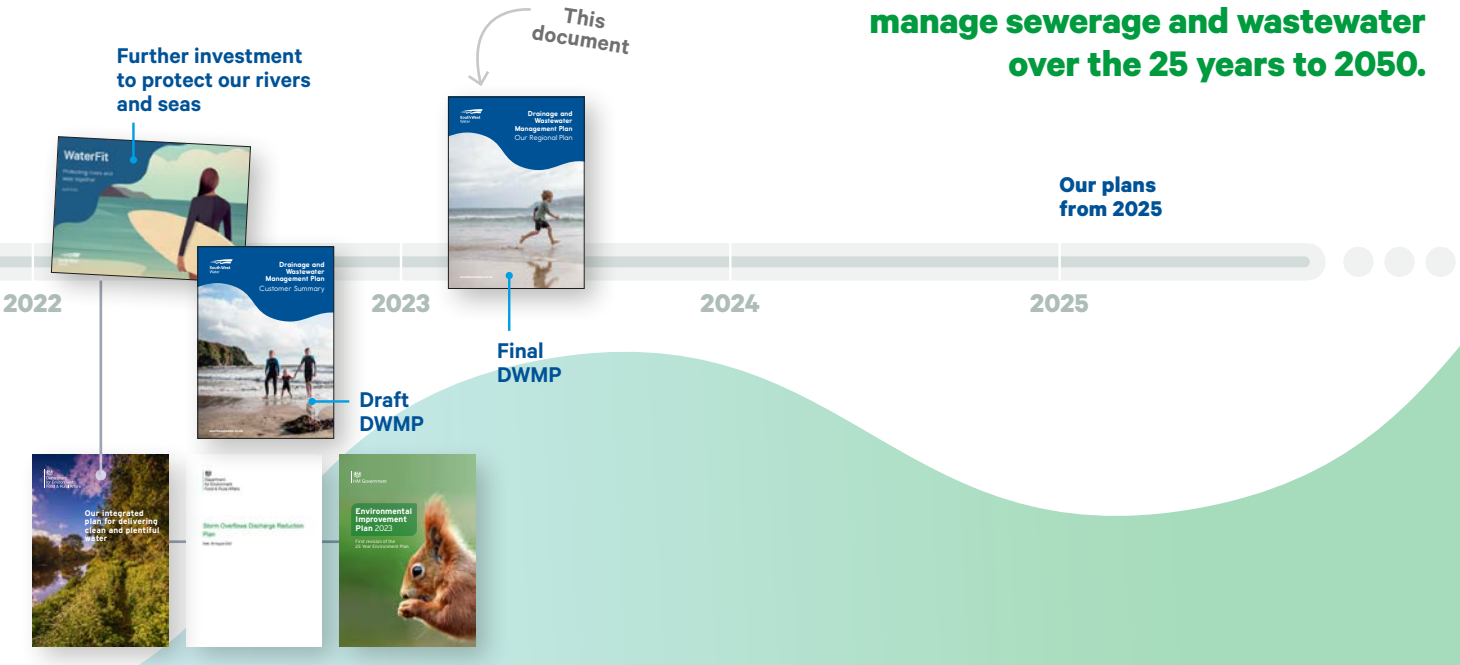
DWMPs need to meet six key principles:

1. **Be comprehensive, evidence based and transparent** – in assessing, as far as possible, current capacity and actions needed in five, 10 and minimum 25-year periods considering risks and issues such as climate change. Plans should also align, as far as possible, with other strategic and policy planning tools.
2. **Strive to deliver resilient systems** – that will meet operational and other pressures and minimise system failures.
3. **Consider the impact of drainage systems on immediate and wider environmental outcomes** – including habitats and in developing options for mitigation to include consideration of environmental net gain and enhancement.
4. **Be collaborative** – recognising the importance of sectors working together to consider current and future risks and needs and to deliver effective solutions, setting out how they will do this, how they have engaged with and responded to stakeholders.
5. **Show leadership** – in considering the big picture for an organisation's operational capacity to develop and deliver the plan, and mindful of linkages with other strategic planning frameworks.
6. **Improve customer outcomes and awareness** – and ensure solutions and actions provide both value for money and consider societal benefits.

Source: Defra

Following these principles, DWMPs can help to identify problems, clarify responsibilities of the respective agencies involved, and promote a better understanding of drainage and flooding issues.

Our DWMP outlines our plan to manage sewerage and wastewater over the 25 years to 2050.



The structure of DWMPs

DWMPs are structured into three levels of detail, in order to encourage continued and effective engagement between companies, stakeholders and regulators – at the local level and across the company overall.

This document shares our strategic objectives and performance targets across our region and we call this our Level 1 Plan. Grouping at this level ensures that we can understand the risks that we face overall which can then inform strategic discussions with our regulators, stakeholders and with Defra. The objectives and targets we detail here are cascaded down into our more detailed plans, ensuring they're connected to local level needs. We identify our risks at a local level, in our Level 3 plans and these are rolled up into this Level 1 Plan to ensure everything is connected.

Each wastewater treatment works in our region has an area that it serves – we call these areas catchments and currently, we have 653 catchments. When we talk about our plans at catchment-scale, we call them Level 3 plans. Working at catchment level means we can identify local risks, and work with our local partners to develop the right mitigating options for communities.

We group the 653 catchments into 22 larger areas, known as Strategic Planning Areas or Level 2. Grouping Level 3 assessments up to Level 2 means we can manage our region as an entire system rather than looking at smaller challenges isolated to individual treatment works. It also encourages collaboration and engagement with risk management agencies that have responsibilities for flood and river management plans at a strategic level.

Integrating our plans

Our DWMP forms a key part of our wider plan to deliver our 2050 vision. Our ambitious programme demonstrates a step change in both the scale and approach of how we address environmental risks in our region. We will look for opportunities to integrate our DWMP work into wider investment initiatives to maximise benefits for the environment and our customers.

As we deliver our plan we will look for opportunities to integrate it with our existing planning frameworks and the objectives of our partners and stakeholders across the South West.

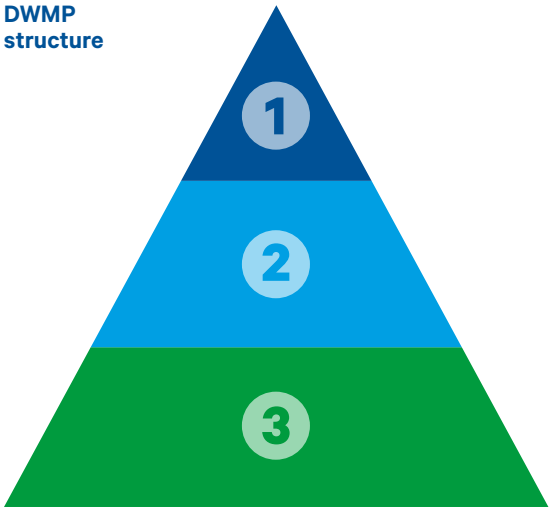
Taking a catchment-based approach to planning, and adopting a 'Green First' strategy embedding nature-based solutions across our programme, we are designing in opportunities to produce multiple benefits from our solutions.

How we developed the plan

To develop the plan we have followed a number of key steps set out in the technical framework developed by the industry and endorsed by regulators and Defra.

- Firstly, we collated all the available information about our current performance across the region to ensure we fully understand how we're doing now, and whilst we're performing well on many aspects of our work, it's clear there are things we can do better.

DWMP structure



Level 1 – Company

- A company level strategic layer covering the whole operational area, built up from Level 2 data

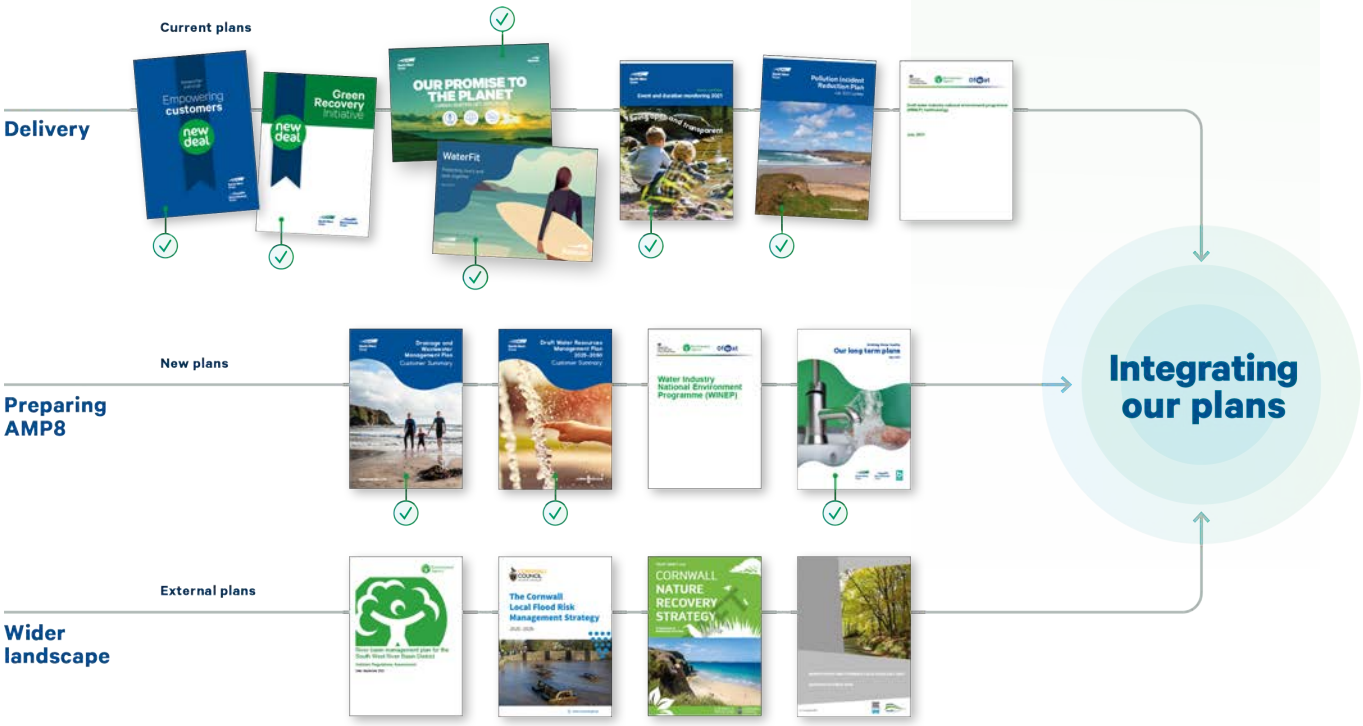
Level 2 – Strategic planning

- Largely aligned with River Basin Districts, we have 22 strategic planning areas
- Strategic challenges and risks can be identified, and collaboration and engagement with stakeholders to co-create integrated solutions

Level 3 – Catchment

- Catchment for each wastewater treatment works (WWTW) and associated drainage area. These are the building blocks of the plan – we have 653 of these.

Introducing our first ever DWMP continued



- Secondly, we considered some of the key challenges facing our region over the next 25 years and beyond which are most likely to impact on how rainwater and wastewater is managed in the future. These challenges include climate change, population growth and urban development. The combined effects of these challenges will increase the amount of rain and wastewater needing management. Sea level rise will also create new challenges for the way in which we manage wastewater as many of our sites are located on the coast.
- Thirdly, we model different scenarios and analyse options and to predict the range of actions that we might put in place in each part of our region over the next 25 years.
- In parallel, we have taken into account the views of customers and stakeholders who want us to minimise the impact of our work on the environment, keep bills reasonable whilst maintaining service levels and explore how nature can help solve other wastewater management challenges that we face.

These scenarios cover all of our wastewater investment needs – considering investment to ensure coastal resilience, asset maintenance, and energy recovery from sewage – to build our entire wastewater plan.

In following these steps, we have been guided by the environmental ambition of Defra's 25 year environment plan, and the environmental targets being proposed and consulted on following the Environment Act 2021. These include:

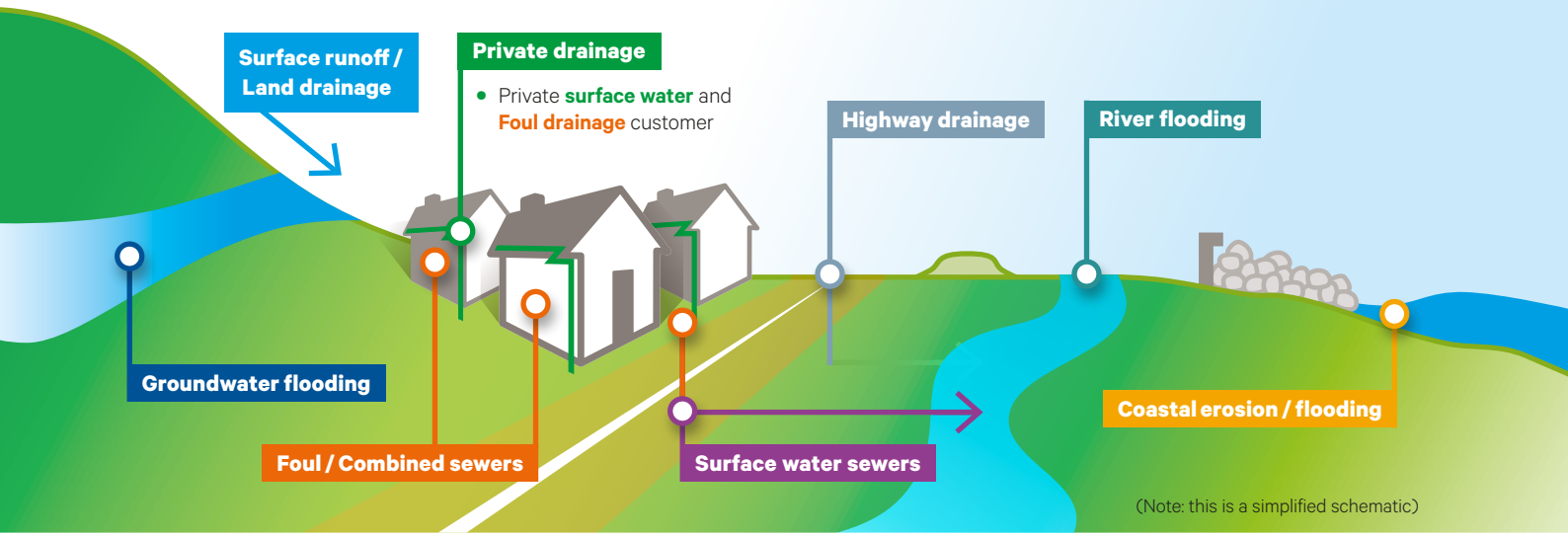
- Zero storm overflows causing public health issues
- Zero storm overflows causing ecological harm to rivers
- Zero storm overflows spilling more than 10 times a year – no matter the weather
- The level of nutrient contaminants in wastewater discharges (such as phosphates) reduces to ensure that no rivers will fail to be at good ecological health because of our assets and operations.

In addition, in line with customer views we have set the target that there is no deterioration in other aspects of our wastewater operations, and the benefits of WaterFit are maintained to 2050 – such as high levels of asset health performance, and water quality that supports all year round bathing at coastal and inland bathing waters.

The proposed government environmental targets are key contributors to our plans – in effect accelerating our plans to reduce the use of storm overflows and raise standards of wastewater treatment. We have not considered scenarios that fail to meet these targets, but we have looked at different paces and profiles of investment to meet the 2050 targets – and tested these against customer needs. This is how we have built our plan.

Working with others to manage flood risk

The diagram below illustrates the responsibilities for drainage showing the complexity of ownership and why it is important to have these plans in place. There are many sources of flooding risk, and we are responsible for flooding from surface water sewers and public sewers.



Many organisations work together to manage the risk of flooding across the region so it is important that the DWMP clearly sets out what South West Water is prioritising so that we can work effectively with our partners. This helps us to manage any conflicts or disagreements where responsibilities may be unclear, identify partnership opportunities where we can work together for mutual outcomes and share resources.

Roles and responsibilities for managing flood risk are set out below:

Location	Description	Responsibility
Surface runoff / Land drainage	Landowners are responsible for their land drainage and must not cause problems for neighbours	• Lead Local Flood Authorities • Land owners
Highways	Surface water on roads, highways and pavements, blocked road drains/gullies and overgrown verges	• Highways Authorities • National Highways
Groundwater	Waterlogged ground when water pools on the surface	• Lead Local Flood Authorities • Landowner
Rivers and watercourses	Water draining into rivers and streams from nearby land	• Lead Local Flood Authorities • Environment Agency • Riparian Owners • Landowner
Coastal / Tidal	Rough seas, high tides or storm inundation on lower land	• Local Authorities • Environment Agency
Surface water sewers	Most properties drain rainfall to public sewers, including flows from gutters/roads that end up in public sewers. Highway drainage is provided for rainfall onto the highway but in reality also includes water from fields/other property that finds its way onto the highway	• **Water and wastewater companies** • Local Authorities • Housing Associations • Private land owners • Highway Authorities
Public sewers	Sewer flooding from manholes and covers	• **Water and wastewater companies**
Private sewers	Flooding from cesspits/septic tanks, toilets or internal drains	• Homeowner

Managing rainwater: our Downstream Thinking approach feeds into our DWMP

Downstream Thinking

What's the problem?

Today, our towns produce more surface water than ever. Climate change, house-building and individual developments such as driveways, patios and extensions all contribute to this.

Flooded sewers
Too much water in our sewers causes flooding and pollution.

Carbon costs
Pumping and storing the water is expensive and uses a lot of land and energy.

Regulatory complexity
Several different organisations are responsible for different aspects of flooding.

What's the solution?

Planning for the long-term at a catchment scale, using Sustainable Drainage Systems (SuDS) to alleviate sewer flooding and reduce pollution of streams and rivers, and working in partnership.

Control at source
Stop rainwater entering the sewers, and put it to good use instead.

Work with nature
Ponds, ditches and rain gardens filter and store rainwater.

Partnerships
Sharing plans and pooling budgets and expertise.

EXAMPLES OF HOW WE ARE MAKING THINGS BETTER

WaterShed projects
Piloting source control and natural solutions in our region.

Building understanding
Working with other flood-risk management authorities to develop integrated models and really understand the causes.

Working together
By working with others we can resolve the whole issue, not just one part of it.

RESULTING BENEFITS

Quantity & quality
Less sewer flooding and pollution and reduced CSO spills.

Customer & environment
Greener urban environments which provide amenity and biodiversity benefits.

Sustainability & service
Lower costs, less energy usage, reduced carbon and increased system resilience.

What is happening today?

To be able to measure the effectiveness of our DWMP we need to look at how we are performing now, and what we need to do to improve this position.

Our DWMP ensures we can continue our water recycling processes effectively. Our role is to collect wastewater from our homes and businesses once used, along with the rain that falls and has nowhere else to go, to treat it to make it safe to release it back into the environment – where it travels to the sea and the cycle repeats.

When this works as intended – homes, businesses, rivers and sea are all protected; only rainwater that cannot drain naturally goes into our sewers alongside wastewater to be transported to wastewater treatment works to be treated to high standards before being safely returned to rivers and seas.

So, an important part of our DWMP is understanding how we are progressing against this standard, so we can understand what we need to do next to continue to improve this position.

We know that in the last thirty years, we have made progress in improving the recycling process. There has been significant investment in infrastructure and partnership work, with our 'Clean Sweep' investment resolving the legacy practice of discharging untreated raw sewage into the sea, delivering some of the best bathing waters in Europe. There has also been investment to drive the risk of sewer flooding to historic low and industry leading levels.

Our business plan for 2020-25 continues to provide improvements in bathing water quality, sewer flooding, sewer blockages and collapses, risk of sewer flooding in a storm, and biodiversity measures. Whilst we are on or ahead of target on c.80% of our wastewater performance commitments, we are also aware that reducing pollution incidents and storm overflows is a key area of focus for our plans.

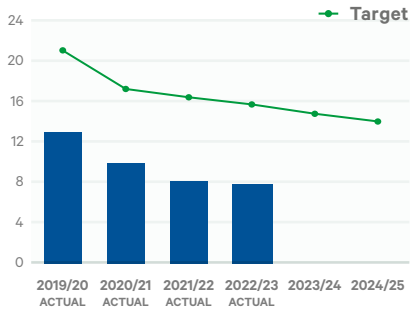
WaterFit

Blockages and collapses

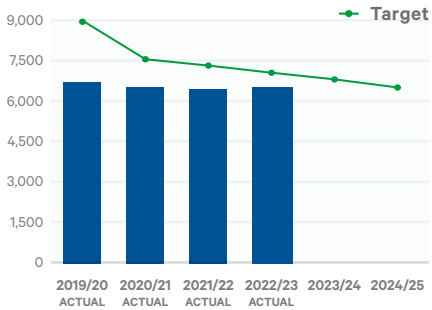
An important part of our current plans is to ensure the health of our assets – ensuring they are able to deal with flows in the systems, maximising the capacity for future changes.

The health and condition of our assets is good and on target. Blockages and collapses can quickly affect the capacity of the systems, so it's important to invest to bring these down. Ensuring the asset health of the asset base avoids the need for expensive, complex drainage enhancements.

Sewer collapses
(per 1,000km sewer)



Sewer blockages
(number)

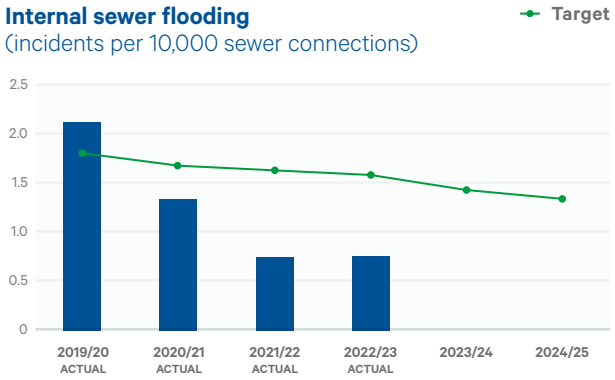


Sewer flooding

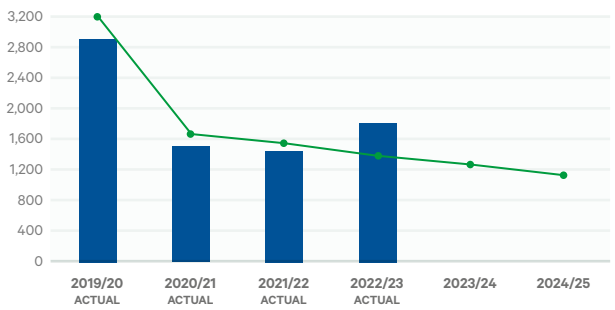
Sewer flooding can have a devastating effect on customers, so over the years it has been a huge priority to bring this down. We continue to do all we can to reduce the likelihood of these events, and we are ahead of our commitment in this area. The graphs below show our current performance and what we're planning to achieve by 2025.

There has been an **80% reduction** in internal sewer flooding in the last 20 years

Internal sewer flooding
(incidents per 10,000 sewer connections)



External sewer flooding
(number)



As well as the number of internal and external sewer flooding incidents a year, we also estimate the percentage of customers at risk of sewer flooding in a severe storm.

The **risk of sewer flooding in a 1 in 50-year storm** measures the number of properties that are at risk from sewer flooding due to intense rainfall, currently expected to occur once every 50 years as it has a 2% chance of occurring in any one year. Any catchments with more than 4% of properties at risk of flooding under this measure is classified as having significant risk. Our performance is good in this area with only c.10 percent of our c.653 catchments over this threshold.

Pollution incidents

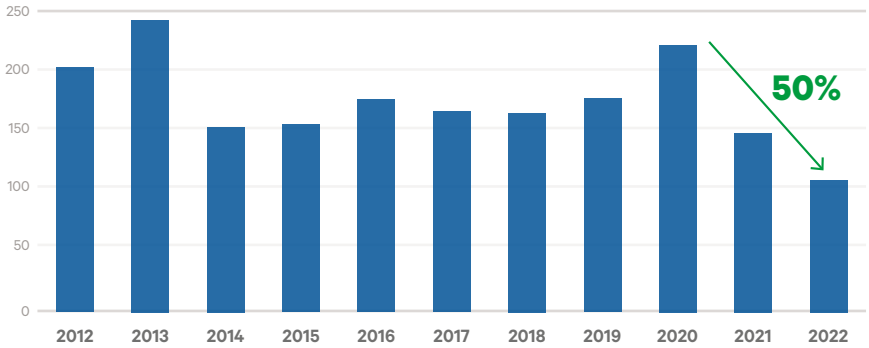
In the South West Water region, those pollution incidents that cause the greatest harm (Category 1) are infrequent and we have only had one incident in the last five years. There are some incidents (Category 2) that may result in a risk of, or temporarily closing a bathing water. Within our region these occur only a few times per year. The final category of incidents (Category 3) are those which cause little or no harm but may be visible to the public, e.g. an escape from a manhole.

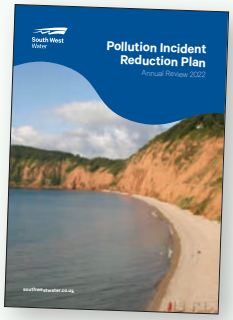
Pollution incidents continued

Whilst in the last year we have made progress in reducing the number of pollution incidents that we cause, we know there is more we need to do. So, driving down the number of pollution incidents from our assets is a key focus area for us and we have made considerable progress. But lasting change can take time. We have delivered a significant improvement in pollutions performance, a 50% reduction over the past two years. 2022 was our lowest ever level of pollutions and we are committed to year on year reductions going forward, as we realise every pollution incident is one too many.

Serious pollution incidents are also down by 75% – from eight incidents in 2021 to two in 2022. Behind our pollution reduction is our Pollution Incident Reduction Plan (PIRP) which sets out investment, activities and changes we are making to deliver lower levels of pollution year on year.

Cat 1-3 Pollutions (absolute number)





c.50%
reduction in pollution incidents in 2 years

Storm overflows

Storm overflows are designed to release excess storm water into rivers and seas when prolonged rainfall occurs and more water enters our sewers than we are able to safely treat. This helps prevent the risk of sewage backing up, preventing homes and public spaces being flooded by allowing a controlled release. We use tanks to store as much diluted sewage before it is released back into the environment.

Storm overflows have been an important topic of debate in recent months, and we have heard from our customers, stakeholders and regulators that our performance in this area is a priority for them.

In the last year, through WaterFit, we extended our storm overflow monitoring programme. 100% of storm overflows are now fitted with Event Duration Monitors (EDM Monitors) and we are using this data to drive our plans as we target no more than 20 spills per location by 2025.

At bathing water beaches and environmentally sensitive areas we will go even lower, achieving no more than 10 per year because we know how important they are to our communities, stakeholders and businesses.

To deliver this, we are upgrading assets and increasing storage at wastewater treatment works, pumping stations and network overflows across the region, as well as identifying ways to reduce surface water flows and groundwater infiltration into the wastewater network.

In the last year
overflows reduced 27%
from an average of 39 to 28 at each location – ahead of our trajectory to get to 20 spills by 2025

Spills at beaches is a particular focus, and in the last year we have seen a 50% reduction in total number of storm overflow spills and 75% reduction in the duration of spills across the summer bathing season compared to the previous year. 79% of all storm overflow monitors at beaches recorded fewer than five spills in 2022. Over the course of the year, the number of spills at beaches fell from 28 to 21.

We have also launched WaterFit Live which provides information on our designated bathing waters where we have a storm overflow alongside information on our improvement plans and wider beach information. Real-time reporting at beaches and rivers will be developed throughout 2023/24.

Our DWMP investment will ensure that this step change in storm overflow reductions will be resilient to the impacts of climate change and will support delivery of the government's targets on storm overflows.

WaterFit

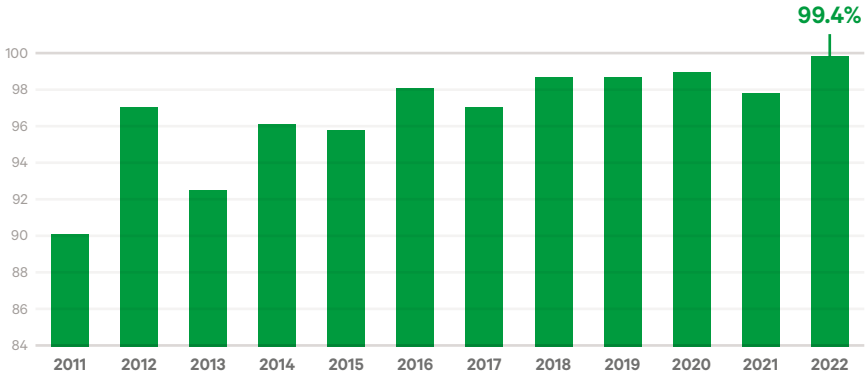
Compliance with environmental permits at wastewater treatment works

Discharges from our wastewater treatment works are subject to strict environmental permits which must be met. We have seen wastewater treatment processes dramatically improve, allowing environmental permits to tighten – so that more contaminants are removed from wastewater discharges that go into rivers and seas. And we have seen improvements in our performance as we continue to target 100% compliance in this important measure.

Wastewater treatment works are designed to cope with a particular volume of discharges. When wastewater treatment works receive loads over and above the designed levels, the risk of failing environmental permits increases and there are more storm overflow spills to rivers and seas. We continually invest to increase our ability to cope with additional wastewater and rainwater flows into works to protect the environment and prevent pollution.

We have improved compliance at our wastewater works, with performance improving to 99.4% in 2022, our best ever treatment works compliance. We are focused on maintaining this performance.

Wastewater treatment works compliance (%)



Best ever performance

Bathing water quality

Improving water quality at beaches within our region ensures that we keep coastal areas available for our residents and our visitors alike, which are important for wellbeing and for tourism: a key component of the economy of the South West. We currently achieve 100% of excellent bathing water quality standards.

We know that our customers want to enjoy bathing waters all year round and not just in the bathing season of May to September. This means targeting the total number of spills across the whole year rather than in the summer period. Our current WaterFit plans will target 10 spills on average at bathing waters by 2025, through targeting additional storage and asset upgrades at coastal wastewater treatment works, pumping stations, and network overflows.

96%
of customers believe that cleaner beaches support the local economy

91%
of customers feel we should focus first on beaches and rivers that are used for recreation

River health – reasons for not achieving ecological good status

One of the tools that we use to better understand the impact that we have on rivers is the Environment Agency's measurement of river health, known as the 'Reasons for Not Achieving Good' (RNAG).

All waterbodies have been assessed for their ecological status, and all of those waterbodies that do not achieve at least 'Good' status, must have a reason why, attributed back to the industry or activity responsible.

South West Water's operational area, almost a third of these reasons are from Agricultural activity or Land Use impact. Almost a half of all reasons are classified as 'other' – much of this is the universal spread of atmospheric chemicals such as Polybrominated diphenyl ethers (PBDE) and Mercury. Our operations as a whole, across water supply & treatment, as well as wastewater collection, treatment and disposal, accounts for only 12.5% of the RNAG's listed by the Environment Agency. We aim to reduce our impact to less than 10% by the end of 2025 as a result of our investment in wastewater treatment process upgrades.

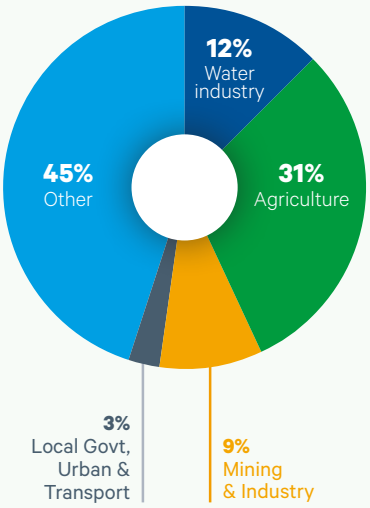
We also work with farmers to further reduce impacts on river health. To date, over 115,500 hectares of land has been managed differently to reduce fertiliser and slurry runoff into rivers, protecting rivers important for our drinking water supply. In addition, we have recently announced £1million of funding to help farmers store water on their land to help sustain flows in rivers during drier months, further reducing pressure on this precious resource. This will be delivered in collaboration with the Westcountry Rivers Trust and through Ofwat's innovation fund.

We are on track to deliver the reduction of our impact by the end of the investment period, and to further reduce our impact by the end of the decade.

84%
of customers worry about the impact of manufacturing and farming on rivers

Reasons for not achieving 'Good' status in the South West Water area

Cycle 3 (August 2022) RNAG summary



Source: Environment Agency

Delivery of our WaterFit Plan

In April 2022 we launched our 'WaterFit' plan, a range of investment to support healthy rivers and seas by 2025. WaterFit is about going faster and further in our plans, and bringing forward investment in important areas.

WaterFit has six main goals:

1. Nurturing healthy rivers and seas
2. Putting nature on everyone's doorstep
3. Creating and restoring habitats
4. Inspiring local champions
5. Creating a sustainable future
6. Putting people in control.

One year on we have made good progress. This includes important elements bespoke to our region, our customers and our environment such as bathing water quality, where for the second year running, we have achieved 100% and biodiversity, where we are significantly ahead of target with our innovative Upstream Thinking programme with 107,000 hectares in catchment management, and delivering over 300 hectares of peatland restoration.

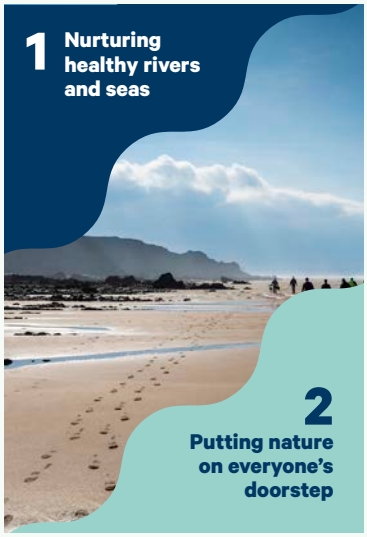
WaterFit delivery one year on – at a glance

Measure	2022		2023
Compliance*	97.5%	→	**99.4%**
Pollution incidents*	151	→	**108**
Bathing quality	100%	→	**100%**
RNAGs**	19%	→	19%
Storm overflows	39	→	**28**
EDM monitoring	79%	→	**100%**
Catchment management and habitat creation	95K	→	**107K**

* Environment Agency EPA measures

** Reasons for not achieving good ecological status due to water operations

More information about WaterFit can be found **here**



WaterFit Live

We know that one of the highest priorities for our customers is the protection and enhancement of the beautiful coastal bathing waters and beaches across Devon, Cornwall and the Isles of Scilly.

During the pandemic, many people reconnected with the environment their doorstep. Increasing numbers of people, residents and visitors alike, took up pastimes like wild swimming and public interest in the state and health of our local environments was heightened.

For some time South West Water have shared information about coastal storm overflows on our website which others, such as Surfers Against Sewage's Safer Sea App, also display alongside information from other sources.

In April 2023 we launched the WaterFit Live app, where, following the installation of event duration monitoring equipment at all storm overflow sites across the region, we share performance data and real time information when a storm overflow is spilling that could affect water quality at designated bathing waters. This allows customers, visitors and water users access to up-to-date information on potential impacts on water quality.

Information about the investment planned to reduce the number of spills is also shown, alongside performance information and data regarding spills recorded from each storm overflow is also shared.

The WaterFit Live app currently focuses on bathing water sites and in the next phase we will show information for all sites where storm overflows can occur. On the app, communities are asked to share their views and thoughts about the investments prioritised in their area and to help us schedule our programme of action over the next fifteen years.

We have also added 'Your Beach, Your Say, Our Investment' functionality to WaterFit Live. Through the app, communities are asked to share their views and thoughts about the investments prioritised in their area and to help us schedule our programme of action over the next fifteen years.

For this reason, we know that the knowledge and experience that customers and coastal communities hold about their bathing waters is invaluable and we foresee real benefit in combining this with our own experience as we develop our detailed local plans. We are working hard with customers and interested coastal community groups in how we develop our plans and prioritise our investments to achieve the best outcome for all users.

We welcome the voices and input of the communities we serve. As we continue to shape our future investment programme at the beaches and coastal locations that we all care so passionately about, we will use customer and stakeholder feedback to inform the implementation of our plans over the coming months and years.

More information about Waterfit can be found **here**

Assessing what the future could look like

DWMPs build on our long-established business planning processes, ensuring we can plan for future challenges and mitigate demands placed on our systems.

Recognising the need to work with others to meet future pressures, since 2018 we have been evolving our processes and strengthened our relationships with stakeholders and partners to ensure our future plans meet the needs of the region and our customers, now and in the future.

Using the DWMP technical framework to assess future risk

Underpinning our DWMP is a robust, analytical framework. Our models and tools provide insights around the risks to the system overall and in the catchments that we serve and interact with, allowing us to identify the right range of actions that we need to take to address the risks we face.

- Understand future drivers for change
- Agreed planning objectives and goals

→ 1 **Strategic objectives**

- Identify areas of the region vulnerable to future risks – that may need investment to ensure performance and compliance

→ 2 **Risk-based screening**

- Assess impacts on planning objectives and goals over time – given factors like climate change, growth and urban creep

→ 3 **Baseline risk and vulnerability assessments**

- Identify full range of interventions that can reduce future risk
- Identify the right interventions to meet objectives and goals

→ 4 **Problem characterisation**

- Assess natural capital and biodiversity to understand best value interventions
- Test future uncertainties and how the plan can adapt accordingly

→ 5 **Options development and appraisal**

- Define the programme of preferred interventions recognising future uncertainties

→ 6 **Programme appraisal**

↓

Bespoke risks that sit outside the Technical Framework but are important to water companies and are included in the plans.... → **Final DWMP**

An important part of the DWMP is driven by a prescribed framework and set assumptions in a six-step technical framework developed for the industry and regulators by WaterUK

Planning objectives

We know that our customers and stakeholders want our future performance to maintain the standards and service levels delivered by the investments we have made over the last thirty years, and to go further and make targeted improvements that will benefit the lives of customers and communities, and the environment.

Maintaining our target performance in 2025 – including the changes committed to in our WaterFit plan – will require additional investment. We expect the demands on our wastewater system to increase, with additional pressures created as a result of the particular challenges faced by the geography and coastal nature of the South West.

In line with the DWMP technical framework, endorsed by Ofwat and Defra, there are six common objectives for 2050. As well as keeping our assets in good health and responding to these common objectives, we are also going further by committing to five additional bespoke objectives. The areas that we will be focusing on are shown below.

Delivering solutions to achieve these objectives will require innovation and collaboration with partners and customers, including some that may be costly and complex to deliver.

When looking forward we understand that factors beyond our control, such as climate change, could undermine the investments we have made to date, and that we will need to invest further just to maintain the 2025 position. Our starting point when developing our DWMP is therefore to ensure there is no deterioration to our performance, and indeed areas of improvement, whilst addressing the impacts of external pressures on our system.

Common objectives for 2050

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6
Internal sewer flooding risk	**Pollution risk**	**Sewer collapse risk**	**Risk of internal sewer flooding in a 1 in 50 year storm**	**Storm overflow performance**	**Risk of WWTW quality compliance failure**
The instances of sewage in homes – which can be from blockages in the system and overloaded sewers	The forecast number of pollution risks	The forecast number of risks, measuring how well we maintain our assets	The predicted number of properties that could experience flooding from our sewer network in a severe (1 in 50 year) storm	The number of storm overflow discharges in our catchments	Assessing if the quality of the final effluent leaving our wastewater treatment works complies with our environmental permits

Our bespoke objectives

Objective 7	Objective 8	Objective 9	Objective 10	Objective 11
Risk of sewer flooding in a 1 in 10 year storm	**Risk of WWTW compliance in dry weather flow**	**Serious pollution incidents**	**Nutrient reduction & improvements to river water quality**	**Coastal risks due to climate change**
The forecast number of properties that could experience flooding from our sewer network in a 1 in 10 year storm event	The risk of exceeding the permitted average daily flow to a wastewater treatment works during a period without rain	The number of serious pollution incidents (defined by the Environment Agency as Category 1 and 2)	A reduction in the amount of phosphorus and total nitrogen in the wastewater we discharge to rivers, improving water quality and enabling new development	The likelihood that our assets in coastal locations are at risk of coastal flooding and erosion

Measuring our performance

We have set challenging targets for all eleven of our strategic objectives to provide transparency to customers and stakeholders on the benefits of investment.

We are aiming to build on the improvements in performance that we've achieved through the period to 2025. We will take a longer term view of our assets to manage the impacts of population growth, climate change and urban creep and invest to improve performance in key areas. We'll use our performance data to create insights that will guide our investment at catchment level. Investing on this larger scale will enable us to deliver multiple benefits from our DWMP.

WWTW with compliance risks – we're planning to invest in the capacity of our wastewater assets so that they can cope with increases in population. We measure this by looking at their capacity in dry weather and we'll be investing in 123 sites over the next 25 years.

Reducing nutrient flows – we plan to invest in 230 WWTW over the next 25 years to reduce the amount of nitrogen and phosphorous entering the river environment. Where our activities are also contributing to 'Rivers not Achieving Good' status, we're also working to minimise our impact on these watercourses.

Delivering multiple benefits

Despite often being driven by individual objectives, we know our schemes can provide multiple benefits. For example, a nutrient reduction scheme to meet the Water Environment (Water Framework Directive) Regulations 2017 has the potential to provide secondary benefits to treatment resilience. Furthermore, if the scheme can be delivered using a nature-based solution, the scheme will deliver wider environmental benefits such as biodiversity net gain and a reduced carbon impact.

There are many cases where interventions can deliver against multiple drivers. For example, an intervention to protect a Site of Special Scientific Interest may also deliver against reducing the impact of nutrients. This has been taken into account in the development of our DWMP.

The following table shares our generic types of interventions. This list of interventions can in many cases deliver multiple benefits.

	Grey solutions within the network	Network Blue / Green solutions	WWTW Grey solutions	WWTW Blue / Green Solutions	Interventions at WWTWs – additional treatment capacity
Objective 1	P	P	✗	✗	✗
Objective 2	P	P	P	P	✗
Objective 3	P	P	✗	✗	✗
Objective 4	P	✓	P	✗	✗
Objective 5	✓	✓	✓	✗	✗
Objective 6	✗	✗	✗	✓	✓
Objective 7	P	✓	P	✗	✗
Objective 8	✗	✗	✗	✓	✓
Objective 9	✓	✓	✓	✗	✗
Objective 10	✗	✗	✗	✓	✓
Objective 11	✓	✗	✗	✗	✗

P = partial

Understanding the wider impact of the DWMP

In delivering the DWMP, South West Water will deliver extensive benefits for the region, including wider improvements to human health, socio-economic, biodiversity and water quality. Some of these factors, however, could be impacted as the plan is constructed or indeed once intervention and projects are constructed and operational.

To understand the potential effects across a range of factors, South West Water commissioned both a Strategic Environmental Assessment (SEA) and a Habitat Regulations Assessment (HRA) Stage 1 Screening and Stage 2 Appropriate Assessment.

Strategic Environmental Assessment

South West Water commissioned a Strategic Environmental Assessment (SEA) of the DWMP in accordance with the standard SEA methodology. A report setting out the findings has been published and can be accessed **here**.

Overall, the total plan effects and the cumulative effects of the plan are generally positive to some degree, with moderate positive benefits identified for water resources and flood risk, minor positive for climate change resilience, socio-economic, human health, heritage and biodiversity.

Moderate negative effects are identified for biodiversity and Carbon & Material Assets during the construction phase of a chosen intervention, alongside minor negative effects for the impact of sewer flooding on human health and socio-economic factors and potential impact on heritage features during construction works.

It was recognised that the assessment of likely effects is location specific and that each intervention should be assessed against the SEA objectives at project level.

The SEA is also required to set out measures which could prevent, reduce and as fully as possible offset any significant adverse effects on the environment arising from the DWMP. The report then identifies key such measures which were suggested in response to the draft DWMP and explains how the final DWMP proposes to prevent, reduce and offset such effects.

Habitat Regulations Assessment

South West Water also commissioned a Habitat Regulations Assessment (HRA) Stage 1 Screening and Stage 2 Appropriate Assessment. The interventions which the DWMP is most likely to be delivered through were categorised in the report into four types. Each type was described and assessed to understand the potential pressures arising. A report setting out the findings has been published and can be accessed **here**.

The locations of 653 Level 3 catchments were analysed against the locations of the European Sites in order for impacts to be considered in the HRA.

A total of 400 Level 3 sites were identified as within or partially within a European Site. Given that the DWMP at this stage does not include specific options or detail of the proposed intervention that will be made at each site, the report determined that all 400 sites will need to progress to the appropriate assessment stage.

172 sites were identified as being outside of but within 5 kilometres of a European site. Of these, 21 were determined to require no further assessment, 58 would require appropriate assessment and mitigation, and 93 would require appropriate assessment as considered in the report.

The plan level appropriate assessment carried out on the 493 Level 3 sites requiring appropriate assessment shows that with appropriate mitigation, no likely impact is expected on any protected sites. Any high level threats associated with the interventions (or options) which are likely to be delivered as the plan is implemented, are expected to be mitigated by sighting the intervention appropriately – i.e. not within European Sites or within 500-1,000m of any European Sites.

In addition, the assessment confirms that a further full HRA, including stage 1 screening and stage 2 appropriate assessment will be conducted on each of the 493 Level 3 catchments identified at project level when more information about the specific intervention proposed is available.

Both the SEA and the HRA reports recognise that assessing the impacts of any actual interventions delivered through the DWMP will depend on both the type of intervention and the location. South West Water is fully committed to undertaking the assessments required, alongside monitoring impact and benefits and sharing this information on an annual basis.

Risk Based Catchment Screening (RBCS)

This step in the DWMP process is to prioritise which of the 653 catchments most need our support and investment. To do this, we have assessed their performance to date and the risks facing them in the future in line with national DWMP guidance.

This screening exercise has resulted in us identifying 373 particular catchments for further Baseline Risk and Vulnerability Assessment (BRAVA). These catchments together provide wastewater and rainwater management services to around 98% of the population, and so are the ones most likely to flood people's homes and businesses and pollute important waterways if they are overwhelmed.

We review all 653 of our catchments annually, analysing the risks identified in RBCS and the extended resilience assessment. Should any of these meet the threshold for action, these are then reviewed in detail to consider the options available to reduce the future risk.

Resilience assessment

Once the RBCS was completed we then assessed our resilience to a range of events that may have a service impact on our assets. This assessment was carried out on 653 sewage treatment works catchments regardless of the RBCS outcomes and our full sewage pumping station asset base.

The needs we assessed were:

- Fluvial and coastal flooding of WWTW and pumping stations
- Power outages
- Outages to remote communications and
- Response recovery plans.

Baseline Risk and Vulnerability Assessment (BRAVA)

We have used hydraulic simulation models to understand future risks to our wastewater system. The models help us to understand what can happen when our wastewater systems become overloaded with rainfall, predicting the impact and likelihood of:

- Overloaded sewers, pumping stations and treatment works cause storm overflows
- Overloaded sewers discharging from manholes and lids
- Overloaded wastewater treatment works at risk of failing environmental permits.

We can use these models to understand the potential additional impacts of sewer blockages and collapses – so we can see the impact of improving asset health on the effectiveness of drainage. This helps to ensure we focus first on essential maintenance, before moving onto more complex interventions where the risk may be higher.

Climate change models are also used given the strong link between climate and the amount and intensity of rainwater falling across the region, along with the expected rise of sea level.

The expertise of our operations teams out and about is also important in understanding where risks are emerging, along with local insight from our customers and stakeholders.

Problem characterisation, options development and appraisal

With our improved understanding of the risks and challenges we face, and informed by the views of stakeholders and our operational insight, we have considered the best options – known as interventions – to manage and address these risks.

We have developed a long list of potential interventions, in line with the DWMP Framework and guidance, and these are applied in the catchments – aiming to select the right option at the right time to address the risks in each catchment effectively over the next 25 years.

Programme appraisal

Whilst our models are robust and provide clear findings as set against the technical framework, there is still a lot of uncertainty facing us in the future. To deal with this, we have tested the sensitivity of the results to the assumptions made and the likely benefits of as yet largely untested solutions. Our plan is robust to the assumptions we have made.

Our models can identify areas where nature-based solutions and partnership working is likely to be effective. We have already identified opportunities to work with partners on joint interventions.

Bespoke risk assessment

Analysing wider climate change

Climate change is predicted to lead to sea level rises and coastal erosion in our region. This is a significant risk to us in the South West given our long coastline and the western approaches of the Atlantic Ocean.

We have analysed what this could mean for our assets using the 2019 Environment Agency flood risk assessment climate change guidance. This provides information on sea level rise due to the anticipated effects of climate change.

Applying these sea level rises to our asset mappings, we can see that without additional coastal flood defences our wastewater assets will be affected, with at least 8 wastewater treatment works and 155 sewage pumping stations at risk of inundation.

Sewers in 9 coastal locations are impacted also. The kilometres effected varies depending on high tide, storm event and climate change scenario. In a worse case climate change scenario and 1 in 200-year storm event, just under 200km of sewers would be at risk of inundation. Overall, >8% of our wastewater assets are at risk from sea level rise.

We continue to track these impacts, reflecting Met Office guidance into our analyses. For our final DWMP, we have prioritised the need for investment at each site between now and 2050, and we will work with risk management authorities as part of the local Shoreline Management Plans in those areas at highest risk of coastal erosion and sea level rise.

Analysing investment to improve wastewater treatment standards

Our DWMP includes a significant programme of investment to continue to reduce the nutrient loading – namely phosphorus and nitrogen – in our wastewater discharges to the river environment and to reduce the risk to these environments from the potential threat of eutrophication.

This will see phosphates in discharges to rivers reduce, with the current targets set to an 80% reduction nationally in nutrient loading in wastewater discharges by 2038. This investment will also reduce the risk of eutrophication and deliver water quality improvements in many rivers and streams in the South West region, leading to improvements in the Environments Agency's measurement of river health, known as the reasons for not achieving good (RNAG) ecological status.

Approximately 150 our treatment works have been identified for investment to deliver these improvements from 2025 to 2035, which will contribute to achieving this objective, and we anticipate further improvements will be required in the longer term, post 2035, as technological advances are made in the detection and treatment of nutrients in wastewater discharges.

Our DWMP

Our overall DWMP reflects all of the analyses we have undertaken identifying the investment on top of our asset health investment needed to 2050.

Looking at the company level risks as a whole, our DWMP reflects the proposed targets around environmental protection and the benefits of investments to customers and communities.

It recognises the environmental ambition for the region set by policymakers for 2050 – seeking the best way to deliver this for customers and communities.

Case study

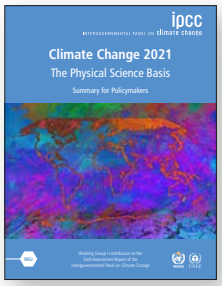
Future challenges – climate change

According to the 2021 Intergovernmental Panel on Climate Change (IPCC), we are already experiencing many climate change impacts today, and these are expected to increase, anticipated to be at least 1.5-2°C above pre-industrial levels this century, and with a chance this might go higher. We are already starting to observe the impacts of drought, rising temperatures, flooding, rising sea levels and storm surges, and coastal erosion on our operations.

That's why, in 2021, we signed up to our own "Promise to the Planet", our Net Zero plan to 2030, with three pillars centred around sustainable operations, championing renewables and reversing carbon emissions, we are on track to reduce the demands we are making on the planet.

The impact of increases in global temperatures will potentially lead to larger and longer droughts, more intensive periods of rainfall and sea rises, all of which could pose a varying degree of risk to the services and supplies to South West Water customers.

The South West is particularly vulnerable to climate change, given its 860 miles of coastline, and adjacency to the western approaches of the Atlantic Ocean, exposing the area to impacts from rising sea levels and storm intensity. Given this, assessing climate change risks, and the potential impacts, and possible mitigations on our various operations, assets and networks, is an ongoing and iterative process.



You can find out more about Our Promise to the Planet **here**.

Our DWMP continued

We have followed the technical framework in setting assumptions (around climate change, growth, and urban creep) and the government proposed targets around storm overflows and future wastewater treatment standards. But there remains a lot of uncertainty on the pace and nature of investment and this has been reflected in our profile of investment from 2025 to 2050.

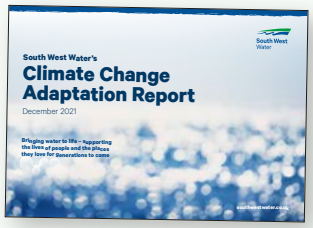
We want our plan to be a living adaptive plan. This means we will continue to review and amend our plans as circumstances change – this is important to ensure investment is value for money and in line with what customers want.

Specifically, our plans will adapt if…

- The proposed interim and 2050 targets set by our regulators change
- If our assumptions around climate change, future technology, population growth and urban creep are not right, resulting in more or less volumes of wastewater and rainwater entering our system than we predict and more or less impacts on assets in coastal locations
- The levels of working in partnership to co-create, deliver and fund essential investment changes
- If the way that we charge customers in bills changes – if water bills become progressive rather than regressive as they are today, this would support a faster pace of investment whilst still keeping bills affordable
- If we can get more from our base levels of maintenance – reducing the additional investment to deal with future challenges.

To better understand some of these uncertainties, we have tested the sensitivity of our analyses to changing weather conditions, population growth and urban creep assumptions. We will work with regulators and policymakers to understand what may change from their perspective in the future. But overall, we know that over time, we can expect the risks and costs we have estimated to change upwards or downwards over the period.

We have reviewed our planning scenarios and assumptions, aligned them to the long term development scenarios developed by Ofwat and provided choices around the pace of delivery for storm overflows.



You can find out more about climate change report **here**.

What happens if we do nothing?

Every day of every year we are out and about across the network – cleaning and clearing sewers, operating and maintaining pumping stations and treatment works, and renewing assets at the end of their life, in order to maintain the condition and integrity of our extensive network.

But what would happen if we just did this – and didn't do anything else?

In developing the DWMP, we have assessed a number of scenarios, including what could happen if we simply chose to maintain the wastewater system we currently have, seeking to deliver the levels of performance which we currently achieve.

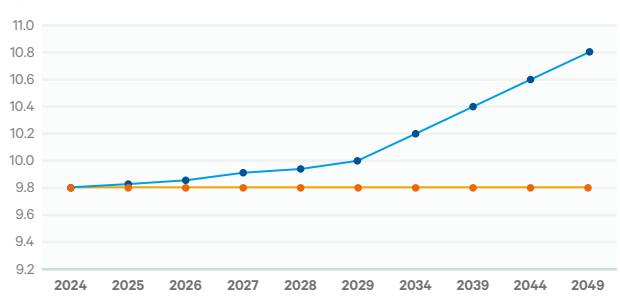
As each decade goes by, we witness increasing amounts of surface water, new roads and driveways, and a changing landscape with urban areas expanded. We know the South West is also vulnerable to climate change, and adjacency to the western approaches of the Atlantic Ocean, exposing the area to impacts from rising sea levels and storm intensity.

Essentially, by doing nothing, there would be more water entering our system than we would be able to hold, move and treat. There would also be more risks to the assets that we operate. We would undo all the investments we have made over time and drastically increase the risk of flooding to homes and businesses, the risks of pollution spills damaging the environment and storm overflow discharges would increase. We would not meet the environmental targets set by Defra.

Flooding risk

Our modelling shows that by 2050 up to three times as many people will be at high risk of flooding in a rare storm event, increasing the number of properties at risk of flooding in a severe storm by 17,000 properties.

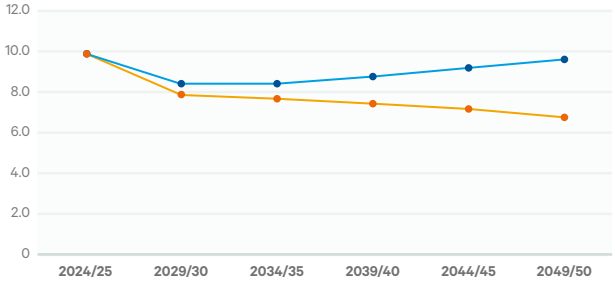
Properties at risk of flooding in a 1 in 50 year storm
(%)



Baseline risk – if we do nothing
DWMP proposed

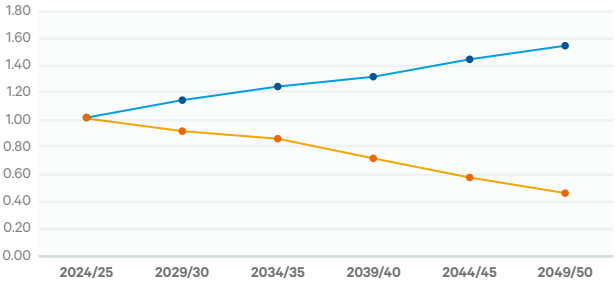
Our target is to maintain the risk of flooding in a 1 in 50 year storm through to 2050, mitigating the impacts of an increasing population in the South West along with climate change challenges. Our bespoke planning objective also targets the same level of performance in more frequent, moderate storms (1 in 10 year events).

Sewer collapse performance and targets
(per 1,000km of sewer)



We'll continue to improve our performance in reducing the number of sewer collapses with a target of reducing bursts on our pumped sewers as these are more prone to creating pollution incidents when they fail.

Internal flooding performance and targets
(per 10,000 properties)



We're aiming to maintain our performance in the top quarter of the water sector, building on our success of bringing down the risk of internal sewer flooding.

The impact of sewer flooding is catastrophic for the communities and businesses, causing disruption to family life while flood damage is made good, which can often take many months to recover. Our customers regularly tell us that sewer flooding is the very worst service failure – and known risks simply must be addressed and not allowed to endure.

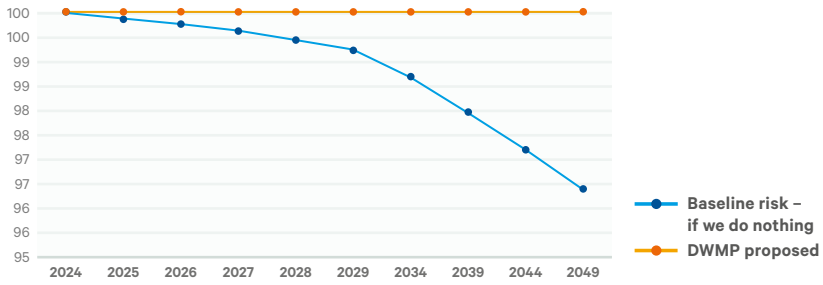
We have carried out detailed modelling on catchments which are home to our largest populations to understand this better. The findings indicate that, for these catchments, there could be a 25% increase, on average, in the number of properties at risk of flooding, between 2025 and 2050. This is particularly the case with some of our coastal towns such as Lynmouth and Ilfracombe.

Wastewater treatment compliance

With increased flows caused by growth, urban creep and more intense rainfall events, 123 treatment works would be at risk of being overloaded and unable to meet their environmental permits. Without preventative action to prevent this, this would potentially harm the environment. This is in contrast to Defra's proposed targets and our own environmental ambition to continue to improve the standard of wastewater discharges.

WWTW with compliance risks – we're planning to invest in the capacity of our wastewater assets so that they can cope with increases in population and rainfall. We'll be investing in 123 sites over the next 25 years, as we look to upsize them to meet the required flows.

Numeric compliance performance and targets
(% of WWTW)



We're planning to maintain our improvements in the compliance of our wastewater treatment works, including 100% compliance with our environmental permits.

We plan to invest in 230 WWTW over the next 25 years to reduce the amount of nitrogen and phosphorous entering the river environment. Where our activities are also contributing to 'Rivers not Achieving Good' status, we're also working to minimise our impact on these watercourses.

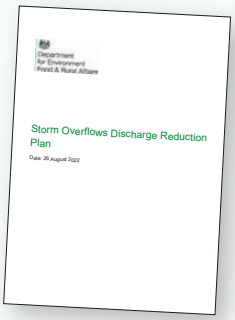
Storm overflows

With climate change, population growth and urban creep there would be more dependence on storm overflows to prevent flooding to homes and businesses but this risks causing harm to rivers and seas. Without investment, discharges from storm overflows increase from the levels we will deliver with WaterFit, with higher and more intensive rainfall events leading to higher spill frequencies as well as longer duration spill events.

Defra published their Storm Overflow Discharge Reduction Plan (SODRP) in 2022 which set out targets for each water company to reduce discharges from storm overflows. By 2035 all water companies will have to improve storm overflows discharging into or near designated bathing waters and improve 75% of overflows discharging to high priority nature sites. By 2050 all remaining overflows will require improvement.

"It's crucial to be able to reduce pollution and reduce the overspill into the seas around the coast."

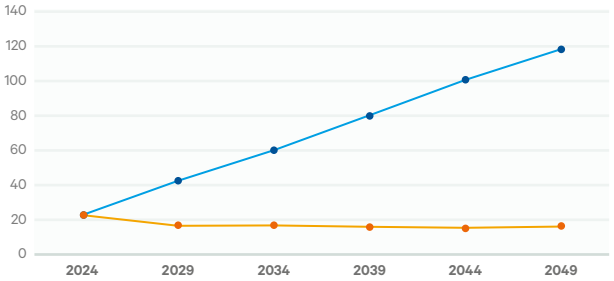
SWW customer,
Female, SEG DE
Aged 31-35


Storm Overflows Discharge Reduction Plan

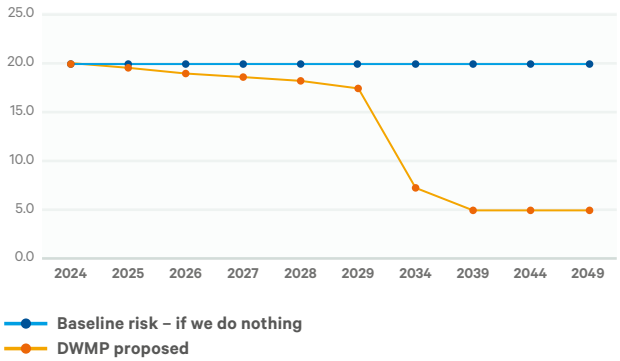
So doing nothing, or simply maintaining current levels of performance, is not an option for the South West.

There are also ten bathing water and shellfish sites in the South West that require investment to prevent a deterioration of bathing water quality standards which currently are at 100%.

Pollution incident performance and targets
(per 10,000km of sewer)



Storm overflows programme
(average spill per overflow)



We're continuing to prioritise reducing the risk of pollution across our wastewater assets and we're targeting a 30% reduction by 2030. We'll deliver this by investing in reducing spills from storm overflows in high risk pollution sites, as well as through the maintenance and investment in our assets. We have a bespoke planning objective to eliminate serious pollution incidents across our network and in addition to our investment in storm overflows we'll also be developing an enhanced wastewater maintenance capability.

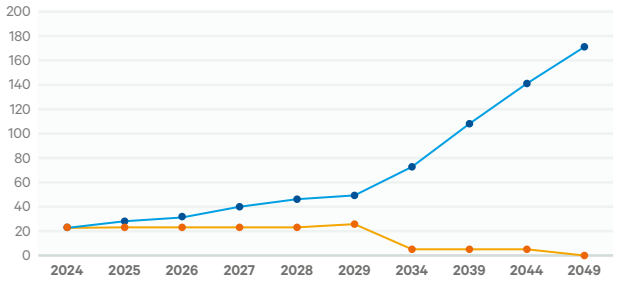
We will prioritise overflows that are causing the most harm and will use nature-based solutions as part of our solutions to reduce and remove spills. You can find out more about our programme and how it meets the requirements of the SODRP in our Technical Appendix.

Our asset base

With climate change causing rising sea levels and coastal erosion, wastewater assets in these locations need to be moved if they are not likely to be protected by coastal flooding defences. We have risk assessed our 653 treatment works and 1686 sewage pumping stations along with our sewer assets to understand their risk of being flooded by both storms and sea level rise.

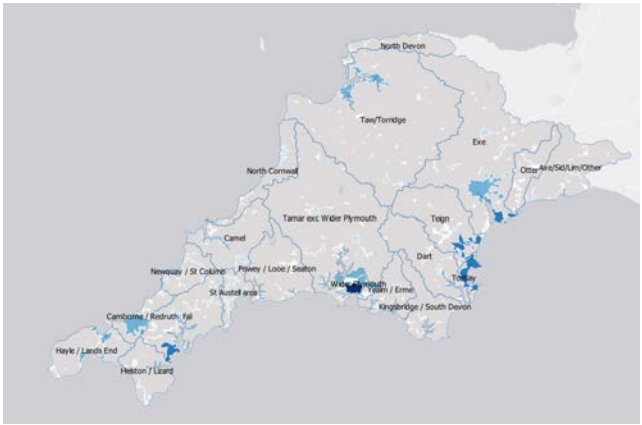
We modelled our sites to understand the present-day risk and projected risks in 2035 and 2050. From our asset base, five of our treatment works, 14 of our sewage pumping stations and up to 161km of our sewers are at a high risk of being impacted by coastal erosion and sea level rise. We have carried out further work to understand our options for each these sites including protection or relocation.

Wastewater assets with coastal flood risk
(sites at risk)



We're investing in measures that mitigate the impacts of sea level rise and coastal flooding over 25 years at 172 coastal treatment, pumping and network assets. We'll use a risk-based approach to plan where to prioritise our investment.

Areas of risk over the next 25 years



What are our options?

To manage and address the risks and future challenges we have a toolbox of interventions, or measures that we can put in place.

Intervention options

We can use traditional engineering solutions, such as the construction of large underground storage tanks, replacing older sewers with larger ones, or building new sewers and new treatment works. This enables us to manage the increasing volumes of surface water that make their way into our network either by traditional design or unintentionally.

We have an ambition to deliver more solutions using nature-based solutions. These include swales – narrow, broad grassed areas which temporarily store water and reduce peak flows; or holding ponds to manage surface water runoff after storms and provide an alternative path for the surface water so that it doesn't enter the sewerage network.

We will look to customers and stakeholders to help. The wastewater network is an open system – anyone can put anything into it! That means alongside the waste from our homes and businesses, we also collect rainwater and run off from surfaces. So, we can – and we do – run education campaigns that show customers how they can help to protect wastewater networks and in doing so, protect the environment and reduce flooding risk.

The interventions outlined below are specific to our wastewater network. Our wider wastewater investment plan has bespoke solutions to help us decarbonise our operations, enable us to generate energy from our bioresources and support our coastal resilience.

Intervention type	What might this work look like?
Collaborating with stakeholders and communities on nature-based solutions	• Working in partnership to deliver nature-based solutions in both urban and rural areas • Expanding our catchment management activity with local landowners supporting our Upstream Thinking initiative • We've provided more detail on our plans in our Technical Appendix
Working with customers	• Leading behavioural change campaigns – Love Your Loo and Think Sink • Promoting water efficiency to reduce flows from sinks and toilets into sewers, such as promoting water efficient appliances • Promoting incentives to increase permeable areas in urban areas and new developments to slow the flow of water into drains
Investing in our existing asset base	• Sewer cleansing and clearing to remove and prevent blockages • Sewer relining and replacement (to reduce rainwater seeping into sewers) • Pumping station maintenance • Upgrading treating capacity at wastewater treatment works so they can process more flows without harming the environment
Rethinking how we design and operate our systems	• New networks, sewers and treatment works • Separating sewers by constructing new surface water networks • Rationalising smaller treatment works into larger units • Introducing smarter networks and monitoring

In choosing the right interventions, we need to think about all the costs and benefits of each intervention. Nature-based solutions can create recreational spaces and by preventing surface water from entering our network, we can reduce our usage of power and chemicals as we will pump and treat less. But they take time to take effect and make a difference – so we need to get the balance right.

Intervention strategies

The greatest driver of risk is the impact of climate-related rainfall, an important part of our strategy is to target interventions that reduce the amount of water run-off entering our system – this means working with customers and stakeholders before resorting to more traditional, engineered solutions. Moreover, increasingly we see partnership working and shared solutions as the key to success. This approach is illustrated below:

Working with customers	Community and stakeholder collaborations	Doing something to our existing assets	Building something new
Encouraging customer behaviours which stop or slow down storm run off	Looking across catchments to find most efficient solutions. Collaboration with other organisations to reduce risks	Changes to how we operate to improve performance and capacity	Increasing our network or treatment capacity to cope with more run off

Nature-based solutions bring with them the additional societal benefits of often providing a pleasant outside space for residents and visitors to enjoy. However, they can also require careful planning and partnership working with stakeholders who share our objectives. This can result in a long lead time to carefully design and deliver the solution, meeting the needs of all stakeholders. You can find out more about our environmental ambition and approach to nature-based solutions in our Technical Appendix.

Where there are more urgent interventions required with greater certainty, we will look to deploy more traditional, engineered solutions – such as increased network and treatment capacity. Where we can, we will also look to use interventions which deliver wider public benefits, for example protecting designated bathing waters.

Whilst UV treatment solutions do exist, they are complex to implement and use a high level of power and carbon and operating cost – we do not consider UV solutions to be sustainable. We would only expect UV treatment solutions to occur as a matter of last resort. Whereby other solutions have not been able to achieve the spill frequency reduction and harm to the environment is demonstrated to occur. In these circumstances UV treatment solutions will be considered.

A continuum of infrastructure engineering approaches

Examples of nature-based solutions

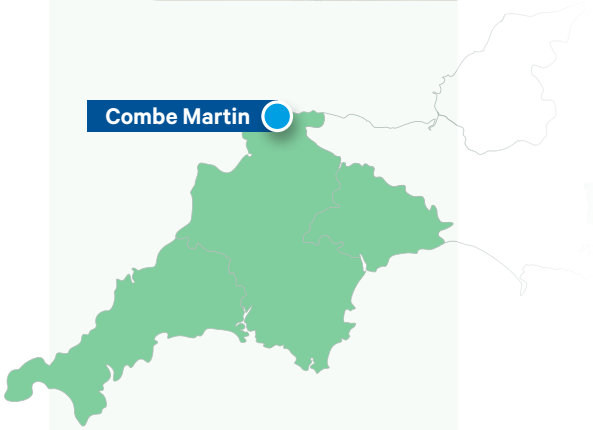
- Diverting high water flows and create areas to store water
- Surface water separation allowing storm water to pass through other pathways like streams and becks
- Creating SUDs to store surface water and allow it to drain away naturally into the soil
- Planting trees and hedges to increase water absorption, catch rainfall and slow down surface water run-off
- Improving soil cover with plants to reduce water pollution and run- off
- Creating leaky barriers to slow water flow in streams and ditches
- Restoring salt marshes, mudflats and peat bogs

Case study

Even cleaner seas for Combe Martin

Combe Martin has faced potential declassification for bathing water due to bacterial pollution – which was of concern as the local community depend on the beach and bathing water quality to attract visitors. Partnership work has delivered a nature-led approach to reducing flood risk and increasing water quality and biodiversity in the catchment.

The River Umber flows into the sea at Combe Martin beach and can affect bathing water quality, especially during wet weather. We have created woodlands to protect the River Umber from bacteriological run-off from the steep-sided valley. Planting thousands of native trees and hedges in the catchment intercepts peak flows of rainfall in the valley, improving both soil health and water quality.



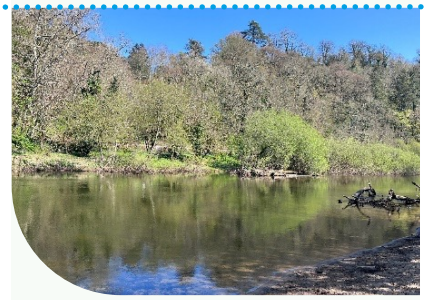
We have worked proactively with farmers to provide advice on soils and waste management, resulting in a decline in fertilizer and slurry run-off into the river.

These catchment actions complement wastewater improvements – including the construction of underground storage tanks to reduce the number of storm discharges into the River Umber during extremely wet weather.

These combined efforts with the Environment Agency and local community has successfully improved the bathing water in Combe Martin, benefiting the community and visitors.

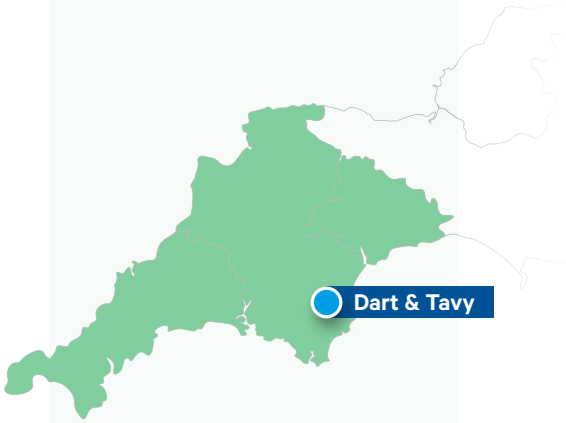
Case study

Inland bathing water pilot on the Dart and Tavy rivers



The South West is already home to 150 designated coastal bathing waters. This pilot will explore how we might begin taking the same approach to river bathing waters, starting with two rivers that we know are popular for recreation.

In recognition of the significant value of our rivers and inland waters to communities across the region, as part of our Green Recovery Programme, we are undertaking a £3.9m, three-year Pilot Project on the Rivers Dart and Tavy.



The popularity of our rivers and inland waters as places for recreation has grown significantly over the last 20 years, with people's desire to connect with the natural environment strengthening. The Dart and Tavy Inland Bathing Waters Pilot aims to increase our understanding of the water quality of these two iconic rivers, helping us to target investment on our own impacts and to support changes in agricultural land use where an impact becomes clear.

This pilot also gives us the opportunity to develop how we provide water quality information direct to the public, and how we make sure it is timely and useful. We are pleased to have been able to share the water quality data in advance of significant stakeholder events on the river, including the 10K swim on the Dart.

To support the community-led designation process, we have commissioned detailed investigations to assess where and when SWW assets and activities, and assets outside of SWW, may influence the water quality around these candidate locations. The monitoring programme has included the use of near real-time river monitors and 'spot-samples' across both catchments and the data gathered is being combined with the results of the water quality modelling work also underway.

To support local stakeholders further we have designed and will soon be delivering a communication and engagement campaign that is centred on using the 'Hello Lamp Post' platform. This approach will be used at the candidate inland bathing sites and in other riverside locations to assess how people are using the river, raise awareness of river water quality issues and capture people's perceptions of the river throughout the year. The data gathered in this way will be shared with the stakeholders and will be used to support the application for designation.

This is an exciting opportunity for us, the local community and ultimately the whole region. We are looking forward to working with partners and the community on our ambitious plan.

Our stakeholder and customer views

Our comprehensive programme of customer and stakeholder engagement has underpinned the development of our DWMP, ensuring that we:

- Work in partnership and develop solutions that provide multiple benefits for our customers, the environment and the economy.
- Promote informed debate about acceptability of different levels of risk
- Create opportunities to listen to our stakeholders and customers and understand their views on the levels service that they want us to provide and the choices and costs to providing those services
- Provide confidence in our approaches to delivering improvements on our drainage and wastewater network.

How we engage

Engagement with our customers and stakeholders on our future plans is a business-as-usual activity – given the vital role they have in shaping our plans.

We have a range of ways to engage customers and stakeholders and hear their views.

- Customer surveys, focus groups and workshops
- Citizen's juries – our PR24 customer forum
- Social media, customer contact and sentiment tracking
- Stakeholder events – including our multiple-stakeholder Stakeholder Forum
- Supply chain events
- Survey and communications to engage visitors to the region
- Public events – such as our public Watershare+ meetings, local community meetings and more recently our first Your Water, Your Say session
- Public consultations – including the consultation on our June 2022 draft DWMP

Customers today have multiple opportunities to share their views, whether through social media, regional press or as part of community groups and we are continually engaging with them to ensure our plans are focusing on what customers really want and think is important.

We are continually attending lots of community events as well, such as local parish and council meetings. These provide incredibly valuable insight into local needs and the level of support communities need.

Our WaterShare+ Panel has made our environmental performance and plans a priority, encouraging public attendance to meetings, allowing customers and stakeholder groups to come and discuss their needs and priorities and our plans

Timeline for milestones

2022

30 June to 22 September 2022
Consultation period

October to January 2023
Feedback analysed

2023

February 2023
Supply chain engagement

31 March 2023
Initial feedback to regulators

May 2023
Statement of Response published & Final DWMP published

Who we engage

Engaging customers and stakeholders in the environmental debate has never been more important.

- Customers – current and future customers
- Visitors and holidaymakers
- Community and customer interest groups
- Environmental interest groups & charities
- Land owners
- Supply chain partners
- Regulators
- Local and national government
- Innovation partners

We also welcome the ongoing dialogue that we have with South West MPs. From our meetings with them we can understand what individual communities need from the water environment, and how we can help support the economy and environment of the region.

Our approach to stakeholder engagement

Listening to customers

Customers are always at the heart of our plans

So far, we have engaged 23,000 customers over the last 12-18 months directly through surveys, focus groups, workshops and the customer forum – as well as listening through day to day channels.

We know what is important to customers.

Customers' number one priority is to continue to receive a clean, safe secure supply of drinkable water supply. Alongside, increasingly protecting and restoring nature and the environment are seen as essential for us to deliver.

Customers have a good understanding of our impact on the environment. This connection with the environment is most readily understood in terms of the water environment – rivers, reservoirs and coastal waters – this is seen to link to our core responsibilities and operations. Customers rightly see us as key custodians of the water environment – and they look to us to make sure they can enjoy their favourite beach all year around; for assurance that loved ones can safely swim, bathe and paddle in the beautiful pristine and biodiversity-rich bathing waters, rivers and lakes across the region; and to act to ensure tourism is sustainable rather than adding to the pressures on the system.

So, they are concerned to hear about pollution and storm overflows. There is a prevailing view among customers that sewage pollution is the number one issue where we need to improve – and with urgency as there is a perception that the problem will get worse if not addressed with the onset of climate change.

Many of our customers are worried about climate change. It is nothing new for our customers to express concerns over climate change – but people see first hand the frequency and seriousness of the impacts of climate change. What was once a concern around flooding has grown for customers to concerns around flooding, pollution, low rivers, drought, and coastal erosion and sea level rises – and the potential loss of coastal communities. Now more than ever we need to invest to protect public health and the quality of the environment. This means going further and faster to invest in eco-initiatives and core infrastructure improvements.

The environment underpins the economy, tourism, recreation and the way of life in the southwest, and customers expect us to do our bit to support all of these. This means a balanced plan that addresses storm overflow spills, pollution and flooding – with a focus on beaches and rivers that support recreation first.

So doing nothing is not an option.

91% of customers tell us that they want us to invest further in beaches and bathing waters across the region. And in the main, most customers are willing to pay a more each month for this. When asked about future bills rises, the range of responses is very wide, with some customers unable to pay any more than they do today given the impact of the cost of living crisis, and one third of customers willing to pay over £200 a year more for environmental improvements.

What all customers do agree on is that bills need to be fair and affordable. Affordability is an important theme whenever we speak to customers – in every engagement and in every event. This means we need to manage overall bill levels, maintaining a robust affordability toolkit, and ensuring a diverse and innovative approach to tariffs. Many visitors to the region agree that those local to Cornwall and Devon should not pay all of the costs to maintain beaches to which they and other holiday makers benefit from.

And whilst habitat creation is not seen as our core duty, this is where we can make a difference across the region. Customers want to live in a beautiful region, bursting with nature – a view shared by visitors who tell us that biodiversity and nature are an important part of making the region a special place. So, we have the backing of customers and visitors to do more to recover nature and boost biodiversity and our plans need to balance engineered and nature-based solutions.

Listening to stakeholders

Engaging and working with stakeholders is not new – what is different is the scale.

Stakeholder groups, as anticipated, are well informed about many of the future challenges of the DWMP.

Our stakeholders understand how important it is for the DWMP to align with, and reinforce, the priorities of the strategic and local delivery plans that other organisations work to, such as: Flood Risk Management Plans, River Basin Management Plans, Climate Change Risk Assessments, Local Nature Recovery Strategies, and Local Plans.

Responsibility for drainage is shared with other flood risk management authorities, land and drainage asset owners and collaborative working is essential to achieve the ambitions of the DWMP. Stakeholders have been clear that they want to work in partnership to co-create and develop solutions and to deliver and support community engagement initiatives.

We have had strong support from stakeholders for our commitments on coastal bathing water and reducing spills from storm overflows. Our stakeholders share our concerns with the impact of rising sea levels on infrastructure given the maritime nature of our region and the proximity of some of our assets to the coast. We also heard a willingness to be involved as delivery partners in any new catchment management schemes, building on the success of our Upstream Thinking approach, which also has the potential for attracting public and private funds, potentially reducing future pressures on customer bills.

Stakeholders also strongly supported the use of nature-based solutions in tackling wastewater and drainage challenges. 96% of respondents to our DWMP consultation told us that we should use nature-based solutions wherever possible.

Our Stakeholder Forum

To ensure wide awareness and engagement of stakeholders and interested In the development of our strategic plans, including the DWMP, we established a periodic Stakeholder Engagement Forum which brings together colleagues and groups with an interest in how water is managed and the impact on the environment.

As well as receiving regular updates on the development and progress of the draft DWMP, all Forum members were invited to attend three online workshops in September 2022 which focussed on the draft plans, highlighting the challenges we face and debating the scale of investment required, the range of potential solutions and the desired pace of change.

In addition, South West Water raised the draft plans as agenda items on the many external forums and partnerships that we are engaged with. These include Local Flood Risk Management Committees, Local Nature Partnerships, Catchment Partnerships and many other groups and events that we are invited to attend. An annual cycle of one to one meetings with key stakeholders, including local authorities, Chambers of Commerce, tourism representatives and environmental interest groups also flagged consultation process for the draft plans.

South West Water has a well established relationships with key delivery partners for our award winning Upstream Thinking Catchment Management programme. The delivery partners include Cornwall Wildlife Trust, Devon Wildlife Trust, FWAG, South West Lakes Trust and Westcountry Rivers Trust. Those partners were also Invited to put forward their proposals for delivering collaborative and nature-based solutions to meet the challenges set out in the draft DWMP.

South West Water's supply chain have also been challenged to bring forward a range of collaborative and nature-based solutions, and to set out their relevant skills and expertise, as they consider and respond to our call for framework contacts.

Case study

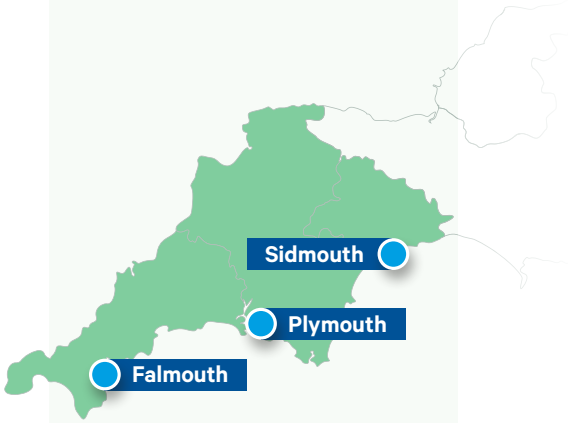
Co-created schemes

To date we have focussed on three areas where we have developed and co-created schemes in Falmouth, Sidmouth and Plymouth to demonstrate the principle of co-creation and co-funding. From this we will co-create schemes across the whole of our programme.

We have included a detailed overview of the work undertaken in Falmouth as part of the DWMP plan to show the process in action.

The Falmouth scheme has shown that there is limited funding within the local councils and other risk management authorities. It has shown that there is a willingness to support and that there are pockets of land available either for the construction of storage tanks or sustainable urban drainage schemes (SuDs), but these are not necessarily in the right locations hydraulically. Most of the agencies involved receive Grant in Aid funding through the Environment Agency and as such cannot commit to funding until later in the development process when these Grant in Aid applications are made.

Whilst these could be supported out of the grant in aid allocations these are limited and are more likely to be in the £10,000-£100,000 arena compared with the millions that would be funded through water companies. It is therefore likely that we are only likely to see 1-2% of financial contributions from third parties across the programme.



Environment Agency

Case study

Co-funding solutions

We have experience of delivering co-funded solutions through our Downstream Thinking programme, for example at Plymouth. Working with both the Environment Agency and Plymouth City Council, and sharing the costs, we have developed solutions to flooding and pollution risks in Plymouth.

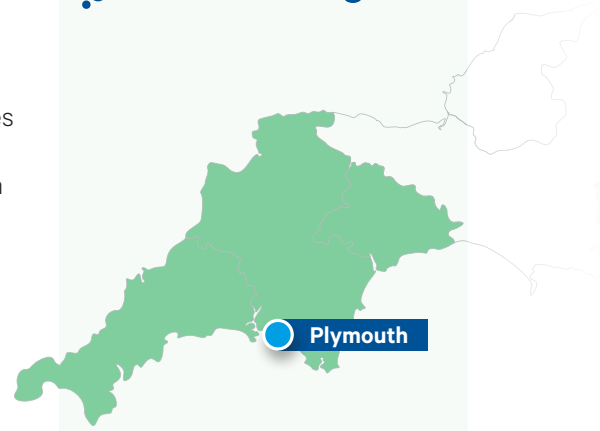
In Central Plymouth, we're developing four surface water separation schemes covering approximately 30% (28.56 hectares) of the impermeable area and green sustainable urban drainage schemes. We have particularly focused on St Levan and Lipson Vale and have been collaborating with Plymouth City Council as we develop our plans.

Central Plymouth has large areas of properties that have surface water discharging into the combined sewer system. This means we have opportunities to remove the surface water but there are challenges that we'll need to resolve. The majority of the coast is bordered with major infrastructure, such as railway lines, major roads and His Majesty's Naval Base Devonport. This means that the opportunities for constructing new outfalls is limited. We're developing our understanding of the challenges and associated costs of large scale projects as we significantly reduce storm overflow spills and flooding.

We've carried out site visits to assess the potential for surface water separation and sustainable drainage systems, and talked to the Council to listen to feedback on our plans. St Levan and Lipson Vale are proposed pilot sites for sustainable drainage systems and we'll also be working more closely with customers as we ask them to be part of our solutions. We've also submitted a bid for funding to support this work, but this is only the beginning. There are more locations for us to explore in Plymouth and at a strategic level, we are aligning our plans to develop a joint strategy for nature-based solutions.

Similar co-funding opportunities are being explored in Falmouth with Cornwall County Council and the Environment Agency, currently at the modelling stage to understand the root causes of flooding risk. We have also been working with Devon Wildlife Trust to address pollution risk from farming practices in the Ilfracombe area which are exacerbated by flows from a spring entering the combined sewerage system.

Downstream Thinking



Environment Agency

PLYMOUTH CITY COUNCIL

CORNWALL COUNCIL
one and all · onen hag oll

Devon Wildlife Trust

How we consulted customers and stakeholders on our plans

In June 2022 we published our draft Drainage and Wastewater Management Plan (DWMP) and began a 12-week consultation to gain feedback on our plan from customers, stakeholders and regulators.

We engaged with our customers and stakeholders through a variety of routes to gather their views on our draft DWMP.

Our customer feedback was gathered from emails to our DWMP mailbox, completion of an online survey and attendance at DWMP specific customer focus groups. Our stakeholder feedback was also collected through the DWMP mailbox and online survey and attendance at the Stakeholder Forum. We met with stakeholders through three workshops, and our July Stakeholder Forum with over 50 organisations taking part in the conversations. A full list of who we have engaged with can be found in Appendix 1 in our Statement of Response document.

We've also shared our plans, along with feedback from customers, stakeholders and our regulators with our independent advisory WaterShare+ Panel which was established to protect the interests of our customers.

What we wanted to understand

We asked consultees what their priorities were for our investment in our drainage and wastewater network and were especially keen to hear their views on how we strike the right balance between nature-based solutions and partnership working and whether we've got the right balance between prioritisation and the pace of change.

We also wanted to ask how people felt we could better protect our networks from external factors such as unflushables products.

We were pleased with the good engagement and high levels of trust in our plan and we're grateful to the stakeholders, customers and organisations that took time to engage with our consultation and provide feedback on our plan.

What we heard

The six key themes that we heard from customers, stakeholders and our regulators throughout the consultation were the importance of:

Balancing our investment choices

The level of investment that our final DWMP will deliver is a step change from previous years. We've heard from the consultation the importance of developing adaptive plans and sharing the assumptions we've used to develop our solutions.

We understand the criticality of achieving the significant reduction in spills and reducing the impact on our customers and the environment and in some areas this means that we need to deliver solutions that provide immediate benefit. Our plan considers how to maximise the benefits whilst using nature and catchment-based solutions wherever possible.

Delivering an affordable plan

We heard from customers that fair and affordable bills are essential. This is something that we have heard from customers throughout the cost-of-living crisis, so we need to manage overall bill levels, maintaining a robust affordability toolkit, and ensuring a diverse and innovative approach to tariffs.

Demonstrating environmental leadership

Our customers and stakeholders want us to prioritise bathing water quality investment and understand water quality. We have ensured this is a key focus in our final plan. We are already on an improvement journey and WaterFit Live provides near real-time updates to customers on bathing water quality for a range of locations around the region.

All the groups that responded to the consultation told us championing nature and catchment-based solutions is important. We've also heard the widest range of views about how we balance these solutions with more traditional 'grey' approaches such as storage tanks.

Sharing the local impacts of our plan

Our consultation helped us to understand how important it is that our plan is accessible to our customers and that we share information on what's happening in their local area in a format that's clear. We've also heard how important it is to share the likely bill impacts of our investment programme.

Our customer outline shares the key information about our plan and our level 2 documents provide detail for each of our strategic planning areas.

Adaptive planning and risk management:

Our regulators wanted us to detail how we've used adaptive planning to decide on our investments for the next 5 years and with a view on the next 25 years. In particular they wanted to hear how this will support the way we manage risk.

We're sharing more detail on our adaptive planning approach in this document and our Technical Summary document.

Providing a robust and detailed plan for storm overflows

Whilst our regulators have asked for a plan, we heard from all groups that this is a key area they want us to focus our investment in. Our plan provides a view of what investment we'll be carrying out on storm overflows for the next five years and where we aim to be by 2050.

Some of our initial interventions to mitigate risks have been adapted as a result of feedback we received through the consultation. Our Statement of Response provides a comprehensive view of the feedback we've received and how we've adapted our plan based on what we heard from customers, stakeholders and our regulators.

WaterShare+ Panel

We have shared our plans with the WaterShare+ Advisory Panel, who protect the interests of our customers, and ensure that customer views are represented in the development of our PR24 plans.

While commending the nature of our proposals and range of solutions that we have considered, the Panel are mindful of the potential impact that the level of required investment could have on customer bills – in a financial climate which is already challenging. We recognise this challenge and as part of our PR24 plans we are considering how we might change the way in which customers are charged to be more progressive. The Panel is supportive of steps to modernise and update how we charge for water and wastewater services to ensure bills are fair and affordable, and drive the right behaviours.

Considering both the DWMP and our wider investment plans, the Panel have challenged us to ensure that they are deliverable on the ground. The Panel endorse our approach to working with the supply chain to address these concerns.

The Panel have reviewed feedback from our regulators on our draft DWMP and support our statements of response for our final DWMP.

WaterShare+

A summary of customer engagement studies that have shaped our plans

Green Recovery (October 2020 to January 2021) – we engaged customers as part of developing our Green Recovery plan through a series of focus groups and quantitative surveys. This showed how the pandemic was shifting customers' relationship with nature, and the increased support for green infrastructure to support the economy and the environment.

Environmental leadership (June 2021) – we engaged customers to understand what it means to be an environmental leader and what they expect from South West Water. An environmental leader is a company that delivers leading levels of performance, has good plans in place for the future, takes the initiative to go beyond what is required, and shares knowledge and innovations. Many of our customers do see us an environmental leader, but we learned that many customers do not know the full extent of our operations and services and they more the do know, the more satisfied they are with our performance and the more that they trust their bills to be value for money.

Future long-term strategies (September 2021) – we tested a range of future environmental and performance strategies from 2025 to 2050, including catchment management, climate change resilience, reducing storm overflows, and reducing carbon emissions. This has helped to understand priorities for the pace, scale and profile of potential investment around key strategic themes – with climate change resilience the highest priority strategy. This showed that customers want to see further improvements, but are mindful of affordability, and those that can least afford to pay need to be protected.

National sentiment tracker (October 2021 – March 2022) – we tracked over 20,000 views on a range of range of environmental issues across the South West and the UK overall, including awareness and attitudes towards environmental issues such as river health. This showed that nationally customers are most concerned about climate change, deforestation, single use plastics and ocean pollution. River pollution was seen as the 6th biggest environmental issue with water companies perceived as a leading cause of poor river health. Customers in the South West were slightly more aware and concerned about environmental issues that across the rest of the UK. The sentiment questions have now been incorporated into our monthly business as usual tracking research.

River water quality (February 2022) – based on the sentiment tracker, we undertook focus groups to better understand customer views on river health, such as what they had heard, where they had heard it, what they trusted, and how we communicate our progress in this area to them. Customers want to know more about this topic, and get their information from a range of sources – social media, local news reports, TV and family and friends – so there is no silver bullet on how we communicate: a multi-channel approach is needed and is now in place, including our first ever TV campaign.

WaterFit (April 2022) – we developed WaterFit after listening and engaging with our customers. We tested the WaterFit commitments in a series of focus groups and 100% of participants said they supported our plans. Customer support was strongest for the commitments on coastal bathing water and reducing spills from storm overflows, and many customers recognised the wider benefits in terms of the economy and jobs, and the impact on health and wellbeing.

Testing DWMP priorities and preferences (May 2022) – we engaged with customer focus groups to test our DWMP, to ensure our plans are in line with their views. This enabled us to understand the right pace and scale for investments, confirm the ambition for partnership working, and gain assurance from customers that our plans focus on the right things. This showed that our plans are focusing on the right topics. Feedback included the following:

- Customers recognise we cannot achieve this alone, and partnership working is a must – customers see there is a need especially to get developers on board as new housing developments are seen to be a problem across the region affecting all infrastructure and essential services
- Base maintenance scenarios alone are not acceptable and there needs to be a step change in investment
- With the current cost of living crisis, large bill increases that reduce affordability would be an issue at this time – and plans need to be mindful that they start when we will likely just be exiting a difficult economic period
- Nature-based solutions were popular with attendees, but they also recognised that they would not be quick to deliver outcomes.

Willingness To Pay Programme (January 2022 to January 2023) – we have undertaken an extensive programme of Willingness To Pay (WTP) research as part of our ongoing programme to understand the benefits of investment and what customers are willing to pay for improvements to service and the environment. This programme of work ensures we can prioritise improvements, apply cost benefit principles to our plans, and ensure we understand the overall envelope of bill increases customers will accept.

The research shows that customer willingness to pay to avoid sewer flooding has increased since PR19 – reflecting growing concerns around flooding and climate change. Customers also have higher willingness to pay to reduce pollution, reduce spills and improve bathing water quality further still. Over half of customers consider storm overflows to be a problem and would like to see this used much less frequently and ultimately phased out over time – with spills that impact recreational or environmentally sensitive areas the most important to avoid, as customers look to see improvements targeted where they will benefit the most.

Overall customer willingness to pay has increased since PR19. In PR19 the average willingness to pay for service and environmental improvements was £10-£15. Today, this has increased in range – up to £200, with a third of customers willing to pay £200.

Youth Board (March 2023) – The Youth Board is an annual programme where we look to understand the views of young people, our future customers, across the region, and bring these views into our decision making as well as providing development opportunities and business experience for the young people involved. This year, one of the topics the Youth Board looked at was their knowledge of the industry and what challenges we may face in the years ahead. While future customers are well aware of climate change – the link to water and wastewater services was not at all well understood – so we need to more to make the challenges we face tangible to future generations. Those who live in coastal locations are very passionate about bathing water quality – and initial views are that our levels of spills are simply too high.

WINEP focus groups (October 2022 to January 2023) – this research was designed to review our Winep proposals, particularly with regard to storm overflows, river quality monitoring, bioresources, and nutrient reductions. Support was greatest for investment to reduce storm overflows and the least for river quality monitoring.

Sewer misuse (January to March 2023) – this survey showed that customers consider that both behaviour change and infrastructure upgrades are needed to keep sewers clear and clean. There remains some unawareness of the impacts of disposal of household materials down the drains, with one in five saying they flush wipes down the toilet and younger people in particular less likely to see an issue with flushing wipes and to attribute issues to inappropriate disposal rather than to SWW. Seven in ten are aware of 'fatbergs' – and are aware that they can cause flooding of raw sewage into homes and pollution to rivers and seas. Customers see education as essential to behaviour change, with preventing blockages seen as a shared responsibility.

WaterFit Live testing (February 2023) – we engaged our Customer Forum to look at the WaterFit Live platform. Customers welcome the steps to boost transparency – seen as falling in recent years, with (78%) saying the site would be useful for them when they are considering visiting their local beach. Almost all customers (96%) thought the site was easy to use and clear.

Net Zero (March 2023 to April 2023) – we engaged customers to understand their attitudes towards achieving net zero, especially in light of new environmental standards and the cost of living crisis. Customers overwhelmingly see this as an important area even with a large environmental programme on water quality – but don't always agree on who should pay, with some national outcomes needing to be funded from national incomes.

Staycation (March 2023 to May 2023) – this large national survey of 2000 visitors to the region showed the views of tourists that come to the region. This showed that more than 8 in 10 visitors say their families enjoy the use of coastal bathing waters when they come to the South West, compared to 37% who say they enjoy rivers and inland waters. Almost all visitors say it's either quite or very important that the beaches in the South West have good or excellent quality coastal water, and one third agree that it is not fair that those local to Cornwall and Devon pay all of the costs to maintain beaches which those holidaying in the area benefit from.

Progressive charges (April – May 2023) – our programme of engagement with customers on progressive charges is underway. Phase 1 has shown that customers are supportive of changes to the way that we charge for water and incentivise sustainable delivery. Charging policy should be simple and clear to understand, fair, support the right behaviour, and aid affordability.

"I think we're going to have to expect an increase if we want these things done to support the environment."

SWW customer, Female,
SEG ABC1, Aged 46+

"There's a network of antiquated towns and historic villages which weren't set up for the boom in house building that's been going on."

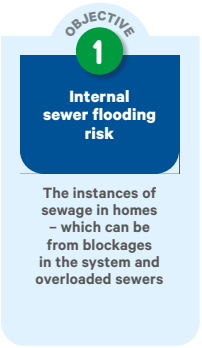
SWW customer, Female,
SEG C1C2, Aged 31-55

"If you look at population graphs, the increase over the past 20 years is ridiculous, and the existing pipe they're Victorian, so they're not designed to handle as much waste as they do."

SWW customer, Male,
C2DE, Aged 18-45

What this means – customers views on our objectives

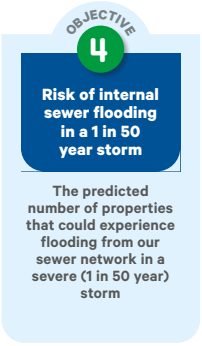
Common objectives for 2050



Our conversations with customers show us that the avoidance of sewer flooding is important to them. Preventing sewer flooding is consistently ranked as one of their highest priorities. Customers welcome our industry leading performance in this area but recognise this is a serious breach of service and support our continued focus on this issue.

Protecting the local environment is, alongside healthy, resilient infrastructure, one of customers two highest priorities for investment and improvement. Our customers rank pollution incidents as a high priority and support our focus on this area as part of a balanced plan. Addressing minor pollution incidents is a lower priority for our customers than other environmental areas for improvement such as storm overflows and bathing water quality.

Healthy, resilient infrastructure is, alongside protecting the local environment, one of customers two highest priorities for investment and improvement. Our customers support steady improvements in asset health over time.



Customers are concerned about the impacts of climate change worsening the risk of internal sewer flooding and consider it important for us to maintain levels of service in this area and not allow risk to increase as climate changes.

Our customers think storm overflows are being used too often – and they find this unacceptable. Ideally they would prefer storm overflows were not used at all, although they understand why they are needed and that changes to infrastructure take time. Our customers support investment in preventative measures as opposed to measures reducing the impact after an event. However, investment in monitoring to allow for earlier alerts is also welcomed. There is high acceptability of the mandated investment and for us to go beyond the minimum legal requirement.

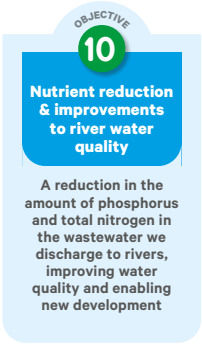
Whilst protecting the local environment is, alongside healthy, resilient infrastructure, one of customers two highest priorities for investment and improvement, investment in improvements to treatment works permit compliance are a lower priority for customers than investments to reduce storm overflows and sewer flooding.

Our bespoke objectives

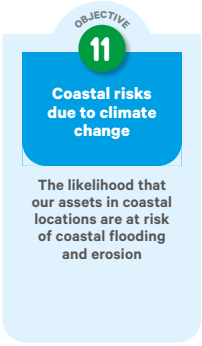
Customers are concerned about the impacts of climate change worsening the risk of internal sewer flooding and consider it important for us to maintain levels of service in this area and not allow risk to increase as the climate changes.

Whilst protecting the local environment is, alongside healthy, resilient infrastructure, one of customers two highest priorities for investment and improvement, investment in improvements to treatment works permit compliance are a lower priority for customers than investments to reduce storm overflows and sewer flooding.

Our customers consistently rank pollution incidents as a high priority. They tell us that they want to see us focus our efforts on preventing more serious pollution incidents.



Whilst protecting the local environment is, alongside healthy, resilient infrastructure, one of customers two highest priorities for investment and improvement, investment to reduce contaminants in discharges are a lower priority for customers than investments to reduce storm overflows and sewer flooding.



Customers recognise the importance of protecting coastal works from the stress that climate change can have on water company infrastructure in the future. They feel it is necessary to ensure that works are protected in the future as the effects of climate change worsen risks such as coastal flooding over time.

Our Plan

Our Drainage and Wastewater Management Plan builds on both the draft plan we consulted on, and the work we are taking through our WaterFit programme to take action to control and manage the emerging challenges to the environment that we face.

We know that doing nothing is not an option. The current system is not acceptable. So we are responding to the challenges we face, the legal targets we need to meet, and delivering for our customers and stakeholders.

We have explored how we can do this, looking at a number of potential approaches, analysing the costs and timings of potential interventions and the complexity of the issues facing our catchments.

Our environmental ambition to 2050

Our start for developing the programme has been to understand the long-term environmental ambition – where we want to be by 2050. Once that was established, our focus was then how do we get there – and are there areas of our plan that we can deliver before 2050?

2050 is a milestone for our DWMP and environmental plans overall. By 2050 the government will have delivered its 25 year plan including the delivery of Net Zero.

We too have an ambitious plan for 2050 – we will ensure:

- We address all storm water overflows spills – bringing these to minimal levels as we invest in wastewater treatment works, sewers, pumping stations and nature-based solutions – ahead of 2050 where possible
- Assets and services are protected from the extreme impacts of climate change – managing the upward pressure on flooding risk and adapting to coastal erosion and sea level rises.
- Our wastewater treatment works maintain 100% compliance with environmental permits – and wastewater quality standards improve as we upgrade works to reduce even more contaminants from our discharges
- We dispose of sludges carefully whilst maximising the energy generated from sewage – turning waste into a valuable source of renewable energy
- We continue to be open and transparent about our performance – building on WaterFit with ever more monitoring of our performance and impact on the environment – adapting our plans as we learn ever more about our impact on the environment

Meeting these aspirations is at the heart of our future wastewater plans, and we want to deliver these outcomes efficiently and effectively – ensuring there are no regrets in our long term investment plans.

The costs of achieving the ambition

As we look to cost our DWMP, we have built our plans on the best central estimate available – but noting that environmental factors that affect our investments remain uncertain.

Our DWMP investment programme is based on the most likely future situation, but has been tested against alternative futures, which we describe as more adverse or benign scenarios.

	Lower investment (benign)	**Most likely scenario**	**Higher investment** (adverse)
Climate change	RCP2.6	2°C increase in temperatures (RCP6.0)	4°C increase in temperatures (RCP8.5)
Technology	New approaches by 2045	New approaches by 2045	New approaches by 2040
Population growth / demand	Low demand (110 l/p/d by 2050)	Low demand (110 l/p/d by 2050)	High demand (130 l/p/d by 2050)

- **Climate change** – As we look forward, we know the greatest uncertainty is around climate change. Scientific evidence indicates that global warming is resulting in warmer wetter winters and hotter drier summers. The Intergovernmental Panel on Climate Change (IPCC) has developed a range of Representative Concentration Pathways (RCP) which show plausible greenhouse gas concentration trajectories. Each RCP will have a different impact on our drainage and wastewater systems. The more severe the trajectory, the greater the rainfall intensity and flows into our systems – meaning that we will need to invest in more nature-based and surface water separation solutions just to keep still. We have used our hydraulic models to understand this by simulating the sewer network response to different rainfall intensities and observing the increasing/decreasing likelihood of sewer capacity exceedance and the resultant increase/decrease in flood risk of sewer overflow spills. Our DWMP is based on RCP6.0 (a 2°C increase in global temperatures) – with the less severe (RCP2.6) unlikely and the more severe (RCP8.5 – a 4°C increase in global temperatures) a plausible scenario we need to be ready to adapt to. Climate change can also impact sea level rise, fluvial and pluvial flooding. The impact of this changes on the potential flooding risk of our assets are modelled within our climate change scenarios considered above.
- **Technology** – we continue to invest in technology as a way of providing solutions to our challenges, for example, we have monitoring coverage at 100% of our overflows and these EDMs are used to identify early insights into potential network issues and pollution risks. In a high technology future we see this technology investment continuing and we have assumed a 20% efficiency in long-term base maintenance costs from 2040 as a result. Conversely, where technology permits the industry to achieve a lower limit for Phosphorus reduction, we have assumed this would become a new driver under WINEP and we have estimated the investment needs accordingly from 2040. In a low technology future, which underpins our preferred plan, we assume the cost efficiency in network management is realised in 2045 and that technology does not advance sufficiently quickly enough to impose tighter treatment requirements before 2050.
- **Population growth / demand** – Greater population growth and higher per person water use puts further pressures on the system. There is uncertainty in any population growth forecast, as well as predicting how customers might use water in the future. To support our population growth estimates we use data from the Office of National Statistics (ONS) as the primary basis for our plans. These estimates are region wide and therefore we apportioned these across our wastewater service area using Local Authority plans so that population growth is applied to the areas across our region where development is most likely. This is consistent with our WRMP. These growth forecasts, which are more benign that local authority plans, are then taken forward into all of our future scenarios. Against these growth projections we overlay a high demand future that recognises our plans to reduce per capita consumption of water to 110 l/p/d may not be delivered and which would result in higher flows to the system if consumption remained at 130 l/p/d.
- **Other assumptions** (not flexed in our scenarios)
  - **Permeable areas:** Paving over of urban areas such as parks and gardens and removing natural soakaways for rainwater surface run off all means more rainwater goes into our sewers rather than drains away naturally. We use UKWIR's assessment of the rate of "urban creep" i.e., loss of permeable surface in urban areas to calculate these changes.
  - **Wet wipes:** Plastic wet wipes are also a know issue for the management of the sewer network. We have assume that plastic wets wipes and other plastic disposal items are banned by Government from 2025.
  - **Coastal erosion:** The impact of coastal erosion on our assets has also been considered through a hazard assessment in vulnerable locations. We have analysed how this risk changes over time but we have not varied the extent of potential coastal erosion.

We have also tested our investment needs against changing customer priorities. We know that customers do worry around flooding and in our engagement and consultation we heard that we need to consider the costs and benefits of reducing the risk of flooding further. Our DWMP is based on maintaining the level of sewer flooding risk, given our sector leading performance around internal flooding, but we have considered further improvements to the protection of customers – reducing the number of catchments that would be at risk of a 1 in 50 year (severe) storm. Given the high priority given to flooding risk, we do not consider a long-term worsening of current service levels as we know this would be unacceptable to customers, and therefore a more benign future scenario is not considered.

	Most likely	**High** (adverse)
Flood risk	Manage the long term flood risk protection in a 1 in 50 year storm in an adaptive way (maintaining the risk at 10%)	Provide additional flood risk protection to reduce customers at risk of 1 in 50 year storm to 5%

Central estimates of costs

Our most likely investment plan has identified an investment position of £7.5bn to 2050. This is the level of investment over 25 years needed to manage flooding risk, address the risks of climate change and population growth, and deliver reductions in the reliance on storm overflows in line with targets set for the sector.

This level of investment will:

- Eradicate storm overflow to minimal levels at each overflow, if at all, by 2040
  - Creating over 550,000m3 of storage to capture rainwater and reduce overflows – equivalent to building 220 Olympic sized swimming pools and ensuring that our overflows will only spill during heavy weather
  - Separating 1447 hectares of surface water by creating nature-based solutions and sustainable drainage.
  - Inspecting and upgrading more than 2,700km of our sewer network – this is c.12% of our network and is equivalent to the distance from Land's end to Athens
  - Upgrading 123 of our 653 wastewater treatment works so that they can accommodate higher dry weather flows as well as uprating 100 of our WWTWs and SPS so they process more flows.
- Manage the risk of sewer flooding associated with changing climate change
  - Ensure investment to reduce storm overflows supports reductions in the risk of flooding through the application of nature-based solutions
  - By maintaining future flood risk performance in our preferred plan, we give ourselves time to monitoring the effective of nature-based solutions so that if we need to adapt to a more adverse flood risk future, we can do so through more sustainable solutions.
- Further improve river water by upgrading treatment processes to remove harmful nutrients from discharges
  - Target improvements along 356km of rivers downstream of our wastewater treatment works by upgrading our process at 225 sites, as we enhance treatment to the most efficient and economic solutions
  - Support new developments in the Camel and the Axe catchments by upgrading our wastewater treatment works in these environmentally sensitive areas – thereby supporting the construction of c.9,000 properties whilst keeping nutrient levels neutral "nutrient neutrality".
- River water monitoring
  - Rolling out a programme of 2300 river monitors by 2035 to allow us to understand and communicate our impact on rivers – and allowing us to update and adapt our plans as we learn more about our relationship and interaction with the water environment.
- Manage bioresources, ensure coastal resilience, maintain compliance and the health of our asset base, through our entire wastewater plans.

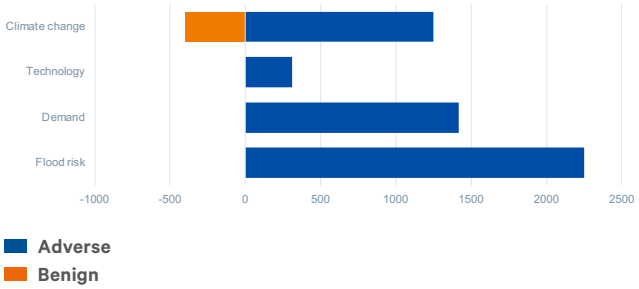
We are agreeing with our regulators how we can progress some of these benefits early – such as reducing spills and accelerating nutrient reductions. Getting an early march on our investment allows us to bring the delivery of our plans forward.

How these costs could change – our adaptive pathways

As we look to ensure we make least regrets investment decisions, we have based our DWMP on a relatively benign scenario. Costs may rise over time if the risks we face increase.

Adaptive pathways have been considered alongside scenario testing in our options development process. This process looks at what might change after we start on our investment journey and what our investment would look like if we adapt and follow these pathways.

Investment impact of scenarios (£m)



Our adaptive pathways consider the cumulative changes in scenarios over time for feasible combinations of scenarios. This shows a range of future adaptive pathways starting at £7.5bn, our most likely scenario, up to what we believe would be the most adverse future at £12.4bn.

These are described as pathways as they are different journeys to our ambition based on different combinations of plausible scenarios – which may or may not be required depending on the different futures we could experience.

Pathway 0: Do nothing – the status quo is that we do nothing. Under this scenario we would maintain our existing assets. This would mean performance would get worse and we would fail to meet our targets.

Pathway 1: Low regrets – this pathway is the most likely combination of investments that we will need to meet the targets set for storm overflows by 2050, ensure no deterioration to flooding risk, and to meet compliance. The future has a 2°C increase to our climate under this pathway and it assumes we achieve our planned demand reductions all under a low technology future. Under this pathway we can keep the most amount of options open for future adaptation and if necessary movement to an alternative pathway.

Pathway 2: Climate resilient – this is similar to Pathway 1 – but we experience a 4°C increase to our climate – and we therefore need to be more climate resilient. As with Pathway 1, we meet all legal targets, maintain flood risk to ensure no deterioration to 2050 and increase our resilience to climate change. A low technology and low demand future is assumed under this pathway.

Pathway 3: Reduce flooding – this is similar to Pathway 1 with the same climate change risk, but customer expectations change around flooding and we need to reduce the risk further from our 2025 level of 10% of properties at risk of sewer flooding to a 5% level of risk. As with Pathway 1, we meet all legal targets.

Pathway 4: Enhance resilience – this is a variant of Pathway 2 where we experience a 4°C increase to our climate. The difference in this pathway is that our customer expectations change around flooding and we need to reduce the risk further from our 2025 level of 10% of properties at risk of sewer flooding to a 5% level of risk. We meet all legal targets.

Pathway 5: Innovative technology – this builds on Pathway 4 ensuring we can meet all current wastewater targets whilst preparing for a 4°C increase in climate with reduced levels of flooding. Additionally, we are able to adopt new technologies to improve how we analyse and operate our sewer network and monitor the quality of our effluent discharges from our treatment works. A high technology scenario provides efficiency in the management of our sewer network but a net increase is experienced due to investment at our WWTW's due to an assumed tightening of standards.

Pathway 6: Most adverse – this is our highest cost plan, dealing with the highest risks we may face. It is based on most adverse scenario we could face – higher levels of population growth and increased demand on our wastewater network in a 4°C future climate. It also considers a low technology future and a higher customer expectation for flood risk protection, moving from 10% to 5%.

The impact of these scenarios is shown below:

	Pathway 1	Pathway 2	Pathway 3	Pathway 4	Pathway 5	Pathway 6
Climate Change	RCP6	RCP8.5	RCP6	RCP8.5	RCP8.5	RCP8.5
Flood Risk	Maintain Flood Risk	Maintain Flood Risk	Reduce Flood Risk	Reduce Flood Risk	Reduce Flood Risk	Reduce Flood Risk
Technology	Low	Low	Low	Low	High	Low
Demand	Low	Low	Low	Low	Low	High
Total (£m)	7,498	8,748	9,748	10,998	11,308	12,416
Interventions						
Surface water removal (Ha)	1,447	2,023	2,473	3,023	3,023	3,023
Storage capacity (m3)	550,890 (Equivalent to 220 Olympic swimming pools)					
Sewer inspections /upgrades (km)	2,785					
WWTW upgrades for nutrient reduction (Nr)	230	230	230	230	319	319
WWTW & SPS capacity increases (Nr)	100	100	100	100	100	100
Additional DWF and BOD capacity increases (Nr)	123	123	123	123	123	123
WWTW rebuilds for FFT (Nr)	0	0	0	0	0	25

We consider it right to start by taking a least regrets approach – and base our plans on Pathway 1. But the analysis shows that the costs could be up to 65 per cent higher. This means that we need to be ambitious and work at pace, if we are to be sure that do not put excessive cost burdens on future generations. We have considered this as we have looked to profile our investment across AMP periods.

Programme options

Our investment plans across the years

Whilst our ambition for 2050 is clear – how we get there, and the pace of delivering our ambition, has been a considerable focus for our plans and our discussions with customers and stakeholders. We know we need to show great ambition.

We have assessed a range of options and scenarios around delivery of the plans to 2050, to understand how the different levels and timing of investment can deliver against the targets set.

In doing so:

- If we invest later, we can ensure bills are more affordable in the short term, we can focus more on nature-based solutions that take time to provide benefits, but allows the pressures such as climate change to grow, and ultimately means the bills that customers pay are greater in later years especially if more severe future scenarios turn out to be true
- If we invest sooner, we can get on with delivering the outcomes we all want to see, meet our customers' and stakeholders' expectations, address climate change risks now, ensure there is time to adapt to a more severe future – but we will need to rely more on traditional solutions to deliver outcomes quickly and bills will rise more in the short term, whilst being lower in later years

Our plan to 2050 needs to balance these considerations.

Our most likely plan is for Pathway 1 – but we need to expect to adapt in the future. That means there is at least £7.5bn to spend. We have looked to work at pace, bringing investment forward that we know we will need to do to protect the environment and communities, and to be ready and able to adapt to more severe futures if they come to pass.

Our focus in bringing investment forward has been around our investment in storm overflows. This is where we are being asked to show the greatest ambition.

Storm overflow investment over the AMPs

We have explored the prioritisation of our storm overflow investment.

We understand our legal requirements, as set out in Defra's Storm Overflow Discharge Reduction Plan (SODRP). In delivering these requirements we have considered which locations to prioritise first. And we have considered how much further we can go in the first five years to deliver sooner in priority areas.

In developing our plans, we have recognised that not all storm overflows are the same. Some are not spilling at all, some are high spilling, some are close to high priority sites such as bathing and shellfish areas, some discharge into rivers and are the cause of rivers not achieving good ecological status (RNAGs), some may be causing distress to local communities. Understanding this through our engagement with customers and stakeholders has allowed us to determine which overflows should be improved sooner.

We have 1,342 overflows:

- c.500 have minimal if any spills
- 59 are being addressed in our WaterFit plans
- 786 spill more than the target and therefore are the focus on our future investment
  - 178 are in high priority sensitive rivers
  - 163 bathing waters or shellfish waters
  - 445 other locations.

The legal requirement is to address at least 38% of storm overflows discharging in or close to high priority sites by 2030 – and 75% by 2035 and 100% by 2045. And for all remaining storm overflow sites by 2050.

We also have locations to invest in for the bathing water and shellfish drivers at 163 storm overflows. These are included in our programme of storm overflow investment.

For us this means we need to do at least 246 locations in the period 2025-30 compared to the 275 we propose.

We looked at 8 different programme options for storm overflows within Pathway 1, as shown in the table below, all of which ensure that we meet our mandatory regulatory requirements, as outlined in Defra's Storm Overflows Discharge Reduction Plan (SODRP).

Option	Description	Detail	Number of locations by 2030	2025-2030 cost
1	• Legal minimum – least cost	Delivers the legal minimum requirements of the Defra SODRP and bathing water/shellfish drivers at least cost	246	848
2	• Legal minimum • 100% RNAGs • 100% stakeholder/ community priorities	Delivers the legal minimum requirements Also addresses high priority locations as identified by our customers and stakeholder (which centers around bathing waters) AND all RNAGS associated with overflows by 2030 After 2030, SODRP achieved at lowest cost	309	1021
3	• Legal minimum • 100% RNAGs	Delivers the legal minimum requirements AND all RNAGS associated with overflows by 2030 After 2030, SODRP achieved at lowest cost	291	972
4	• Legal minimum • Catchment approach	Delivers the legal minimum requirements Addresses risks in the top 12 priority catchments After 2030, SODRP achieved at lowest cost	351	1245
5	• Legal minimum • 100% RNAGS • 100% high spillers	Delivers the legal minimum requirements Addresses all RNAGS associated with overflows and any high spilling overflows over 100 spills/annum by 2030 After 2030, SODRP achieved at lowest cost	360	1458
6	• Legal minimum • 100% Stakeholder/ community priorities / all the bathing beaches	Delivers the legal minimum requirements Also addresses high priority locations as identified by our customers and stakeholder (which centers around bathing waters)	275	961
7	• Legal minimum • High spillers	Delivers the legal minimum requirements Addresses 80% of high spilling overflows.	261	989
8	• Legal minimum • Ten inland Bathing Waters	Delivers the legal minimum requirements Delivers ten inland bathing water sites (two inland bathing waters per annum)	273	981

Of these options, option 6 is our preferred option, and the basis of our WINEP proposals.

Option 6 includes those locations that are most important to our communities and stakeholders and their local areas. Combined with option 6, by 2030 every bathing beach will meet the targets – meaning everyone can have the confidence to enjoy their local beach all year round.

By selecting this option, we will deliver improvements at every beach where we have a discharge by 2030, in line with our Your Beach, Your Say, Our Investment initiative.

This option goes beyond the SODRP – delivering investment at half of all the high priority sites by 2030, against a target of 38%. And we will deliver one third of the total cost expected to achieve storm overflow reductions – demonstrating our commitment to eradicating storm overflows as quickly as resources allow – which is best value for our customers and communities.

More information on the eight options is available in our Alignment to the Storm Overflow Discharge Reduction Plan document.

Nutrients

We have agreed a 10-year programme of nutrient removal investment with the Environment Agency through the Water Industry National Environment Programme, focused on increased removal of phosphorous, to reduce the risk of eutrophication in the watercourses to which we discharge as well as meeting improvements to descriptive sites and septic tanks.

Our 10-year programme is based on the legal minimum and therefore is a staggered programme between the 2025-2030 and 2030-2035 periods. This is our legally mandated programme the estimated cost of this programme is c. £500m. More information on these investments is included in The Technical Appendix of our plan.

Bioresources investment over the AMPs

Our Bioresources plans aim to manage sewage sludge so as to create value as a by-product from wastewater treatment.

We already give farmers our processed sludge as a source of fertiliser. However, sludge disposal can impact on rivers if it runs off fields into rivers (say during heavy rain) and farmers need to use organic manure and sludge in accordance with the farming rules for water.

Over time there is a risk of the loss of this landbank. Tighter environmental regulations around farming or changing customer attitudes towards the use of this as fertiliser are risks we face.

We need to accelerate investment in a more resilient approach to Bioresources that future-proofs against the withdrawal of the landbank and helps us to deliver on our Net Zero strategy.

The ultimate destination for sludge is pelletisation or destruction. And in the interim, we can improve sludge quality and add more storage, so that it can be stored when it is not appropriate to spread to land.

Discussions are ongoing with regulators on which of these options to take – we consider the destruction route to be the best for our region given the risks to the land bank in the South West. Both of these require the same dewatering and digestion capability and have similar overall costs c.£190m.

Continuous river monitoring

Continuous river monitoring will allow us to fully understand our impact on the environment. These will be located close to our overflows, giving us the information we need to review and adapt our plans going forward.

Whilst still subject to consultation, our legal requirement is likely to be installing 2300 monitors – in clusters around 250m apart – in rivers where we have storm overflow discharges by 2035. The capital cost of the programme is c.£260m with c.£160m of operating costs as the monitors are expensive to maintain.

One option is to spread these costs evenly across the years 2025 to 2035. However there is much to learn about these monitors, including how we install and maintain these safely along rivers – recognising rivers can be hazardous in some weather conditions. Supply chain capability is currently limited at around a tenth of the size of the proposed programme and so this is an area where innovation will be required as well as growth in capacity and capability and so over time the monitors will improve, become more robust and resilient, easier to maintain and cost less.

Moreover, our customers support a slower paced investment programme in favour of accelerated investments elsewhere – as they recognise the opportunity cost of investment here.

A second option is a smaller programme over the period 2025-2030 and a larger one in 2030-2035. This is our preferred option.

Flooding and coastal resilience

We have identified investment at a number of coastal locations over the 25 year period, investing a total of £69m of enhancement investment and £32m of maintenance investment over the period. By 2030 we have identified, 8 wastewater treatment works, 15 sewer pump stations, and just under 200km of sewers to be reviewed and where appropriate protected and relocated to avoid the impacts of coastal erosion and sea level rises. The cost of the improvements by 2030 would be c.£20m.

We have considered the options of Resistance, Redundancy, Reliability and Response/recovery in the development of our solutions whilst also engaging with both the EA and Shoreline Management plans. Initially we have considered Resistance solutions for these locations but will consider the relocation options should the options of managed retreat be considered by the local communities.

Detail of our best value plan

What is our best value plan?

Our best value plan generates the greatest economic benefit for customers, the environment and society, compared to costs, over the long-term.

It takes account of affordability for customer bills, the short term and long-term risks, the uncertainties around the costs and benefits and the flexibility and adaptability of our programme to meet future needs.

It allows us to respond to the pressures facing our wastewater system now and over the next 25 years. It delivers against proposed government policy and delivers improvements to support customers, communities, and society. Our customers and stakeholders have told us very clearly that they care about the impact storm overflows can have on the environment, communities and economy of the South West region. We have listened to their concerns and are acting accordingly.

Our best value plan is:

- An accelerated storm overflow programme which delivers one third of our overall storm overflow investment and addresses half of our high priority sites by 2030
- Our mandated programme of nutrients and septic tanks
- A gradual start to our continuous river monitoring programme whilst meeting compliance with 2035 targets
- Secured bioresources investment to ensure safe management of this product and renewable energy recovery
- A low regrets approach to coastal resilience

This is the plan that aligns with our customer and stakeholder views. Our Strategic Environmental Assessment shows that this plan delivers environmental benefits – that we want to deliver at pace.

Our best value plan requires an investment programme of £7.5 billion over 25 years to 2050, to meet a marked reduction in the frequency of storm overflow use and to maintain wastewater treatment works performance and manage sewer flooding.

Outcomes

Our plan will deliver the following outcomes:

- No storm water overflow will spill no more than ten times a year, or create any ecological or public health impacts. All overflows will be fitted with screens. Storm overflows discharging close to designated bathing waters will discharge less than 3 times in a bathing season. We will focus on ecologically sensitive and high priority rivers and bathing water sites first, and deliver this programme 10 years ahead of its legally required completion date.
- Mitigate the risk of coastal erosion and flooding at 8 wastewater treatment works, 15 sewage pump stations, and 200km of sewers – which have been identified as at risk from coastal flooding and erosion, and seawater intrusion, due to climate change and rising sea levels. We plan to relocate these sites at highest risk and continue to monitor emerging risks as we develop our understanding of the risk climate change poses to our assets.
- Our wastewater treatment works will maintain 100% compliance despite the upward pressures from extra flows in the system.
- Compliance with tighter environmental permits as we look to raise wastewater quality standards by reducing phosphates in discharges by 80% by 2037, in line with the Defra targets and anticipate new standards for total nitrogen, selected metals and other emerging organic contaminants.
- Current flooding risks will be managed, so that the current percentage of the population at risk of flooding in a severe storm is maintained despite the upward pressures of climate change, population growth and urban development.

- Investment through to 2050 is paced across the five-year periods in the interests of intergenerational fairness, with a shift from traditional solutions to natural.
- Flood management so that overall circa 50% of the flow is impacted by our plan and is delivered through nature-based solutions and all of our solutions are considered for nature-based delivery approaches . ie 50% of solution delivered by storage and 50% through nature-based solutions.
- Our investment needed for the plan is detailed in the table below and is paced to ensure that we get early improvements, meet the targets and address emerging risks.

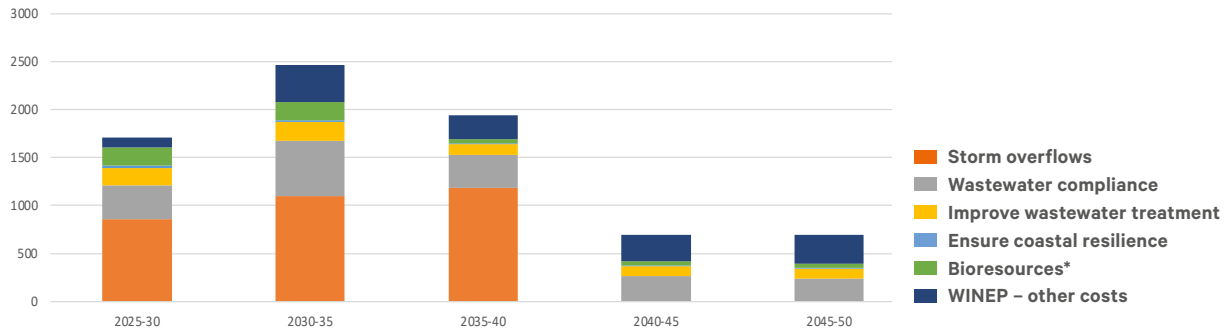
Costs

This totals £7.5bn over the 25-year period, of which £1.7bn is profiled within 2025-30. This includes £911m for storm overflows in the first five years.

Risk driver (£m)	**2025-30**	**2030-35**	**2035-40**	**2040-45**	**2045-50**	**Total**
Storm overflows	£858 m	£1,099 m	£1,185 m	£0 m	£0 m	£3,141 m
Wastewater compliance	£351 m	£576 m	£341 m	£265 m	£240 m	£1,773 m
Improve wastewater treatment	£183 m	£197 m	£112 m	£101 m	£100 m	£693 m
Ensure coastal resilience	£20 m	£18 m	£14 m	£13 m	£13 m	£78 m
Bioresources*	£190 m	£190 m	£40 m	£40 m	£40 m	£500 m
WINEP – other costs*	£108 m	£385 m	£245 m	£274 m	£301 m	£1,313 m
Total	**£1,710 m**	**£2,465 m**	**£1,937 m**	**£693 m**	**£694 m**	**£7,498 m**

* Bioresources not included within our DWMP data tables

Breakdown of our preferred plan – Scenario 1: best value (£ million)



The outputs and activities associated with the programme are as follows:

The investment is made up of:

- 1,446 hectares of separating surface water from our sewage network and creating sustainable urban drainage solutions – rainfall from an area twice the size of Falmouth will be removed from our system.
- 550,890m^3 additional storage to our network to deal with increased flows, that's the equivalent of 220 Olympic sized swimming pools.
- 2,785km of our c.23,000 km of sewer will need to be upgraded – stretching from Lands End to Athens if we laid it out it a line. We'll be upgrading and reviewing these sewers to undertake surface water separation and remove unwanted surface water and groundwater from entering the sewer.
- 123 of our 653 treatment works will be upsized to ensure they are of the right capacity.

- 225 treatment works will be upgraded to meet new environmental targets and tighter discharge permits
- 786 of our 1342 storm overflows will need investment to meet the legal targets.8 wastewater treatment works, 15 sewer pump stations, and just under 200km of sewers are protected and relocated to avoid the impacts of coastal erosion and sea level rises.
- Surface separation and storage solutions increasingly delivered using natural flood management techniques – so that we target 50% of the flow by our plan being delivered through nature-based solutions and all of our solutions are considered for nature-based delivery approaches . ie 50% of solution delivered by storage and 50% through nature-based solutions.
- Installing 2300 river water quality monitors by 2035.
- Putting in place a step change in bio-resources and treatment facilities in order to reduce our reliance on the land bank, while delivering significant reduction in carbon and reducing bio-solids volumes.

This is in addition to our base maintenance plans. Note, some wastewater costs remain to be determined as we continue to work with Defra and regulators on our bioresources and river quality monitoring programmes. Our final Business Plan that we will publish in October 2023 will address any changes to our costs.

The outputs and activities associated with the programme are as follows:

Type of investment	2025-30	2030-35	2035-40	2040-45	2045-50	Total
Separating surface water from our sewage network and creating sustainable urban drainage solutions (hectares removed)	352	651	445	0	0	**1,448**
Additional storage added to our network (m^3)	153,773	272,909	124,207	0	0	**550,889**
Increasing the capacity at our wastewater treatment works (number of works)	3	30	30	30	30	**123**
Upgrade our wastewater treatment works for nutrients (number of works)	48	103	43	22	14	**230**
Upgrade fast forward flow at water treatment works and sewage pumping stations (number of works)	0	25	25	25	25	**100**
Investing in our sewer network (km)	715	1,100	970	0	0	**2,785**
Investing in improvements to our storm overflows (number of overflows)	275	260	252	0	0	**787**

Investment across our region

Dart / Tavy

Population served 11,000

Urgent risks The community are proposing a new designated bathing water just to the North of Totnes. We are therefore supporting this process by investigating where and when our assets, and the assets of others, may influence the water quality.

Our plans We are carrying out near real-time river monitoring and spot sampling, combined with water quality monitoring, to provide transparent data for the public.

We are reviewing the investment that would be needed at five storm overflows to meet spill standards for inland bathing waters.

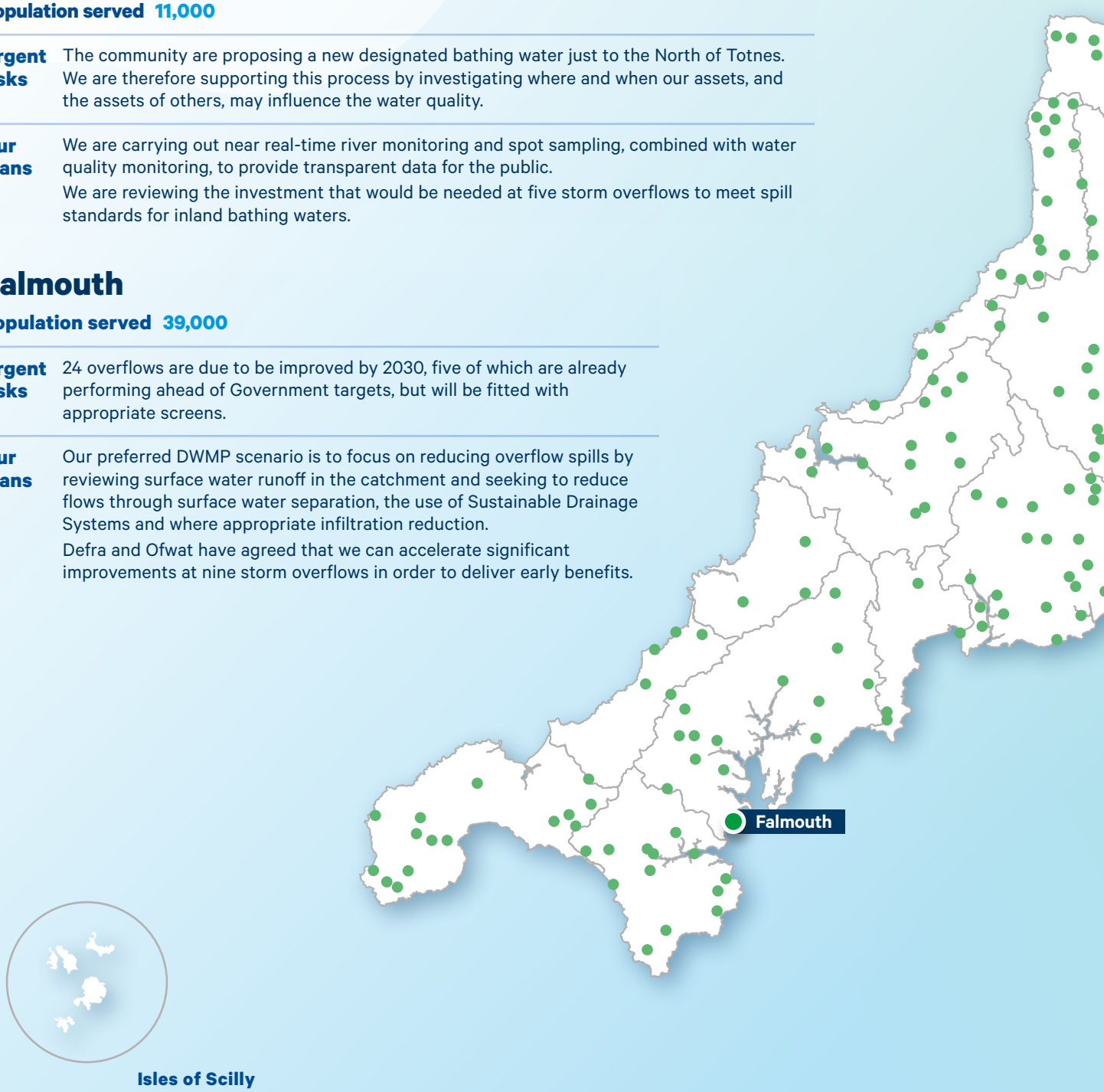
Falmouth

Population served 39,000

Urgent risks 24 overflows are due to be improved by 2030, five of which are already performing ahead of Government targets, but will be fitted with appropriate screens.

Our plans Our preferred DWMP scenario is to focus on reducing overflow spills by reviewing surface water runoff in the catchment and seeking to reduce flows through surface water separation, the use of Sustainable Drainage Systems and where appropriate infiltration reduction.

Defra and Ofwat have agreed that we can accelerate significant improvements at nine storm overflows in order to deliver early benefits.



Sidmouth

Population served 14,000

Urgent risk

We are targeting significant improvements with six storm overflows due to be improved through the acceleration programme recently agreed by Defra and Ofwat. All six overflows are due to be completed by 2028.

Our plans

We will focus on reducing overflow spills by reviewing surface water runoff in the catchment and seeking to reduce flows through surface water separation, the use of Sustainable Drainage Systems and where appropriate infiltration reduction.

Plymouth

Population served 105,000

Urgent risks

The wastewater treatment works was constructed in the 1990s and is nearing the end of it's operational life.

There are 64 storm overflows in the catchment, 30 of which require improvements: six are scheduled to be completed by 2030 with a further 11 between 2030 and 2035 and then finally 13 further overflows in 2040. The remaining 34 overflows require screening improvements only.

Our plans

Our plans involve a 15-year programme to replace the Plymouth Central wastewater treatment works. This will significantly increase treatment capacity and reduce the risk of future spills with climate change and population growth.

We will focus on reducing overflow spills through surface water separation, the use of Sustainable Drainage Systems and where appropriate infiltration reduction.

We are collaborating with Plymouth City Council to reduce surface water separation and saline infiltration into the sewer network.

We are already developing a number of nature-based solutions at the boundary of the city utilising the skills of our Upstream Thinking partners to provide both flood resilience and reductions in storm overflow discharges.

What our plan means for customers and communities

Our plan will make a difference to our customers.

The next period until 2030 will see investment across our region to address future flood risk and compliance issues. There will be a very strong focus on coastal investment as we look to lock in the benefits of our WaterFit programme over the next 10 years, to continue to deliver all year round bathing water quality. From 2030 as we look to increase inland investment the programme will start to be more balanced across coastal and inland locations.

For example, Plymouth, Falmouth and Sidmouth will see important investment in the next five years, as we address complex interrelated issues, and that need joined up solutions. These are regions that are faced with multiple threats, are reaching capacity, and need a rethink in how we deliver our services. We know we need to move our thinking from traditional solutions to be more holistic.

Our plans will protect customers in these and other coastal areas – customers will see dramatically lower levels of spills that in turn will continue to protect and enhance bathing water quality, and will also benefit from investment that prevents increases in sewer flooding and pollution.

What our plan means for our assets

Our **best value** plan means significant changes to our wastewater systems as we look to build in more storage, upgrade our systems, and include catchment planning for nature-based solutions. Over time, we will continue to address more of the legacy issues that we inherited, as we move to an holistic catchment approach to planning.

The step change in what this means for our network cannot be overstated. We will see an increase in asset renewals as we look to ensure surface water flows into sewers is minimised and infiltration is prevented. We will need to survey our assets more and more to identify issues and take preventative action such as upsizing sewers, replacing sewers and separating sewers.

There will be more underground storage in the network, alongside nature-based solutions.

Real time warning around spills and pollution will be critical in the future, and we will continue our roll out of sensors to detect issues in the network. This will require more people to respond, especially given the hostile environment sensors are in and the resulting high frequency of false positives. This will be an area of continued innovation to improve reliability and reduce costs, as we continue to test the Internet of Things and other innovations.

Treatment will also change. There will be upgrades and rationalisations of assets. For example, areas such as Plymouth and Exeter will need new state of the art works that can meet the wastewater quality and growth demands of the future. We are already trialling new innovations as we look for new ways to continue to improve wastewater treatment standards.

Pumping stations will also see investment as we look to build more storage, resilience and monitoring to prevent spills, flooding and pollution. That means continuing our maintenance programme, but taking a step change to increase resilience.

We know that achieving our plans whilst continuing on our journey to Net Zero is important. It is our ambition that nature-based solutions become the dominant investments that we make. As we learn from their use, we will continue to adapt our plans so they become a significant part of our delivery approach. But to do this, we need to improve our understanding of their application, benefits, and costs. So over the period 2025 to 2030 we will be analysing all schemes for nature-based solutions to enable us to understand how to find the right balance of solutions alongside understanding the costs and benefits of these types of approach.

Natural flood management using nature-based solutions

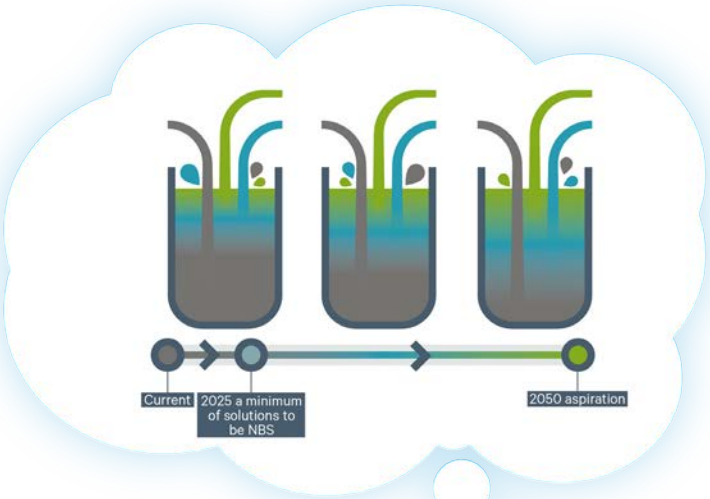
Our preferred scenario will work with natural processes where possible across the region, reducing the amount of carbon used to manage wastewater over the next 25 years.

We have plans to evaluate 100% of our interventions to deliver a nature-based solution with a target of at least 10% of these being delivered in this way by the end of AMP8. We know from our experience of catchment management over the last ten years that working with natural processes to manage wastewater and rainwater also enhances the environment and brings wider public benefits important for our customers and communities to visit and enjoy. We want to demonstrate our environmental ambition in this area and will deliver at least 20% of our solutions as nature-based by 2050.

Examples of nature-based solutions include restoring bends in rivers, changing the way land is managed so soil can absorb more water in both rural and urban areas and creating salt marshes on the coast to absorb wave energy. These habitat changes generally slow the flow of water across the land enabling more insects and wildlife to thrive, creating tranquil places close to communities which can enhance wellbeing and become a focus of community action.

This significant level of investment in nature-based solution marks a clear change in our approach. As a relatively new concept for water companies to use to manage wastewater and rainwater compared to traditional engineered solutions, our investments will be accompanied by a programme of academic and operational research. Research will develop the science and build the evidence base required by water companies and others to demonstrate success and inform operational decision making. We will share this evidence with customers and our environmental delivery partners as our expertise develops and will mainstream the use of nature-based solutions.

We recognise this is a significant cultural change for our organisation and we'll focus on how we build sustainable processes and the right culture to embed our 'Green First' approach across our DWMP programme. We will share this evidence with customers and our environmental delivery partners as our expertise develops and will mainstream the use of nature-based solutions. You can read more about our Green First approach in the Technical Appendix.



Defining our 'Green First' strategic approach

- Recognising that we have a journey to move from our current approach to Green First
- Beginning each solution scope with a green option

Addressing uncertainties in our plan

We know that there is uncertainty in the future drivers of change – and this creates questions. But we have sought to balance these in developing our plans and can be confident in the targets we have set.

Uncertainties we face...

What if the targets and standards set by our regulators change over the next 25 years?

The plan enables us to meet our current regulatory requirements and includes investment in higher levels of environmental monitoring which will improve our ability to adapt should regulations be tightened.

Our plan has adapted following Defra's Storm Overflow Discharge Reduction Plan and the 2023 Environmental Improvement Plan. We have adopted a narrow definition for the maximum 10 spills a year – every year, every location, no matter the cost, no matter the weather. A wider definition or a different target would change our plans and lower the investment profile.

There are outstanding uncertainties around river water quality and nutrients and we will reflect the outcome of any changes In our final Business Plan submission in October 2023.

What if we cannot deliver interventions in partnership with other bodies?

An important part of our plan is to work in partnership – we plan to deliver 10% of our solutions through nature-based approaches. Nature-based solutions will deliver 50% of the flow reductions across the network.

We are working with landowners across the region, environmental delivery partners, academic institutions and our broader supply chain to build capacity and prepare for increased investment in both nature-based solutions and other cutting-edge technologies.

What if customers do not find the plans affordable?

Our plan is ambitious and therefore involves considerable investment. But we know there is much we can do to lower the costs to our customers. We will continue to look for co-funding of our plans, challenge the assumptions in our plans (such as the interpretation of the targets), look for innovations, extend our affordability toolkit, and continue to lobby for progressive water bill charging.

We will continue to support our customers to afford their bills as we have committed to do, including our plan to tackle water poverty in the region.

What if there is more or less wastewater and rainwater in the region entering the system?

Whilst this is difficult to predict with certainty, we have worked with the Met Office and modelled for an increase in rainfall and considered the impacts that this will have on the wastewater system, including where additional investment might be required. And we will ensure as we implement our plans, we focus on those areas where we can start to see the impacts of climate change and increased flows.

Uncertainties we face...

What if climate change impacts affect our assets around the coast?

This is also difficult to predict with certainty, but we use the Environment Agent's guidance to look at these trends and work with the Met Office around ensuring we are modelling these impacts correctly.

We have modelled the impact of sea level rise on our assets, many of which are located at coastal sites, and made assumptions about how sea level rise will impact on their ability to remain effective over the course of the plan. If sea defences are robust then it will bring down costs. We will continue to work with the Met office to understand the timing and uncertainty of risks.

What if we just look to maintain the levels of performance that we currently have as a minimum?

We have modelled the costs of various scenarios and we know the costs of just maintaining current performance – and this does not meet Defra's 25 year plan ambitions and the legal requirements of the Storm Overflow Discharge Reduction Plan.

What if the population of the South West changes significantly?

We have population forecast data that we've used to develop our plans. We know that since the Covid-19 pandemic, we've had an increase in the number of people that want to live and work in the South West. If that trend continues, we will need to adapt our plans to ensure we can continue to deliver the outputs of the plan to an increased number of customers.

Can't you make earlier progress on this plan?

We have already had agreement with Ofwat to accelerate nutrient schemes in the Axe and Camel and storm overflows in Sidmouth and Falmouth. We will look to accelerate further projects that have deadlines by 2028 and keep the delivery momentum going where it is best value to do so.

Our trigger points

We have identified trigger points that will allow us to respond to future uncertainties, ensuring we apply the interventions at the most suitable and cost-effective time – and determine if we have to deviate from our most likely pathway (P1).

Our trigger points will be monitored and reported at each update of our DWMP. Where a more adverse or benign scenario is observed, that will be a trigger for us to move to one of the adaptive pathways in our plan.

For example, if we observe that we are trending towards a mostly likely climate change scenario of RCP8.5, then the following pathways which have included this future would become a more appropriate investment programme: P2 – Climate resilient, P4 – Enhance resilience, P5 – Innovative technology and P6 – Most adverse.

We have identified trigger points against the most influential elements that impact our plans:

- Rainfall intensity from climate change
- Sea level rise from climate change
- Customer preferences about flood risk
- Technology availability
- Increasing demand from population growth or customer behaviors

These triggers are described in more detail with our Technical Summary and they will be incorporated in our long term delivery strategy.

Keeping the plan under review

Whilst the plan is based on robust models and scenarios, there are some areas of uncertainty and change that we will keep under review to understand whether, and how, the delivery of the plan needs to adapt.

The amount of rainwater and wastewater that enters our system is difficult to control. Whilst it is predicted to increase and we have modelled the impacts, we may need to adjust our analysis if rainfall is significantly higher or lower than predicted when the plan was written.

Similarly, we will need to maintain an ongoing awareness of the numbers of people using our services in the region, residents and visitors alike, along with a close eye on the extent to which land in our high risk catchments impacts on the speed and quantity of wastewater and rainfall flowing into our system.

The models that we overlaid to optimise the plan, and the cost benefit analysis that we have undertaken, will also be revisited over the course of the plan. The insight and data that we gather as we implement the DWMP may identify the need for changes to operational decision-making and our ways of working, policies and procedures, for example how we assess asset health. We will gather and analyse these insights, adjust our plans informed by real experience and share lessons and best practice with the sector.

We have invited customers and stakeholders to share their views on how wastewater and rainfall is managed in the places they care about and have used this insight to shape our final plan.

We also continue to explore collaboration opportunities with our partners, with a particular focus on nature-based solutions. We will also continue to seek input as the plan is implemented with the aim of achieving the right profile of investment that balances the desire to more quickly in delivering outcomes to meet environmental needs whilst maintaining affordability for our customers.

Another factor which could develop over time is government policy and guidance, which will impact both on the delivery of the DWMP and all our other programmes of work across the company. We anticipate hearing more about River Water Quality guidance and will adjust our plan accordingly for our October Business Plan submission.

In developing the right profile of investment, we have given consideration to the impacts on our Net Zero targets and ambitions as set out in 'Our Promise to the Planet', and how we can find the right balance of solutions that meet the requirements of our DWMP and in the lowest carbon way wherever possible.

Annual review

Under section (6) 79 of the Environment Act;

"The sewerage undertaker must prepare and publish a revised plan in each of the following cases –

a) following conclusion of its annual review, if the review indicated a material change of circumstances;

b) if directed to do so by the Minister;

in any event, not later than the end of the period of 5 years beginning with the date when the plan (or the revised plan) was last published."

We will annually review our DWMP to assess whether there have been any material change of circumstances. We expect to undertake this first review in March 2025 following the completion of the Final determination in December 2024. Subject to any material changes of circumstance we may then republish the DWMP to set out any revised plans, outputs or outcomes for customers or the Environment.

If any of these uncertainties create a significant change in circumstances, we will prepare a revised plan. We will begin to develop our future plans for 2030 onwards as we prepare for the second cycle of DWMP plans in 2028.

We Intend to review the DWMP In March 2025 to reflect the outcomes of the Price Review process and set out our delivery plan for the 2025-2030 period.

Delivering our plan

We'll need integrated delivery to enable our plan to be efficient. The scale of DWMP for the whole sector will mean that the availability of skills and resources will be at a premium. Working at catchment-scale with our interventions makes sense for both the environment and affordability for our customers.

Deliverability is a key consideration in the development of our DWMP, at £1.7bn in AMP8 and over 7.5bn over the next 25 years, this will be the largest environmental programme we will have delivered since the clean sweep programme. It is important that the way we deliver the programme looks for opportunities to reduce cost whilst delivering value for customers and delivering sustainable environmental outcomes. It is essential that we get the right balance between quality, cost and sustainability whilst delivering the benefits with momentum and pace.

Our procurement strategy is already well underway in preparation for the transition to AMP8. We are one of the largest companies in our region and we have a mature and resilient supply chain that has its roots in Alliance partnering. Our delivery partners have been actively engaged throughout the development of our long-term strategic plans and they understand what is required to deliver these projects.

We also recognise that we learn from our recent shortcoming in the delivery of the AMP7 investigations that we need to re-organise internally, capitalising on the integration with Bristol Water, we are bolstering our Design and Build delivery model with an intelligent client capability that is aligned with AMP8 work packages.

Supply chain

Our vision for AMP8 and beyond is to have a fully integrated supply chain for the delivery of South West Water's Capital Programme where we co-design, innovate, contract and deliver in a collaborative environment. We will be co-located with our partners as a fully integrated delivery organisation, identifiable by our partnership brand, with a collective approach to problem solving, to co-create value as a single delivery community. Due to the scale and complexity of AMP8, and the opportunity to deliver an accelerated programme, we have already initiated our transformation programme to building upon the success of our H5O Alliance, to create a best in class delivery model.

We have recently made significant changes to our client-side capability, capitalising on the merger with Bristol Water, we have grown our engineering senior leadership team and appointed six heads of delivery across Clean Water, Waste Water Devon, Waste Water Cornwall (and Isles of Scilly), Reactive Maintenance, Drought and Resilience, and Major Projects and Transformation.

Furthermore, we've expanded our delivery support services to enhance our PMO capability and we've been growing our Asset Management team, insourcing wastewater modelling ahead of DWMP and SOAF delivery, as well as growing our Energy and Carbon capability to ensure we are seizing every opportunity to reduce carbon emissions and remain on track to meet our "Promise to the Planet".

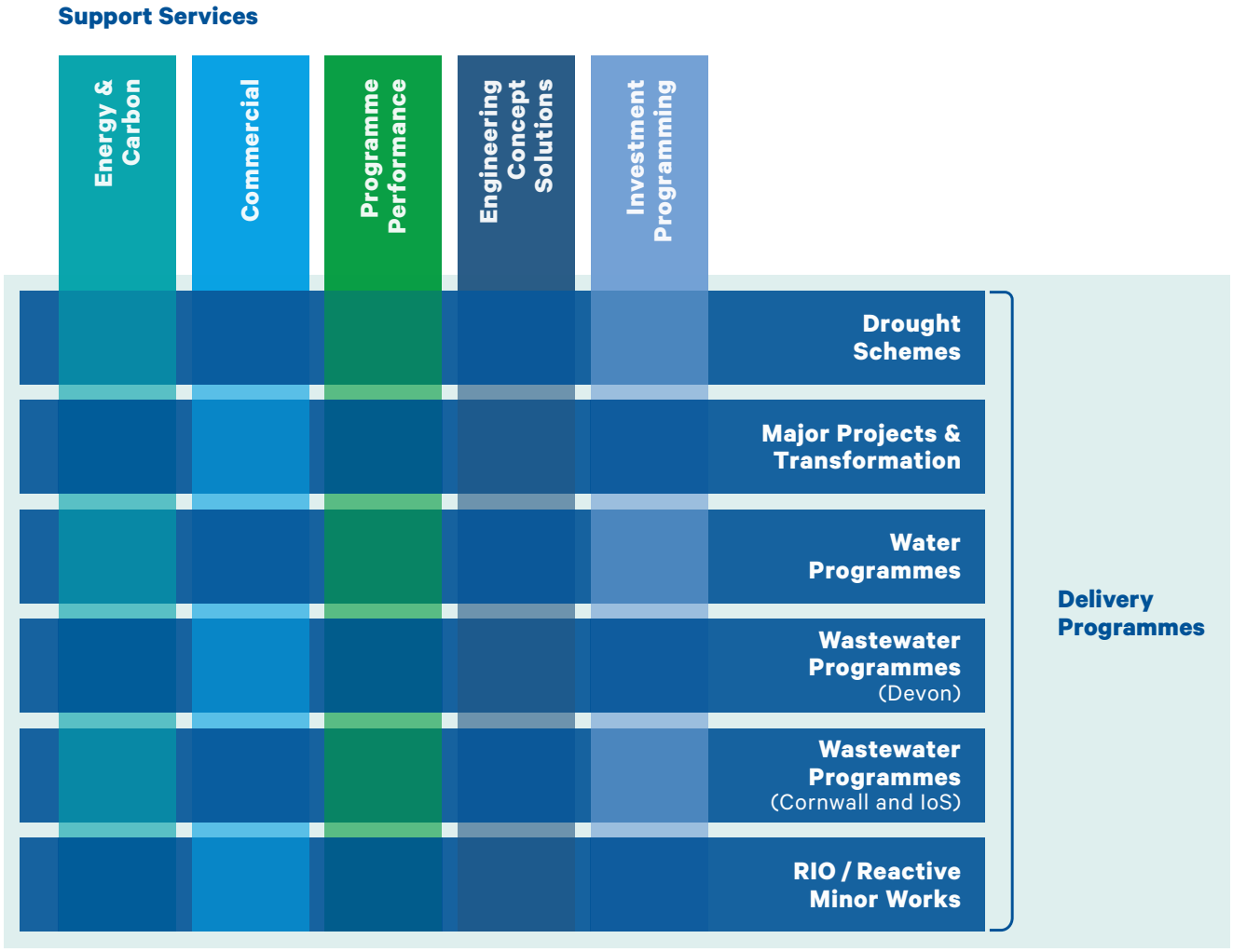
Our integrated delivery model will enable a more effective approach to risk management, ensuring a clear understanding of risk ownership, impact, and the cost of transferring risks to the supply chain.

In our preparation for transitioning to AMP8 we have been engaging with the market to understand how we can incentivise investment in the water industry and secure the partners we need to meet the demand. Having conducted extensive market research during the early part of 2022, which included supply chain surveys, 1-2-1 interviews and workshops, we are implementing the following:

- Longer frameworks to encourage investment in the region
- Simplified and fairer contractual terms, with a more equitable share of risk
- Better foresight of the programme; including a more "programmatic" approach to contracting
- A more agile and intelligent internal client capability

To that end, we are already going to the market and renewing our Tier 1 (Civils) framework ahead of AMP8. We have modelled the type, scale and complexity of our AMP8 capital programme and identified that we need a minimum of three Tier 1 Contractors to meet the demand, and that they will be in place to begin work on any "accelerated" or "early start" capital programme if required.

Our MEICA framework is performing well, and the evolving complexity and volume of schemes is stimulating growth for all our Tier 2 contractors. As such, we have extended our existing MEICA framework for another 18 months, whilst we focus on



Tier 1 procurement, ahead of expanding our Tier 2 supply chain from for to no less than six partners ahead of AMP8.

To incentivise the industry, following our market engagement, we have reviewed our commercial model to balance the pain / gain share and we're reviewing the clauses in our contracts to make them as simple as possible. We're engaging with the wider construction industry and listening to the feedback, and we envisage the way we are positioning our contracts will encourage reinvestment in the sector, to ensure we can rise to the challenge of AMP8. Integrated delivery models and alliancing are often challenged for lacking in commercial tension; we intend to align our framework partners by geography, principally Devon (Bournemouth and Bristol) and Cornwall (IoS).

We will maintain the "best athlete" approach for the allocation of work but retain the option to compete elements of the programme through "mini competitions," with the potential for suppliers to bid for work in the lot they are not aligned to.

Agility and efficiency – the end-to-end delivery model

Our current delivery model was adopted off the back of our H5O Alliance and has been refined and refreshed to ensure we optimise the business benefits from our existing contracting frameworks. This model is being refined further, to simplify the delivery runways and expedite project governance to enable delivery at pace, in-step with our transition to AMP8, and in the spirit of a fully integrated delivery model.

Our contracting partners will be embedded at every stage; from assisting with the definition of the problem statement, to accelerating design and costing in the Concept Team to deliver buildable solutions, through to post project reviews.

We are already getting projects into delivery sooner by allocating Programme and Project ownership early, right from the point by which a problem statement is defined, with accelerated design and costing through the introduction of the Concept Team.

We will build upon our experience and lessons learnt from AMP7 regarding innovation and experimentation, specifically in the nature and catchment-based solutions. We will continue to work closely with stakeholders, including our Upstream Thinking Partners, universities, and colleges to procure a supply chain that will make us market leaders in this area of the industry.

Partnering to co-create value

Having transitioned from an Alliance model to our current Design and Build framework in AMP7, we have gained more positive commercial tension but may have lost some of the benefits of a more integrated delivery model. In response, our recently formed Engineering Concept Team is a fully integrated centre of excellence, made up of South West Water / Bristol Water employees and supply chain partners. The vision is for this to become an "alliance hub" that will be at the heart of engineering delivery, embedding best practice across all our programmes, implementing innovation, and driving our Net Zero agenda. Our contracting partners are already embedded in our main office, in and amongst the Engineering Directorate.

We are also growing our "self-delivery" capability having trialled this over the past 12 months and we will look to expand the number of suitable programmes that fit this delivery methodology.

We continue to develop a more integrated and agile delivery model that seeks to capitalise on the benefits of co-location and open architecture knowledge sharing, whilst maintaining commercial tension to ensure we get the best value for our customers and the environment.

A strong track record

We are on track to deliver our 2025 promises. 80% of our performance commitments for South West Water are on track. In our Bristol Water region, we have met 76% of our performance commitments, with a focus on areas where performance falls short of the targets.

We are delivering our largest environmental programme for 15 years. We have committed significant additional expenditure beyond our AMP7 business plan including:

- Investing £82m as part of our Green Recovery programme to accelerate programmes focused on public health, protecting the environment, and addressing climate change.
- Re-Investing efficiencies so that we can deliver £330m in our wastewater programme to 2025 through our WaterFit programme which was launched earlier this year to accelerate healthy rivers and seas.
- Additional investment through our Cornwall Resilience programme to boost resilience in the region through repurposing disused quarries and trialling desalination.

Building capacity

Transition investment

Our DWMP will see a step change in investment over the 2025-2040 period in order to deliver improvements to those overflows which do not meet the standards set out within the Defra Storm Overflow Discharge Reduction Plan (SODRP). Yet our customers and stakeholders would like this work to start as soon as possible and deliver the benefits earlier.

As we have already described, we are bringing on-board new capacity in 2023/24 and 2024/25 with both partner support for both feasibility and detailed design as well as Tier 1 and Tier 2 capacity to begin the construction and delivery of the improvements within the WINEP and the WaterFit programme.

Alongside this we have identified many early deliverables within the WINEP and DWMP programmes which will need to be undertaken in the 2023/24 and 2024/25 period in order to meet the Regulatory compliance dates set within the WINEP. The table below sets out the number of WINEP deliverables in the first two years of the 2025-2030 period.

WINEP schemes to be delivered in first two years of the AMP8 programme

	31/3/26	31/12/26	31/3/27	30/4/27	30/6/27	Total
Bathing water improvements	9		10			19
Shellfish schemes					15	15
Phosphate schemes	3		2			5
EDM and MCERTs installations		565				565
Chemical schemes			4			4
Investigations schemes				323		323
Total	**12**	**565**	**16**	**323**	**15**	**931**

These 931 outputs represent 62% of the total 1,499 AMP8 WINEP outputs, but are delivered in the first two years (40% of time) and will require circa £150m of investment in 2024/25 to enable this delivery. This includes starting work on c.60 storm overflows in order to support both the Bathing Water and Shellfish Water investments.

These elements build on the Acceleration schemes which have already been previously identified and funded through the recent announcements from Ofwat and Defra. It is our expectation that we will propose the expenditure to support the delivery of the identified outputs as part of the transitional funding within our October business plan submission, with activity and funding beginning from Q3 2023/24 through to the end of 2024/25 and then continuing as part of the WINEP delivery from March 2025.

Building on our existing partnerships

Over the last 15 years we have co-delivered nature and catchment based solutions with our Upstream Thinking Partners and local landowners. Previous solutions have included biodiversity improvements, fish and eel passes, invasive species projects and catchment schemes to improve drinking water quality. We know that working with our partners who are already embedded in the landscape partners deliver a subtler and more sustainable approach.

The mix of solution types, including increased use of nature-based solutions, that we will use to deliver from AMP8 onwards will require us to work closely with a broad range of delivery partners and suppliers. We want to ensure solution delivery is scaled appropriately, enabling local partners who have existing relationships with communities and landowners, to support us in delivering our programme, as well as supporting our more traditional supply chain to work differently.

During 2022 we have met with our upstream thinking partners fortnightly to discuss how we can work together to deliver WINEP in AMP8. Our partners are keen to undertake more work, particularly catchment management and have presented to us the opportunities they see to collaborate.

We know that we will need to innovate, doing things differently and looking at a systems-based approach to delivering schemes from multiple drivers within catchments. We will build on our existing long-term relationships and are already looking to develop new partnerships.

We are already looking to upscale our Upstream Thinking programme and have recently been awarded funding from the Ofwat Innovation Fund to explore how we can work with partners to identify the value of slowing the flow of water.

Each catchment already has a Catchment Partnership; a coalition of stakeholders that form an important forum for discussions on future investment priorities. The maturity of our model in the South West already sets us apart. We are exploring with our partners the support that they can provide including funding, resources, approaches and land.

Co-delivery with our partners will be key to identifying and sustaining our WINEP solutions and we know that this delivery route is likely to be more complex than our previous WINEP programmes.

Financing and bill impacts

Our DWMP sets out our view of the future impacts of population growth, climate change and growing expectations on our assets and operations.

Where are we today

We have pledged to address water poverty in our region, with the goal to ensure that by 2025 no customers are paying more than 5% of their household income on water and sewerage bills.

Meeting this pledge will deliver affordable bills for all our customers five years earlier of the sector wide commitment to address water poverty by 2030. We are on track to deliver this commitment with over 93% of customers with an affordable bill today, compared to 87% in 2019/20.

We have a well-developed affordability toolkit to support customers who struggle to pay their bills, including:

- Social tariffs that reduce or cap customer bills (**WaterCare** and **WaterSure**)
- The **FreshStart** fund to support customers who are new to debt or struggling to pay their bills due to the impact of life changing circumstances
- A payment matching scheme called **ReStart** to support customers in getting out of debt improving payment habits
- **WaterCare+** a scheme that provides benefit entitlement checks and home efficiency audits as well as tariff reviews to ensure that we are supporting customers to maximise their income and minimise their bills
- Supporting people to access all the help they are entitled to, with our highly skilled **Benefits Entitlement Checks** – unlocking up to hundreds of pounds a month for financially vulnerable customers.

Through these schemes and our affordability toolkit, we are on track for 100% affordable bills by 2025.

Click **here** for more information on our support schemes

Looking forward

Our DWMP is ambitious and requires a step change in the level of investment to meet those ambitions.

As we look ahead to 2050 and beyond, we see significant investment requirements as we look to build resilience to climate change, invest for a larger population, maintain compliance, and reduce pollution and storm overflows in line or ahead of government targets.

As we have before, we will continue to improvements and efficiencies, and deliver innovation, to keep the extra costs as low as possible.

Our best value plan that meets our new legal obligations and prepares us for the impacts of climate change, will require efficient investment of c.£7.5bn to 2050 – more if some of these pressures are greater than forecast today. The cost of delivering our plans for the period 2025-2030 will require c.£1.7bn for our DWMP.

To be able to deliver this investment will need finance. We raise finance through a range of sources: through customer bills, from investors and lenders. Getting finance from lenders and investors means that we can keep bills lower than they would otherwise be, and we need to get the balance between what is recovered through bills and what is borrowed right.

Moreover, we know that customers don't like volatile bills. So we will aim to ensure gradual changes to customers' bills, and avoid overburdening any particular generation of customers by smoothing the costs over time.

Financing our plan

We need to ensure we can attract investors and lenders to secure financing for our plans, with fair returns to investors. As we look to 2050, we know that we will need to raise more finance than before.

By raising finance from investors, we can keep customer bills lower. We raise less through customer bills than we spend, with part of the customer bill used to pay back what we have borrowed with interest. These are our dividend payments . Our regulator sets dividends –at the level similar to what you get when you put money in the bank.

We continue to have a strong capital structure and target a mix of funding instruments to finance our activities efficiently. South West Water currently has one of the lowest effective interest rates across the industry with our mix of fixed, floating or index linked debt. This is supported by the Pennon Sustainable Financing Framework in place since 2018 which will support the DWMP investments as these are focused on the protection of the environment – a key factor in our Sustainable Financing Framework.

Did you know?

Infrastructure finance is like a mortgage on a home. A mortgage allows you to purchase or maintain a home. The monthly payments to the mortgage provider allow you to pay back the loan gradually. You also have to pay interest on the loan which is part of the monthly amount.

The impact on customer bills

This is the largest programme of investment we've ever carried out in our region – and this will impact on customers' bills. We will use financing to keep these costs lower than they would otherwise be.

The impact on customer bills for our preferred plan is shown below. For comparison we show the bill impacts if we were not to accelerate our storm overflow investment to 2040. Both are shown for monthly and annual bills.

We estimate average bills needs to increase by £6 a month over the period 2025 to 2030.

Bill amounts – in real terms (excluding inflation)

		2025-30	2030-35	2035-40	2040-45	2045-50
Best Value Plan	**15 year total wastewater bill impact** (c.£)	£75	£170	£230	£270	£275
	Monthly bill impact	£6	£14	£19	£23	£23
A slower paced	**25 year total wastewater bill impact** (c.£)	£75	£140	£200	£240	£260
	Monthly bill impact	£6	£12	£17	£20	£22

Our best value plan is to accelerate storm overflow investment over 15 years. We can see the impact on bills of this compared to delivery over 25 years. Over time the difference in terms of the impact on bills is small and we can accelerate without adding much to customer bills.

Affordable bills

Average bills will rise by £6 a month over the period 2025 to 2030. A key decision is who should bear this cost. If there is no change to how we fundamentally charge customers for the services we provide, all customers can be expected to see an uplift in proportion to the size of their bill.

We've spoken with a wide range of our customers as we've developed the plan and for most our customers the increases in bills proposed are affordable, even if we work at pace and deliver faster than the regulations require us to.

In order to ensure that bills remain affordable for all, we have looked to see if there is another way. We are exploring ways in which we minimise the investment our customers need to pay for in their bills – such as working on partnership on shared outcomes, sharing experiences and co-funding investments.

We are also looking at how bills and charges are set. There hasn't been any change to the way we charge for water for 30 years – and for many customers the current charging framework does not seem very fair. They worry whether bills can remain affordable for all with a large investment programme. They want everyone to pay their fair share – that includes tourists and homes with low occupancy rates. They also get frustrated when they save water – and others don't. Innovation in charging is important – especially for those that struggle the most to pay household bills.

We have been looking at progressive charges, and we know from our analysis that we can deliver the investment set out whilst protecting our resident customers from large bill impacts. We are looking carefully at progressive charges – to ensure that the cost of increased capacity, particularly near bathing waters, is recovered from those who benefit the most. We are also looking at how we charge for properties occupied part of the year and where sewers are congested. We look forward to working through these proposals with regulators as we continue through the business planning process.

This bill impact will form part of our full Business Plan submission in October 2023. Our full plan will include investment for all of our assets across the greater South West.

Assurance

Our approach to assurance

The Board acts as the main governing body for the purpose of oversight for the company's regulated business. Our approach to governance is an integral part of our culture, guiding how we do business and creating value for our stakeholders.

We publish information which ensures we not only meet our statutory, licence and regulatory obligations but also provide information to customers on the Company's activities, how the Company is performing and most importantly, how customers can get help when they need it.

Underpinning the information, we publish robust risk and assurance processes. These processes have been embedded into the management of the Company and are designed to ensure risks are promptly identified, updated on a regular basis, and appropriate mitigation is in place to suit the level of risk.

We have a mature integrated risk management framework which is fully embedded into our governance structures and embodies our values of being 'trusted' and 'responsible' in the way we carry out our business. Details of this integrated assurance approach is published each year in our assurance plan.

Our integrated assurance approach includes our three lines of defence:

- Management – review, quality control and sign off
- Policy setting and compliance checking – adequate policies, internal audit, and business management systems
- External scrutiny – external audit and other assurance providers.

Assurance activities in respect of Drainage and Wastewater Management Plans

Assurance activities in respect of the Final Drainage and Wastewater Management Plans follow our integrated assurance approach with three lines of defence.

Internally there has been a robust review process and sign off of the underlying assumptions and inputs to the DWMP, to ensure that the plan is based on robust evidence.

Our external assurance provider performed a set of procedures, mutually agreed between South West Water and the providers, reflective of risks in establishing the DWMP. These focused on:

- Ensuring we have developed our plan in accordance with the Defra guiding principles and the DWMP framework.
- Confirming the planning objectives used are consistent with the DWMP framework and will be met by the plan.
- Confirming that measures are in place to meet the objectives set out in the Government's Storm Overflows Discharge Reduction Plan.
- Ensuring that the plan is best value for customers and the environment, including reviewing evidence of engagement with third parties, driving collaboration within the plan.
- Ensuring that the plan is based on robust costing processes.

The external assurance provider reported to the Board and confirmed that there were no material concerns with regards to the submission.

Our Board has provided an assurance statement.

Board Statement

The South West Water Board of Directors (SWW Board) has overseen the development of South West Water's (SWW) Final Drainage and Wastewater Management Plans (DWMP).

SWW Board considers the process that SWW has gone through in developing the Final DWMP is sufficient to ensure that in all material aspects the Final DWMP is in line with the guidance and frameworks set out to establish consistent plans.

Due to the oversight and assurance processes applied during the development of the Final DWMP, SWW Board is satisfied that:

- The guiding principles and the DWMP technical framework are being followed and applied
- The planning objectives are being met (both common and bespoke)
- There are clear links and processes in place (including those linked to the consultation of the Final DWMP) to ensure the appropriate interventions, including partnership and co-funded schemes, will be put forward for investment in PR24 business plans
- Measures are in place to achieve objectives set in the Government's Storm Overflows Discharge Reduction Plan
- Our plan is a best value plan for customers and the environment for managing and developing drainage and wastewater services and is based on robust costing procedures.

Name and position
Gill Rider Pennon Group and South West Water Chair
Neil Cooper Pennon Group and South West Water Senior Independent Non-Executive Director
Iain Evans CBE Pennon Group and South West Water Senior Independent Non-Executive Director
Claire Ighodaro CBE Pennon Group and South West Water Independent Non-Executive Director
Jon Butterworth MBE Pennon Group and South West Water Independent Non-Executive Director
Dorothy Burwell Pennon Group and South West Water Independent Non-Executive Director
Loraine Woodhouse Pennon Group and South West Water Independent Non-Executive Director
Susan Davy Pennon Group and South West Water Chief Executive
Paul Boote Pennon Group Finance Director

Next steps

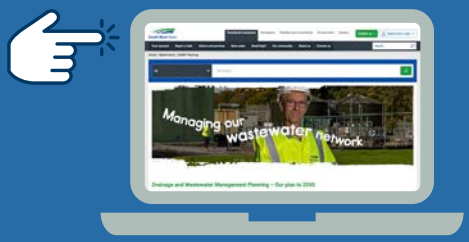
Our DWMP informs our next five-year business plan that we will submit to Ofwat, our regulator, in October 2023. Our business plan will set out all of our investment from 2025-2030 alongside considering our long-term priorities.

We will continue to engage with customers, stakeholders and our regulators to understand their views and priorities as we develop our final business plan.

To deliver our DWMP and provide innovative solutions and best value for our customers while protecting the environment and ensuring we meet the future pressure on our drainage and wastewater systems, we need to work together, and we rely on the active participation of our customers and stakeholders.

We will continue to engage with our WaterShare+ Panel as we develop our final plans for submission in October 2023.

Visit **www.southwestwater.co.uk/dwmp** to find out more.



South West
Water

South West Water Limited, Peninsula House, Rydon Lane, Exeter EX2 7HR, Registered in England No 02366665

This document is available in different formats.