

Our strategic priorities

Storm overflows and pollutions



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ON OUR
FRONT
COVER...



Cameron Barrett

Pollution Technician

Jake Eastley

Catchment Operator

Cameron is a Pollution Technician at South West Water. He helps gather information about pollutions. Cameron is involved in identifying the root cause of sewage discharges, to plan how the company can stop them from happening again. He is motivated by satisfying customers.

Jake is a Customer Service Catchment Operator for a partner company of South West Water. Jake looks forward to going to work in the mornings because what he does protects the environment and helps some of South West Water's more vulnerable customers.

Executive summary

We have historically relied on storm overflows which are designed to prevent sewage filling our streets and flooding homes and businesses. With 100% monitoring on our storm overflows, a year ahead of plan, we get why the public are upset about sewage in the seas and rivers – they are right to be. They are right to demand this gets sorted out.

Like others in the sector, we acknowledge that we have lost the trust of customers in Devon and Cornwall as a result of the use of storm overflows, sewage and pollution incidents. It's our job to fix that and we will, recognising that this is a multigenerational challenge.

When we talk to customers, over two thirds tell us that they are content with the water quality at their local beach, and with 100% of coastal bathing water meeting stringent quality standards for two consecutive years, we are making progress, and our WaterFit programme is delivering now. However, we recognise there is more to do and that's why our business plan for 2025-2030 will invest £761m – a seven fold increase in investment – across the region in this area. Importantly, it will also create c.1,100 jobs directly and across the supply chain.

Given the topography of the Greater South West, our challenge is a unique one, not least because of the size and scale of our coastline, all 860 miles of it. The majority of our customers live and work on the coastal fringes of our region, as do our businesses, and the health of our economy is heavily dependent on tourism and the 151 bathing beaches.

Our 655 wastewater treatment works, over 1200 pumping stations and 23,000 km of network – enough to stretch from Land's End to Australia – are designed with overflows to prevent the backing up of sewage into homes and businesses. Our assets are largely interspersed in and around the coastline, in part testament to the legacy of the Clean Sweep programme, where we invested heavily in ensuring that world class wastewater services were put in place for the first time. Prior to this, water quality in the region barely got above 30%.

Since Clean Sweep ended, we have seen flows in the network increase by 25% as businesses, developers, highways and local authorities have the automatic right to connect to our networks, and increasing the amounts of road and surface run off entering our system. Storm overflows are used worldwide, but we have gone further by installing monitors on all our overflows that means that we can see when and for how long they are operating. We can see the impact of population growth, visitors, the pandemic, wet wipes and other unflushables in the system on the network.

Whilst 97% of the flows that go into sewers are treated (up from the 38% of flows treated in the 1990s), 3% is not. Of the volumes released, given rainfall at the time of release, and the dilute nature of the flows, it is rare that they have an impact on water quality but as rainfall gets more frequent and intense, the risk is increasing.

South West Water was one of the first water companies to install 100% monitoring on our 1,342 storm overflows, so we have had a head start in understanding where we are. It means we know that 509 are operating no more than 10 times a year. Our focus is rightly on those that are operating more than expected, and those that operate in and around our bathing beaches. Over the period 2025-2030, 283 storm overflows require interventions in 84 (out of 655) of our catchments.

That said, with our focus on protecting bathing waters across our region, it is no surprise that the average number of spills per bathing water storm overflow is lower than our inland assets. Overflows that feed into bathing waters triggered on average 9.4 times in the 2021 bathing season. This reduced in the 2022 bathing season to 4.6 however, this was a dry year. This is a top priority for customers and businesses so we must ensure we mitigate and reduce to a minimum the number of these discharges, alongside tackling inland top spilling sites.

We are clear, and our customers are clear, that we need to tackle the use of storm overflows, with 93% of our customers agreeing with our proposed investment in this area. There is also zero tolerance from us and our customers for events that lead to pollution of the environment, with one pollution, being one too many.

There are occasions when things go wrong across our asset base. Given our coastal region and proximity to water courses, when things do go wrong, the impact is fast. These are pollution incidents and they can occur on our network, at pumping stations, treatment works and storm overflows.

Half of our pollution incidents are caused by blockages and wet wipes are a leading cause. We have increased our jetting and cleansing programme and are also working hard to remove the source of blockages, including working with communities to reduce the number of wet wipes entering our sewer network. We are making progress and so far, we have halved the number of incidents since 2020, targeting an 80% reduction by 2025.

There are two things that we will tackle head on with our plan:

- 1 Reducing the use of storm overflows to reduce and eliminate risks to water quality.**
- 2 Reducing failures in our asset base that can cause pollution and impact on water quality.**

Vegetated conveyance & filtering channel



Find out more here



Drainage and Wastewater Management Plan

Timeline for delivery:

With a timeframe spanning 15 years, we need to prioritise what we are doing, and we have therefore spent time listening to customers and stakeholders to help inform our plans.

Storm overflows

Like our Clean Sweep investment programme that took 20 years to deliver, tackling and minimising the use of storm overflows is a multigenerational challenge. We will work at pace but it will still take another 15 years to complete. We are targeting completing all of the Government requirements by 2040, 10 years ahead of governments required target of 2050, and with a focus on our 151 bathing and 30 shellfish waters.

We plan to:

- **Commit to a never seen before sampling and monitoring regime to rebuild confidence in our communities and ensure everyone can be confident of the water quality across our region.**
- **Create opportunities for our staff to be present in communities across the region to discuss the progress we are making.**
- **We will take a Green First approach, working with nature to improve drainage and reduce storm overflows.**
- **Establish an environmental advisory panel to ensure we have an independent review and challenge of our performance and progress.**

We'll deliver our plans through a combination of nature-based (blue and green) and traditional (grey) solutions, reducing the volume of surface water entering our sewers and holding back the peaks of flow. We know this approach is important to our customers and 40% of our investment in AMP8 will be blue or green. We'll be working alongside many of our stakeholders and specialist partners to use their expertise to help us deliver these solutions.

Underpinning our plans is a robust analytical framework that enabled us to develop our long term adaptive Drainage and Wastewater Management Plan (DWMP). We have developed our storm overflow programme in close collaboration with the Environment Agency.

By 2025

We will be tackling 49 of the 151 designated bathing waters in our region.

By 2030

We will have completed all our 151 bathing and 30 shellfish waters, 71% of ecologically sensitive inland sites, as well as having tackled high spilling sites across the region.

By 2040

We will have completed all the interventions across over 700 storm overflows to keep overflows to a minimum.



Pollution incidents

By 2025 we will have reduced pollution incidents in our region by c.80% against our 2020 performance, but we won't stop there. A significant risk continues to be what goes into our network and so we will invest to do more, going further and faster:

We will:

- **Install over 20,000 monitors that will tell us when and where we need to intervene to prevent an incident**
- **Lead a campaign to ban the wet wipe**
- **Work more closely with communities to prevent sewer misuse.**

Summary

By 2030, we will have delivered our plans for reducing discharges from storm overflows at beaches and shellfish waters and our high priority ecologically sensitive sites. That's why we believe this is the right deal for right now, and delivering a vision for a sustainable, affordable and responsible water future.

We have tested the affordability and acceptability of our plan with customers to understand their views on what we're delivering and the proposed bill impacts. 74% of customers agreed that our overall investment plan for the region is acceptable and 93% agreed with the proposed investment in storm overflows.



Introduction

Water quality in our rivers and at our coasts has been steadily improving over the last twenty years or so. But there is still much to do.

Since we installed wastewater treatment facilities across the region through Clean Sweep, pollutants to rivers and seas have been dramatically cut – ammonia, phosphates, nitrates, and metals such as copper, lead, cadmium and mercury have all reduced as we have continually invested to improve the quality of treatment and to reduce pollution incidents.

But progress is at risk of being offset by a range of pressures – most notably climate change and population growth which can have damaging impacts on the environment and our services.

There has been considerable media attention around water company pollution to waterways over the last 18 months, with public concern around storm overflows and the risk they present to the environment and to people.

What are overflows and pollution incidents?

With all the information being presented by media, regulators and water companies – there can often be a lack of distinction between what are discharges from storm overflows and what are pollution incidents.

A pollution incident occurs when sewage escapes from our assets when something goes wrong. When pumps fail, sewers collapse or get blocked the resulting sewage can impact water quality in rivers and on our beaches. When this happens these are classed by the Environment Agency as pollution incidents, and they can potentially occur from across our network: from pumping stations, treatment works and storm overflows.

Storm overflows are an important part of our system. Designed into our sewerage networks as relief valves to prevent the system being overwhelmed by rainfall, they protect customers from the dreadful impacts of flooding to their homes and businesses by releasing the extra flows into rivers or seas.

If not used carefully, storm overflows can cause pollution – so we have licensed permits to use overflows, which are issued by the Environment Agency and it is rare that storm overflow discharges are classified as pollution incidents.

Measuring performance

As we have looked to improve the wastewater network over the years, we have been measuring our performance.

As well as assessing pollution incidents, we track the percentage of coastal bathing waters that meet the stringent standards in the bathing season. In 1991 this was only 28%, and we have been working hard over the years to reduce our impact on coastal waters. Last year 100% of bathing waters met the stringent standards for the second year running, and we had our lowest ever levels of pollution – having delivered a 50% reduction in the last two years.

Over the last two years we have also been installing equipment across the network that allows every storm overflow to be monitored. With the technology now available to accurately and continuously measure discharges from our storm overflows, we can see how much these are used and share this information with customers and stakeholders. As a result we have learned that the frequency that our overflows are operating is too high and is unacceptable.

Developing our plans

We have developed plans to reduce the use of storm overflows – prioritising what matters the most first.

Where storm overflows can impact the recreational use of beaches, cause ecological harm, or cause pollution – we prioritise these first. These are particularly unacceptable to our customers, and we have plans in place to tackle these.

Our plans are focused on investment and action to reduce discharges from our storm overflows whilst continuing to reduce pollution. This document summarises those plans – providing context to our current performance, how we’ve developed and prioritised our investment programme and the outputs we will deliver to 2030 and beyond. We’re also sharing what we have heard from the customers and stakeholders that we have engaged and who have helped us shape our plans over the last 18 months.

Our plan at a glance

Achieved	Our focus	Key outcomes
By 2025	Reduce discharges at the ‘high spillers’ and reduce the overall average spill frequency.	<ul style="list-style-type: none"> Accelerate investment at 15 storm overflows from the period 2025-2030 to deliver outcomes by 2025
By 2030	Focussed investment at Bathing Waters, Coastal Waters to align with customer and stakeholder priorities for the coastal community.	<ul style="list-style-type: none"> 6 out of 10 storm overflows will not spill more than 10 times each year and this will include at all of our beaches All bathing waters and shellfish waters overflows will meet new stringent standards of no more than 10 spills per year by 2030
By 2035	Finalise improvements at overflows that discharge to ecologically sensitive waters.	<ul style="list-style-type: none"> 8 out of 10 storm overflows will not spill more than 10 times each year All requirements at ecologically sensitive waters met – ahead of Government targets
By 2040	Finalise remaining improvements at overflows discharging to inland waters.	<ul style="list-style-type: none"> 100% of storm overflows will meet new stringent standards – a full decade ahead of government targets
By 2045	Maintain and continuously improve, keep track with latest scientific evidence on risks to coastal waters, rivers and the impact of climate change and development.	<ul style="list-style-type: none"> Ensure 100% of overflows are fitted with screens that prevent sewage litter to waterways Successful conclusion of our storm programme well ahead of all Government targets.



About our region

The South West is well known for its scenic and varied landscape and each year our population grows to 10 million as visitors come to enjoy our beaches, coastline and areas of outstanding natural beauty.

We operate in a Peninsula surrounded by the Atlantic Ocean. Over many generations, the region's culture and economy has been shaped by the Atlantic Ocean – fishing, tourism, and recreation are all supported by this maritime region.

Across 860 miles of coastline, we have 151 bathing beaches – 36% of the total in England – with 30 shellfish waters and 23 Blue Flag beaches. The South West is the nation's most popular tourist destination outside of London and our population grows to 10 million across Devon and Cornwall as we welcome visitors from the UK and beyond.

The region sits on top of a large mass of granite rock which creates hills and valleys stretching from Dartmoor to the Isles of Scilly. This geology supports important wildlife habitats across four National Parks and ten Areas of Outstanding Natural Beauty and is the backdrop to a thriving agricultural industry, that is important to the region. Granite is impermeable to rainwater which can flow over the landscapes quicker in our region, increasing the likelihood of flooding, pollution and potentially triggering storm overflows in periods of heavy rain.

36%
of all the designated
Bathing Waters in
England

10
Areas of Outstanding
Natural Beauty

4,890 km
of rivers

4 national parks

Tamar (exc wider
Plymouth)

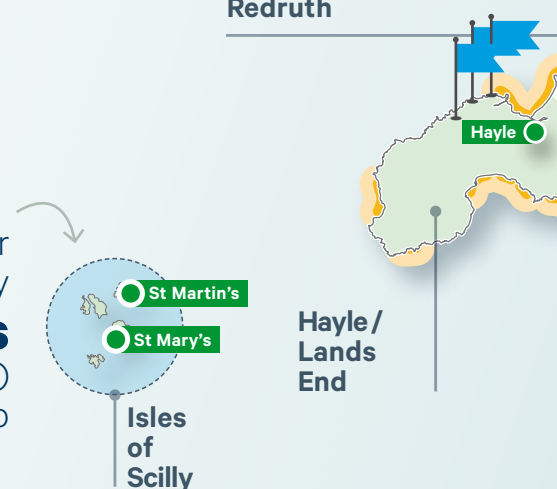
**Newquay /
St Columb**

**Camborne /
Redruth**

**Hayle /
Lands
End**



We provide wastewater services to approximately **2,200 residents** (just over 1,000 customers) on St Mary's and Tresco



-  Blue Flag beaches
-  Shellfish Waters
-  Bathing Waters
-  Wastewater treatment works

c.1.8 million
resident population equivalent
(over 700,000 customers)

up to
10 million
visitors to our area each year

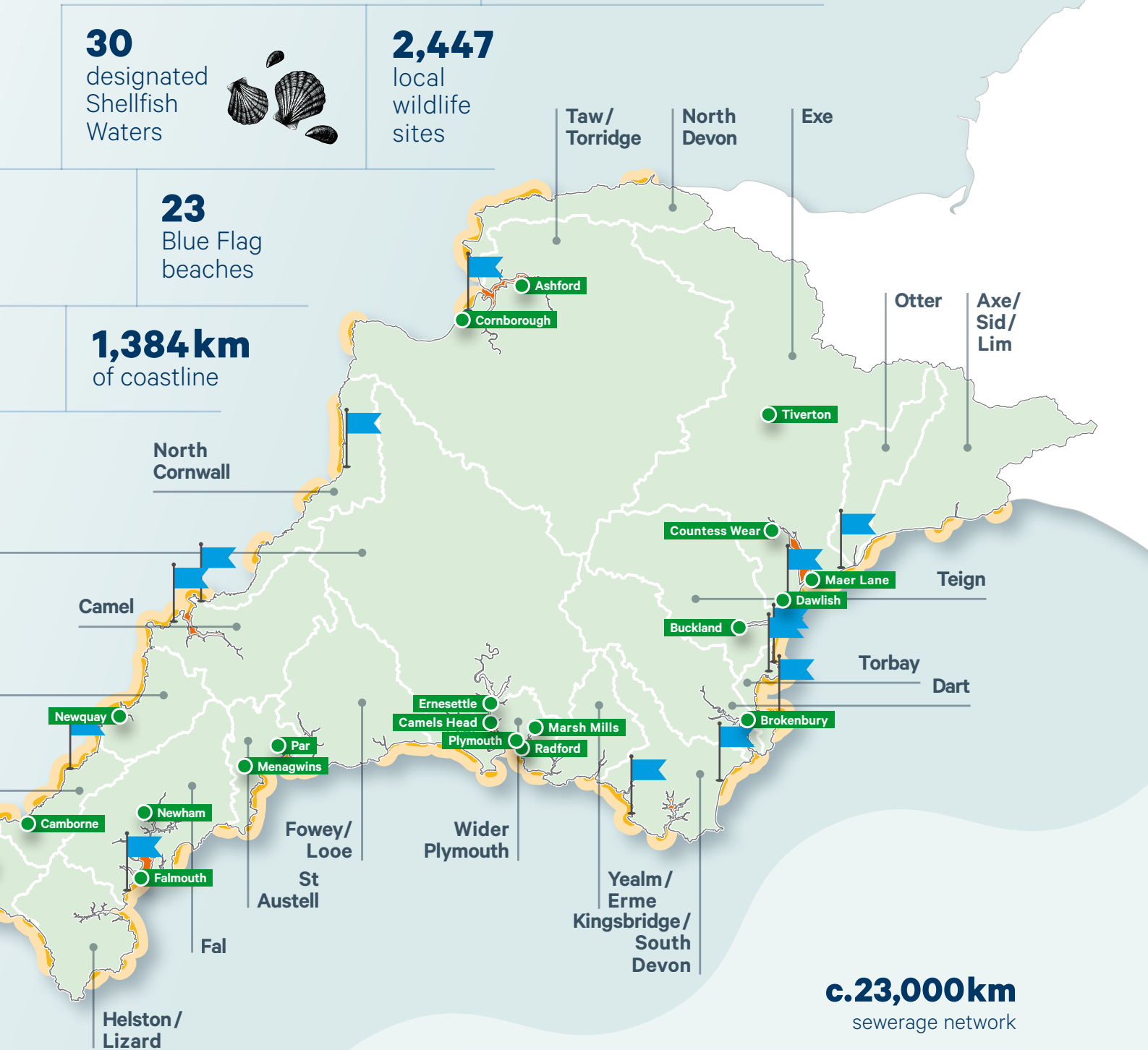
30
designated
Shellfish
Waters



2,447
local
wildlife
sites

23
Blue Flag
beaches

1,384 km
of coastline



c.23,000km
sewerage network

**1,223 wastewater
pumping stations**

– to move wastewater through our
network and on to treatment works

**655 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

Our unique role

Our role is to manage a water recycling system across the region. We take in wastewater from homes, businesses and roads, we treat it to make it safe for all, and we return it to the environment where it travels to the sea and the cycle repeats. This includes the water that we rely on and use every day – but also the rainwater that falls on roofs and roads that has nowhere else to go.

The economy of the South West is the size of Greater Manchester and as one of the largest employers in the region, we recognise that what we do and how we do it really matters. The decisions that we make can have a big impact on communities and the economy.

We manage wastewater services across 23,000km of sewers and 655 wastewater treatment works – this is a very large number of works for a relatively small number of people – reflecting how widespread and dispersed our population is and the need for services in remote locations.

Many of our treatment works and networks were installed in the last 30 years. In the 1990s we built hundreds of new treatment works, closed sea outfalls, and upgraded sewers. Until then, sewage was routinely dumped untreated to rivers and seas and less than 40% of sewage was subject to any treatment – and as a result only 28% of coastal bathing waters passed water quality tests. Over the last 30 years we have put an end to the routine dumping of untreated sewage to beaches and into rivers, investing to successfully remove sewage and rainfall away from homes and businesses and treat this to a high standard before being returned to the environment.

Today, all homes and businesses are served by one of our 655 treatment works, with the resulting biosolids being used by the farming community as fertiliser. The benefits are that today rivers and seas are cleaner, 100% of bathing waters meet all stringent standards, the South West has some of the best beaches in the UK and Europe making it a popular destination.

A changing environment

The rural nature of the landscape and coastal peninsula means we have a challenging sewer network to manage – with many treatment works, a large surface area, long coastline and long lengths of rivers in the region. Many rural communities – especially in the more isolated central parts of Devon and Cornwall – are served by short sewer networks with limited capacity and very small treatment facilities. The proximity of communities and therefore our assets to waterways means that we have to move fast to prevent a pollution incident when things go wrong.

We have seen a 20% increase in the population in the region in the last 30 years. Alongside this, there has been a 50% increase in tourism and an uplift of 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. These cause havoc in our drainage systems, especially when they mix with fats and greases to form solid rock-like formations called “fatbergs”. These create numerous blockages a year, each of which in turn can cause pollution and flooding incidents.

With the pandemic, we saw a shift in the number of people wanting to live and work in the region. And looking ahead, we can expect an additional 242,000 people will be living in Devon and Cornwall by 2050, adding to the 1.8 million customers for whom we provide wastewater services. As the residential population grows, there are more houses, driveways and roads – which will mean more water that we need to take away from homes and businesses.

The region is also vulnerable to the impacts of climate change given the 860 miles of coastline and adjacency to the Atlantic Ocean. Many of our assets are situated in low-lying coastal locations, meaning that increasingly volatile weather, severe rainfall events, sea level rises and coastal erosion all have the potential to impact on our operations and services.

As we look to continue our role of collecting and recycling water – the key challenges we face have the potential to disrupt the recycling processes we have in place, impacting on drainage and treatment and causing flooding and pollution. Our plans will help to protect the region from these impacts.



Working with the water cycle

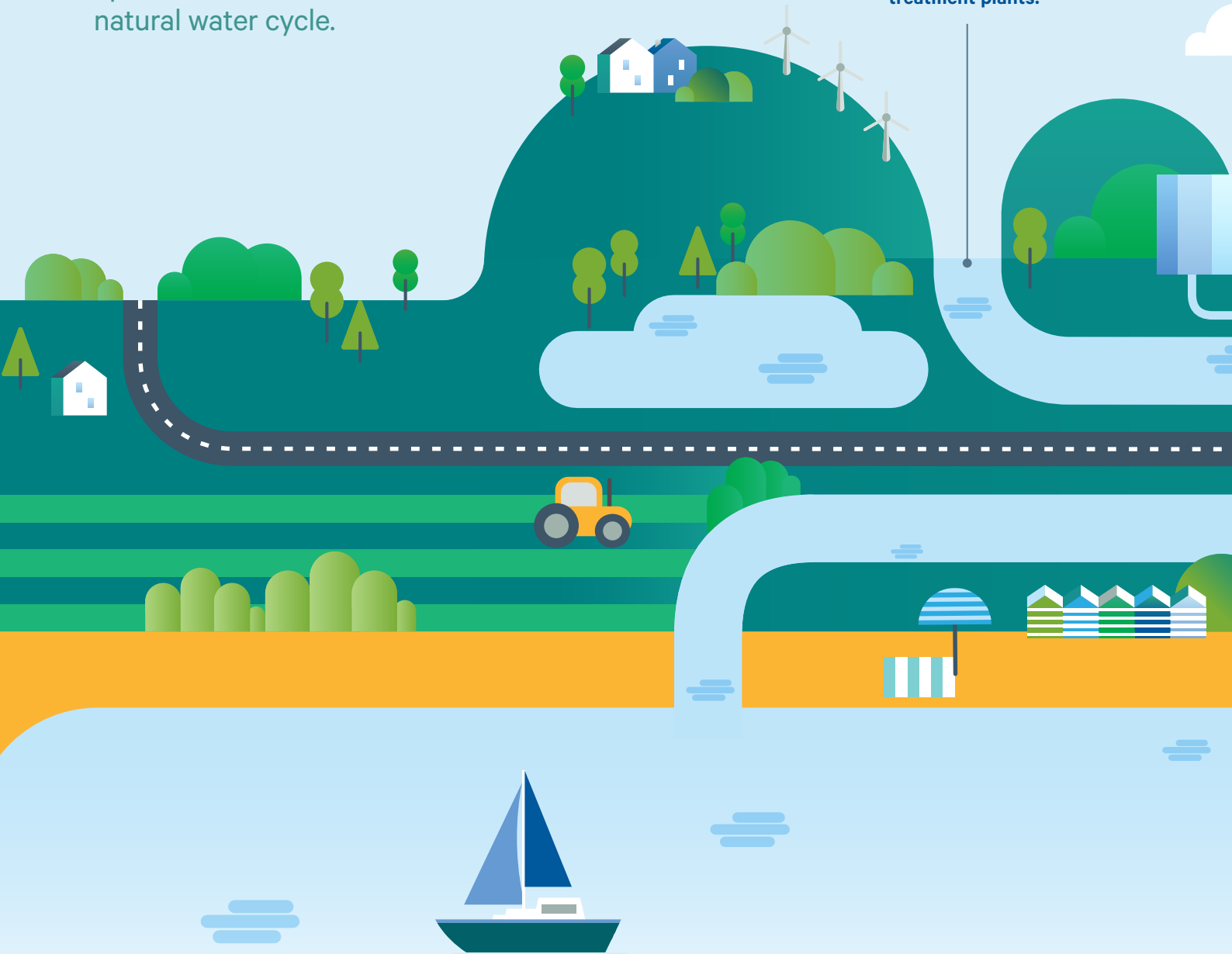
We are a large regionally-focused business – our operations are integral to delivering services and benefits to our customers, stakeholders, the environment and the wider economy. We are dependent on the natural environment at all stages of operations, which mirror the natural water cycle.

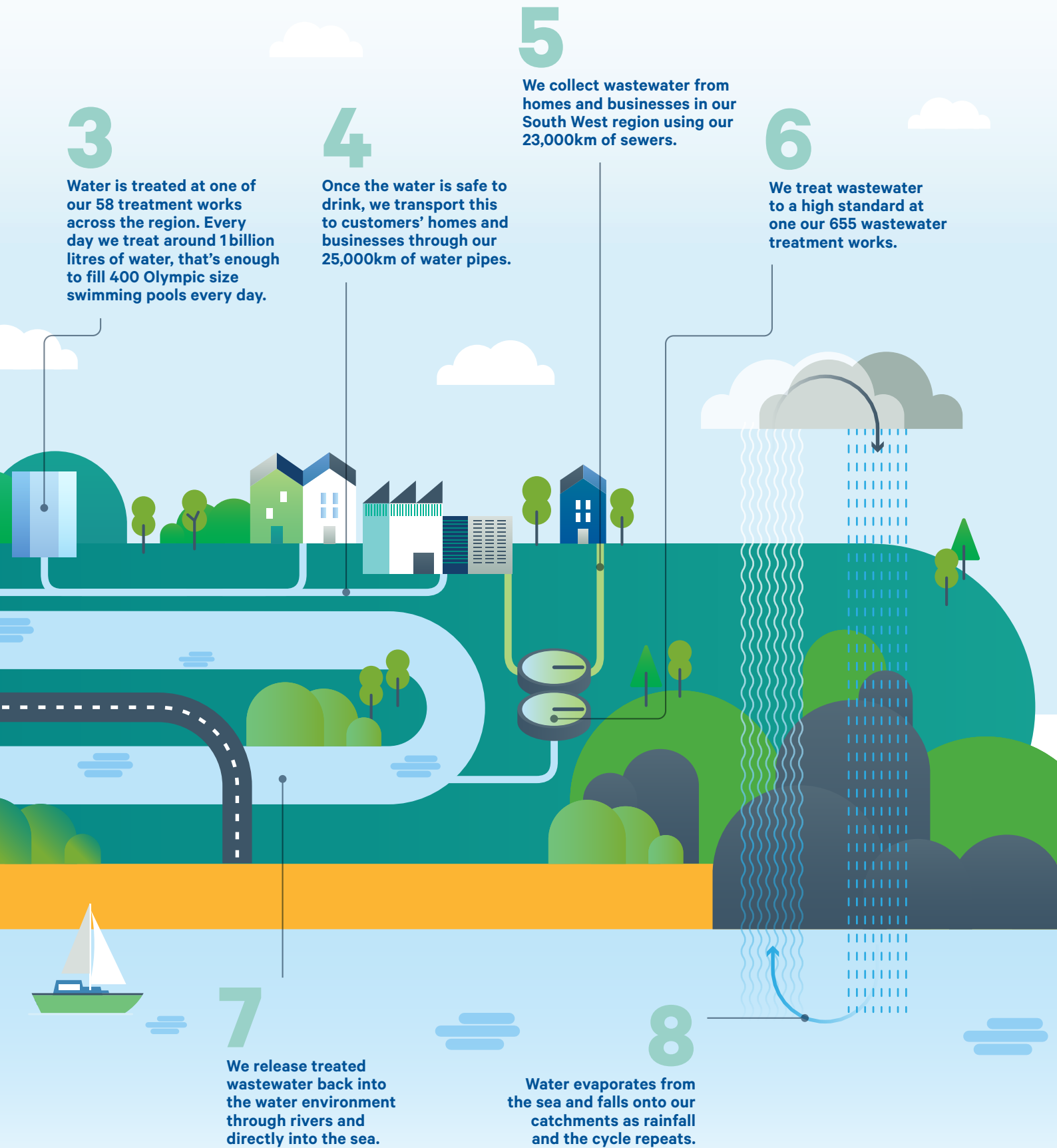
1

In our catchments we take water from rivers and groundwater sources which we store in 32 reservoirs. We also use desalination to supply customers in the Isles of Scilly.

2

Our operations play a vital part in maintaining the level of river flows – from the level of water we release from our reservoirs into rivers, to the level we abstract and take to our treatment plants.





3

Water is treated at one of our 58 treatment works across the region. Every day we treat around 1 billion litres of water, that's enough to fill 400 Olympic size swimming pools every day.

4

Once the water is safe to drink, we transport this to customers' homes and businesses through our 25,000km of water pipes.

5

We collect wastewater from homes and businesses in our South West region using our 23,000km of sewers.

6

We treat wastewater to a high standard at one of our 655 wastewater treatment works.

7

We release treated wastewater back into the water environment through rivers and directly into the sea.

8

Water evaporates from the sea and falls onto our catchments as rainfall and the cycle repeats.

Making progress with our current plans

The South West is well known for its natural beauty and scenic coastline and this attracts millions of tourists each year.

Given the nature of the region, the people who live, work and visit here care deeply about our environment, beaches and water quality. As a responsible business and custodians of the water recycling system we have a role to play in making sure that as we take in wastewater and rainfall and treat it to make it safe, we meet the needs of our customers and communities.

We know how important maintaining excellent bathing water quality is to our residents, visitors and our environment, supporting tourism and well-being. Currently 100% of bathing waters meet the stringent quality standards as tested for in the bathing season – May to September each year. We want to go further to ensure the quality of the water on our beaches is excellent all year round. In our current plans we are prioritising reductions in discharges at coastal bathing waters, investing in additional storage and improvements to our wastewater treatment works and pumping stations.

One of the tools that we use to 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 Ecological Status' (RNAGS)**. All rivers are assessed for their ecological status, and all of those that do not achieve at least 'Good' status, must have a reason why, attributed back to the industry or activity responsible. Our operations as a whole, across water supply and treatment, as well as wastewater collection, treatment and disposal, accounts for 12.6% of the RNAGS listed by the Environment Agency. We set ourselves the target to reduce our impact to less than 12% by the end of 2025 – and we are on track to meet this target having started at 19% in 2019.

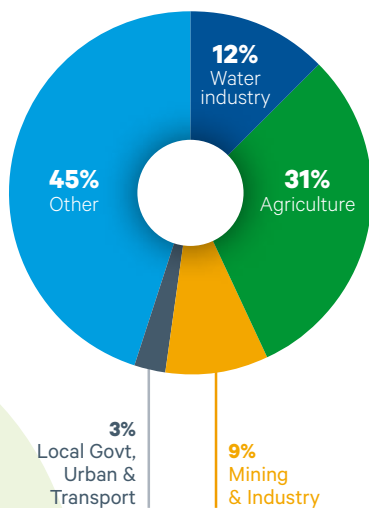
It's not just about building new assets, we're also building on our strong relationships developed through our Upstream Thinking catchment management initiative as we look to protect rivers and boost biodiversity.

We know that an effective way to protect river health is to reduce the number and frequency of storm overflow discharges, whilst also delivering catchment management with the farming community to manage soil erosion in the catchment and to improve land drainage.

We are investing in our innovative Upstream Thinking programme and peatland restoration programme to protect the region's rivers and seas from urban and agricultural run-off. To date, over 110,000 hectares of land has been managed differently to reduce fertiliser and slurry runoff into rivers.

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

Cycle 3 (August 2022)
RNAG summary



Source: Environment Agency

Our plans to 2025 – WaterFit25

We want everyone in the South West to feel confident about the water at their favourite beach, or river. We want them to know we are serious about reducing pollution incidents, our impact on water quality and the use of storm overflows, which have become a striking symbol of unacceptable practices in the water industry.

That’s why last year we launched WaterFit, our strategic and long-term programme to protect rivers and seas. WaterFit outlines how we will protect and enhance our precious water environment, working with partners, customers, visitors and local communities so that we all play our part.

A hugely important part of WaterFit centres around our plans for storm overflows and pollution as we look to deliver for the region.

Accelerating investment

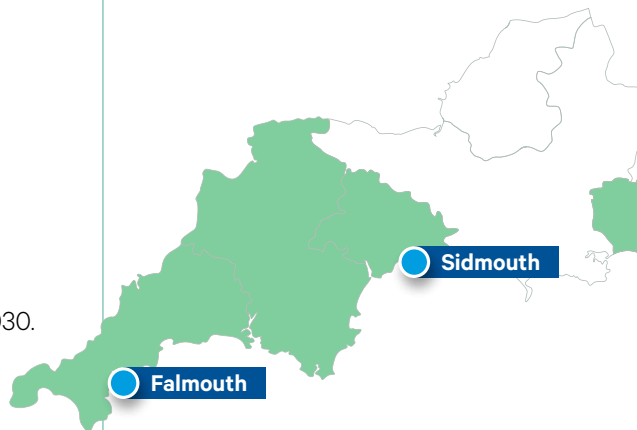
After discussions with our regulators and the communities we serve – we have agreed to accelerate £173m of future investment to be delivered by 2030. This includes £26m of investment to accelerate tackling another 15 storm overflows in the Falmouth and Sidmouth catchments. These schemes will include a reduction in spill frequency of around 330 discharges per year across the 15 storm overflows and deliver early on our future plans.

We are making progress against our WaterFit commitments and these are just the start of the investment and activities we will carry out by 2030. Our focus areas for WaterFit to 2025 are:

- Ensuring that the monitoring devices overflows (EDMs) are always working, noting the hostile nature these assets can exist in, so we can use them to guide our efforts.
- Maintaining our overflows to ensure those that are already meeting Government targets continue to perform effectively.
- Reducing the discharges at our worst spilling sites through operational improvements and increased maintenance – with most of our high spilling locations stemming from small rural works in remote locations.
- Implementing nearly 100 capital interventions that will be complete by 2025, investing in storage and to keep surface water out of sewers – including investing at 49 beaches that are popular with visitors and local communities.
- Progressing Dart and Tavy inland bathing water pilots, we are ensuring everyone has access to high quality water wherever they live in the region.

WaterFit is our plan that will help us meet our ambition to maintain 100% bathing water quality all year round, reduce our impact on rivers, reduce the frequency of overflows, and give customers and visitors to the region near real time information about storm overflow operations and the investments we are making.

Our solutions include enhanced maintenance and operational activities, building storage, building greater capacity in our network and at works, separating surface water, using nature-based solutions to increase natural drainage.



Find out more here



WaterFit – our plan for healthy rivers and seas

We have **1,342 overflows** in the region – that is one every 17km of sewer

Part of our planned investment and activities which will **maintain 100% bathing water**

In 2023, **one third of the UK's Blue Flag beaches are in the South West**. Blue Flag is an international award presented to beaches that are well managed and have excellent bathing water quality

The progress we are making – at a glance

We are making progress with WaterFit:

100% of storm overflows monitored

100% of our bathing waters achieving Government water quality standards for the second year running – up from 28% in 1991

509 of our overflows operate in line with Government targets of no more than 10 spills each year

The number of discharges reduced from an average of 39 per site in 2021 to 28 in 2022 – partly as a result of low rainfall and also because of 50 investment interventions

Pollution incidents at our lowest ever level – with a 50% reduction in two years

WaterFit Live launched, giving customers and visitors up to date information on storm overflow discharges and planned investment.

Monitoring our storm overflows

Over the last two years we have been installing new technology and monitoring devices – Event Duration Monitors (EDMs) – from which we have learned much more about the performance of our network and its limitations. This has shown that storm overflows have been used too much, a source of frustration for customers, politicians, regulators, policy makers, the media and our stakeholders.

With 100% monitoring of storm overflows now in place, a year ahead of plan, we have launched WaterFit Live, giving customers and visitors live information about the region's bathing beaches, storm overflows as well as the detailed investments we are making to reduce overflow discharges across the region's coastline by 2025, with 49 beaches prioritised.

As we continue to deliver our investment, we remain resolute in ensuring that everyone who lives in or visits the South West can have confidence in our rivers and seas.

Each day over 200,000 wet wipes find their way into our system. 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.



Case study

Inland bathing water pilot on the Dart and Tavy rivers

The South West is already home to 151 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, and 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.



Reducing the risk of pollution incidents

The majority of the investment in our AMP8 plan is focussed on reducing discharges from storm overflows because whilst they are licensed discharges, they still affect water quality.

However, in addition to the impact of storm overflows there is also an underlying risk of Environment Agency classified pollution incidents. Pollution incidents occur when things go wrong across our asset base and when this happens it impacts water quality in rivers and on our beaches. They can occur due to failures on our network, from pumping stations, treatment works and storm overflows.

So, at the same time as we address discharges from storm overflows, we will put even more focus on getting the basics right by maintaining, operating and investing in our underlying infrastructure.

Environment Agency pollution classifications

Incidents are categorised by the Environment Agency based on the severity of their impact on the water environment and people and there are 3 categories of incidents.

Category 1 incidents – have the most serious, extensive or persistent impact on the environment, people or property and may, for example result in a large number of fish deaths.

Category 2 incidents – either has a lesser but still significant impact on water quality; or has a reduction in amenity value at recreational sites, such as bathing beaches.

Category 3 incidents – have a minor or minimal impact on the environment, people or property with only a limited or localised effect on water quality.

Pollution incident reduction – our plan from today to 2030

Improving performance is about more than just building new assets; over the next five years we'll be improving the way we operate and maintain our sewer network to drive reductions in the risk of pollution incidents occurring. Our work will include using our asset performance data to target interventions, sewer cleansing to remove and prevent blockages and working with communities and businesses to reduce unsuitable products entering our sewerage network. We're also continuing to maintain our sewage pumping stations to reduce the risk of our assets failing and causing issues and we're also increasing capacities at our wastewater treatment works to handle larger flows.

We know that 70% of incidents are caused by network blockages, structural failures, plant and control failures and our network being overloaded by high flows. Our Pollution Improvement Plan is based on addressing these root causes on the assets that cause them.

How are we doing?

We know that pollution incidents are unacceptable, and this is an area of our performance that we're focussed on improving.

In the last 5 years we have had no Category 1 incidents and our total pollution incidents have halved– but we know every pollution incident is one too many. In 2022/23 we have replaced 18 rising mains, installed 1,700 sewer depth monitors and invested at 50 hotspot locations.

By 2025 we're targeting a 4* EPA rating, delivering an 80% reduction in pollution incidents across the investment period.

In 2023 the rate of improvement has slowed but our Pollution Incident Reduction Plan is in place to accelerate our performance improvement and by 2025 we will have delivered a 75% reduction in pollution incidents.

Alongside our own assets, third parties also have an impact on how our network operates and so it's critical that we also work with our communities and business customers to eliminate these causes of pollution such as wet wipes, fats, oils and greases in the sewers.

When incidents such as blockages or failures in our asset base occur, we undertake rigorous root cause analysis of each event, tracking both incidents and near misses.

Understanding asset performance

We're dramatically increasing the visibility we have of our sewer network, installing 9,000 sewer level monitors by the end of 2023 and 20,000 by the end of 2024. We're combining this data with a trial of 245 monitors on our storm overflows and pressure and flow meters on our rising mains. We know that key to reducing pollution incidents is early warning and the visibility that these monitors will provide is the first step in significantly improving our performance in this area. The data we collect will identify rising main burst risk and using a data integration system, rapid, intelligent processing of multiple data sources will support quick decision making and interventions. Since the sensors were installed in late 2022, we've already prevented 42 pollution incidents.

Maintenance improvements

Operationally we've doubled the amount of planned maintenance we're carrying out across our network and sewage pumping stations. By routinely jetting our sewers we reduce the risk of them blocking which eventually can lead to pollution incidents or discharges at overflows.

Capital investment

Rising mains, which are pumped sewers, have been a particular area of focus for us and we're investing in replacing rising mains at 37 sites together with small and medium size infrastructure improvements at 91 hotspot sites, spending £19m to improve performance by 2025.

By 2025 we will have the lowest absolute level of pollution incidents across the sector, but we won't stop there. One of our challenges is what goes into our network, so we'll be working more closely with communities to prevent sewer misuse.

Our plans for AMP8

We will build on our AMP7 activity and undertake renewal and rehabilitation of our network to increase the reliability and resilience of our sewerage assets to deliver an improvement in our pollution performance.

Our pollution plan from 2025-2030 is focussed on our £761m storm overflow programme but in addition we will be funding £305m of capital maintenance investment:

£154m in maintaining our wastewater treatment works and bioresources assets and meeting the challenges of supply-demand.

£104m in rehabilitation and replacement of our gravity and pumped sewerage network assets.

£37m to increase the resilience and reliability of our sewage pumping stations.

£10m to address localised sewer flooding issues through increasing capacity or separating surface water.

This investment is vital to make sure that improvement delivered over this Asset Management Period is sustained for the future and that emerging risks are dealt with rapidly.

Polperro jetting



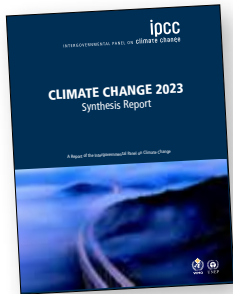


The trends and challenges we're responding to

The environment we operate in is changing rapidly and there's a lot we need to do to meet these challenges.

By 2025 we will have reduced storm overflow spills from 39 discharges on average to 20 spills on average across the region. This will be a strong platform for our future plans.

We will need to deliver another step change from 2025 as we look to meet new targets and address new challenges. We know that doing nothing is not an option. The current system is not acceptable to customers and stakeholders, it is not robust enough to meet the challenges of the future and does not align with new legal targets that begin in 2025. Customers and stakeholders support a step change in plans – recognising the value of beaches and the environment to the region.



Climate change

Our climate is changing at an alarming rate. In the space of 30 years overall temperatures are up 1°C, with summers up to 6°C hotter and 60% drier and rainfall intensity up 20%. Reflecting that, the drought of 2022 saw the hottest, driest summer on record. In March 2023 the Intergovernmental Panel on Climate Change predicted that at current rates, the world could face 1.5°C temperature rise by the beginning of the 2030s – making extreme weather events such as drought, storms and cold snaps increase in frequency and strength much sooner than we ever expected.

The impact of climate change is here now, and we need to both adapt to these changes and mitigate them where we're able. The risks from climate change in the South West are:

- Extreme heat, increasing droughts – increasing the demand for whilst reducing the availability of high quality fresh water
- Changes in rainfall patterns
- More frequent extreme weather events such as storms, floods and prolonged cold snaps
- Coastal flooding, sea level rises and erosion
- Harm to the natural environment and biodiversity.

Many of our assets are situated in low-lying coastal locations, meaning that increasingly volatile weather, severe rainfall events, sea level rises and coastal erosion all have the potential to have a significant impact on our operations and services. As we look to continue our role of collecting and recycling water – climate change will disrupt this recycling process, impacting on drainage and treatment and causing flooding and pollution.

A growing population

By 2050 we can expect an additional 242,000 people will be living in the region served by our wastewater assets by 2050, adding to the 1.8m customers for whom we already provide wastewater services. As the residential population grows, there are more houses, driveways and roads that we will need to connect to our infrastructure without harming the environment. 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. This means more water that we need to take away from homes and businesses, and ever more threats for our assets to cope with.

Our network doesn't just deal with wastewater from homes and businesses; developers, highways and local authorities all have the unconditional right to connect to our network and those connections increase the amount of road and surface run off that enters our system.



New Government standards

In the last 30 years, over £8 billion of investment has enhanced wastewater infrastructure across the South West, benefitting customers and communities now and for generations to come. But there is more to do as infrastructure continues to form the backbone of a successful modern economy. The government has set out ambitious goals for the economy and environment, putting infrastructure at the heart of its plans and we are responding to these raised standards.

Our plans will meet the requirements set out in the Environment Agency WISER¹ (Water Industry Strategic Environmental Requirements), including the priorities to deliver improvements and investigations via the Water Industry National Environment Programme (WINEP) to:

- **Bathing waters** – reduce the frequency and volume of sewage discharges from storm overflows to contribute to the improvement of bathing water planning classifications
- **Shellfish waters** – reduce the frequency and volume of sewage discharges from storm overflows to contribute to the improvement of shellfish water quality
- **Environment Act** – reduce the frequency and volume of sewage discharges from storm overflows in line with the Storm Overflow Discharge Reduction Plan.

Dealing with the challenges we face

The challenges that we are facing today are already bigger and more uncertain than anything before. Some of the challenges will present us with risks that we need to respond and adapt to through all stages of the water cycle. There are also opportunities for us to grab, including providing excellent customer experiences and outcomes to rebuild trust and legitimacy through rapidly evolving technology and ways of working.

In meeting these challenges we have prioritised in areas that are environmentally sensitive and close to bathing beaches and shellfisheries first. This is what our customers and stakeholders have told us is most important to them and will maximise the benefits of early investment to our customers, communities and the environment.

The Storm Overflow Discharge Reduction Plan (SODRP)

The Government's SODRP sets out targets for the water industry over the next 25 years.

Storm overflow requirements	Required completion date				
	2030	2035	2040	2045	2050
Investigations to ensure no local adverse ecological impact by April 2027	100%				
No local adverse ecological impact – Shellfish Waters	100%				
No local adverse ecological impact – overflows discharging in or close to high priority sites	38%	75%	87%	100%	
No local adverse ecological impact – all overflows					100%
Storm overflows that spill to designated bathing waters	Variable	100%			
Storm overflows do not discharge above an average of 10 rainfall events per year	14%	28%	52%	76%	100%
Ensure all storm overflows have screening controls		At point of investment			100%

¹ Water industry strategic environmental requirements (WISER) – GOV.UK (www.gov.uk)



What matters to customers and communities?

We're focussed on delivering for the customers and communities that we serve. Whilst our performance is improving, we know there is more that we need to do to improve river and bathing water quality the whole year round. Listening carefully has helped us to develop plans for the region that will deliver the benefits we know matter to our customers and stakeholders.

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.

Our PR24 customer and stakeholder engagement has been our most extensive programme yet. Building on the research carried out at PR19, we have proactively

engaged with 30,000 customers and over 1,000 stakeholders over the last 18 months, using a range of tools, to build our understanding of customers' and stakeholders' priorities and gain insight for our business plan.



How we engage

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

Customer surveys, focus groups and workshops, and our customer forum

Social media, customer contact and sentiment tracking

Stakeholder events – including our multiple-stakeholder Stakeholder Forum

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 PR24 DWMP plan

Community events – out and about in our communities every day.

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 regularly attend community events as well, such as local parish and council meetings. These provide incredibly valuable insight into local community needs.

Our WaterShare+ Customer Advisory 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.

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 research has been developed and delivered by experts in market research, customer engagement and the water sector to ensure it is usable and actionable, conducted in line with market research standards as well as Ofwat tests. It has had independent oversight, through our WaterShare+ Customer Advisory Panel as well as external assurance partners, meaning it can be used with confidence.

We are also grateful to our stakeholders who join our regular “Let’s talk Water” stakeholder forum and who participated in our workshops in December 2022 which focused on wastewater management issues, including storm overflows.

WaterShare+

7 in 10
customers believe the
water in their local
environment is good

Our customers tell us...

We know customers want high quality water – from the water they drink to the water they swim in at a favourite beach.

Customers' number one priority is to continue to receive a clean, safe secure supply of water and increasingly we hear that protecting and restoring nature and the environment are also important to customers.

Many customers are satisfied with the service they receive but want to see progression every year, some customers look forward and worry about what is the future and want to see bigger change. Some worry about the health of their family and if they can continue to swim in their favourite river or beach, or worry about the environment and how ready we are for the impacts of climate change and population growth. And a key worry is finances, and what will happen to bills and their ability to afford their water bill as we invest more in the future.

Customers recognise that we have a key role in the water environment – and they look to us to make sure they can enjoy their favourite beach all year around. Customers want to be able to safely swim, bathe and paddle in clean bathing waters, rivers and lakes across the region, so, they are concerned to hear about pollution and storm overflows.

Many of our customers' top priorities centre around overflows, pollution and the water environment – we know how important this is for our region and our communities.

Prevent pollution

Pollution is a broad umbrella term for customers, covering wastewater and environmental performance. It's also a growing area of importance for customers – and customers are concerned to hear we are falling behind on our current pollution targets.

Bathing and shellfish waters

With 36% of England's bathing beaches and 80% of those visiting the region coming specifically to enjoy the coastline, unsurprisingly, beaches are seen as an essential priority for us. Stakeholders also recognise the need for high quality bathing water, noting the impacts on the tourism industry and natural environment.

River health

7 in 10 customers believe the water in their local area is good, but that overall water quality across the region must be poor given the widespread media coverage that only 14% of rivers nationally meet good ecological status, and rivers and seas are routinely reported to be impacted by sewage and pollution runoff.

There is considerable surprise among customers when they learn that our water operations are only responsible for 12.6% of the reasons that rivers do not make good ecological status in our region (RNAGs).

“Most of my local areas and bathing waters are areas of natural beauty. I appreciate how lucky we are to have access to this – and a large part of our income is supported by tourism and travel to view these destinations. All spills should aim for zero.”

Female, aged 18-45

Storm overflows

Customers think storm overflows are being used too often – although they see the target of 10 spills as arbitrary. Storm overflows that impact bathing waters are considered to be the highest priority and highest value to address as they have public health impacts. This is an area that stakeholders also support investment, with the clear desire to see storm overflow issues addressed, but where storm overflows are not impacting human or environmental health, these are a lower priority than our other statutory duties.

The prevailing view among customers is that reducing sewage to the environment – whether through reductions in pollution or discharges from overflows – is an area where we need to improve and work with urgency as there is a perception that the problem will get worse if not addressed with the onset of climate change and population growth.

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, with a focus on beaches first.



Clean, safe water supply **1**



Prevent pollution **2**



Protect bathing waters **3**

4 Prevent sewer flooding

5 Boost nature & wildlife

6 Reduce leakage

7 Resilience to extreme weather

8 Protect rivers

9 Less reliance on storm overflows

10 Excellent customer service & responsiveness

91%

of customers tell us that they want us to invest further in beaches and bathing waters across the region

74%

customers find our overall business plan to be acceptable

93%

customers agree with our proposals for storm overflows

And with customers acutely aware of the high levels of growth and tourism in the industry – that adds to the impacts of climate change – we know that doing nothing is not an option.

Overall customers tell us that they are willing to pay more each month to get even cleaner beaches and a healthier environment. We have seen the willingness to pay for environmental improvements treble in the last five years, and whilst some customers say that they are concerned about affordability, one third of customers are willing to pay over £200 a year more for environmental improvements. As we invest, customers expect that we will provide support for homes and continue to ensure affordable bills for us – allowing important investment to proceed.

Our stakeholders tell us...

Stakeholders are well informed about many of the future challenges we face.

We have had strong support from stakeholders for our commitments on coastal bathing water and reducing discharges from storm overflows. 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. This approach also has the potential for attracting public and private funds, potentially reducing future pressures on customer bills.

Stakeholders 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 stakeholders understand how important it is for our plans 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. 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.

“There is a network of antiquated towns and historic villages which weren’t set up for the booming house building that’s been going on.”

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



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

**SWW customer, Female,
SEG DE, Aged 31-35**

Our Stakeholder Forum

We established a Stakeholder Engagement Forum that ensures awareness and engagement of stakeholders interested in the development of our strategic plans. It 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 our plans, we have held bespoke online workshops to review our storm overflow plans, to consider the challenges we face and debate the scale of investment required, the range of potential solutions and the desired pace of change.

In addition, we have also raised our plans as agenda items with many external forums and partnerships, these include Local Flood Risk Management Committees, Local Nature Partnerships, Catchment Partnerships. 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.

We have 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. And we look forward to continuing to work with these partners as we delivering collaborative and nature-based solutions together.

"We welcome this much needed and overdue investment in the storm overflow network and approve of the Green First Framework to prioritise nature based solutions as these provide multiple benefits building both broader resilience as well as sequestering carbon. Whilst this investment is a great step forwards it cannot be done in isolation and attention is needed to ensure this is just part of a wider landscape scale initiative to manage water resources, flooding, pollution and biodiversity loss as part of an Integrated Catchment Management approach."

Laurence Cauldrick, Chief Executive, Westcountry Rivers Trust

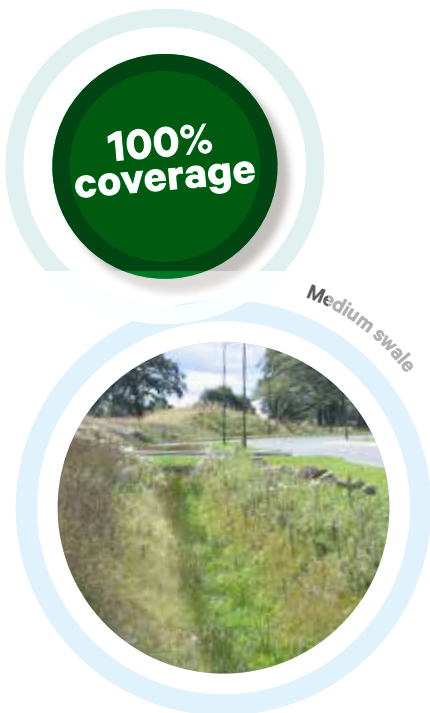
"Our beaches and rivers are some of the core ingredients that make our region attractive to visitors and residents alike. Doing everything we can to protect water quality by reducing spills from storm overflows is vital to our reputation, a reputation upon which many businesses and individuals rely for their livelihoods. It is also essential for maintaining the health and wellbeing benefits that come from being in a place like this. South West Water must move at pace to improve storm overflow performance and reduce their reliance on them."

Malcolm Bell, Executive Chair, Visit Cornwall

"We welcome that the company has prioritised statutory improvements to storm overflows to deliver improvements to river and bathing waters ahead of other areas – in line with customers wishes."

South West Water independent WaterShare+ Customer Advisory Panel

Our investment 2025-2030



We measure the levels, flows and pressures across our sewerage network proposals for storm overflows

We have developed an evidence-led plan, supported by customer views and using the latest data and insights to assess where we are today and what is the best way to address risks we face today and in the future.

This has been made possible due to the complete roll out of storm overflow monitoring, and with the experience that we have gained from our £2 billion Clean Sweep² programme and our WaterFit programmes. We have worked with experts including the Met Office and the University of Exeter and they have helped us to understand the current and future risks that we face – especially from climate change.

We have developed our storm overflow programme in close collaboration with our regulators, using data and sharing insights and engagement findings, to get the right mix of investments agreed for the next five years and beyond. We have worked with our regulators at each stage of the programme development, reviewing and challenging options, as we have worked to get the right plan for communities and the environment.

With customer views and legal requirements aligned, we have a plan that prioritises investment where it matters most.

We are targeting public health – with a focus on bathing beaches – that customers want to see quickly, and reducing discharges at our high priority sites that can cause ecological or recreational impacts.

We are putting the environment first, using nature-based (blue and green) solutions to help us reduce the volume of surface water entering our sewers and helping us to hold back the peaks of flow. We know this approach is important to our customers and we'll be working alongside many of our stakeholders to use their expertise to help us deliver these solutions.

Our plan is based on the progress we are making today

Every day we have 100's of operators and engineers working across our region to improve the performance of our assets, reduce the number of discharges and mitigate the risk of pollution.

We know that good information is vitally important so that our 24/7 control centre can direct colleagues to take timely action.

100% EDM coverage, 20,000 sewer level monitors, intelligence from our mobile sampling team, flow and pressure monitoring are just some of the tools that we use on a day to day basis.

² Clean Sweep (beachwise.org.uk)

We have prioritised our programme

As we look to invest from 2025, we have assessed each of our 1,342 storm discharges to understand the risk now and in the future, given climate change, population growth and urbanisation.

We know that:

509 have minimal discharges already and are in line with a target of 10 discharges per annum

49 overflows are being addressed in our WaterFit plans

786 (60%) currently have underlying performance and spill risk that is greater than the target of 10 and therefore are the focus of our future investment

- **120 are in high priority sensitive rivers**
- **187 bathing waters or shellfish waters**
- **479 are in other locations.**

In deciding where to focus our efforts, we need to respond to the needs of customers and communities – and make sure overflows at beaches and shellfish waters are as low as possible.

We also must meet our legal obligations. We are legally required to address at least 38% of storm overflows discharging in or close to high priority sites by 2030, 75% by 2035 and 100% by 2045. We also have mandatory locations to invest in for the bathing water and shellfish waters at 179 storm overflows – which can also be used to meet our requirements for Environment Act 2021. Other than these 179, there is choice as to where we invest in 2025-2030 as we look to meet the legal requirements set.

Where we are investing

Our investment will focus on 283 storm overflows in 84 catchments by 2030, building on the 509 sites that are already compliant with targets and operating effectively. This will allow us to tackle overflows at all bathing beaches whilst also enhancing the environment as we address the highest priority sites where the environment is at risk of potential harm from overflows.

By 2030 over 60% of storm overflows – including 100% at bathing waters and shellfish waters – will meet new stringent standards of no more than 10 spills per annum by 2030.

This will bring the average discharges per overflow each year down from 20 in 2024/25 to 17.5 in 2029/30.

We're investing right across Devon and Cornwall. Below we show our current investment to 2025 and what is planned to 2030.

With careful planning, we have prioritised what matters most:

→ **We will address discharges at all beaches and coastal locations by 2030 – this is very strongly supported by customers, who consider beaches to be the priority for our region. Visitors to the region consider the beaches to be the most important priority – with 8 in 10 saying visiting the coast and beaches is the top activity that they do when they come on holiday to the south west.**

→ **We will address the highest priority ecologically sensitive sites – working with our regulators to enhance to the environment.**

→ **We will rebuild trust through action – by working at pace we want to rebuild trust in our performance and motivations.**

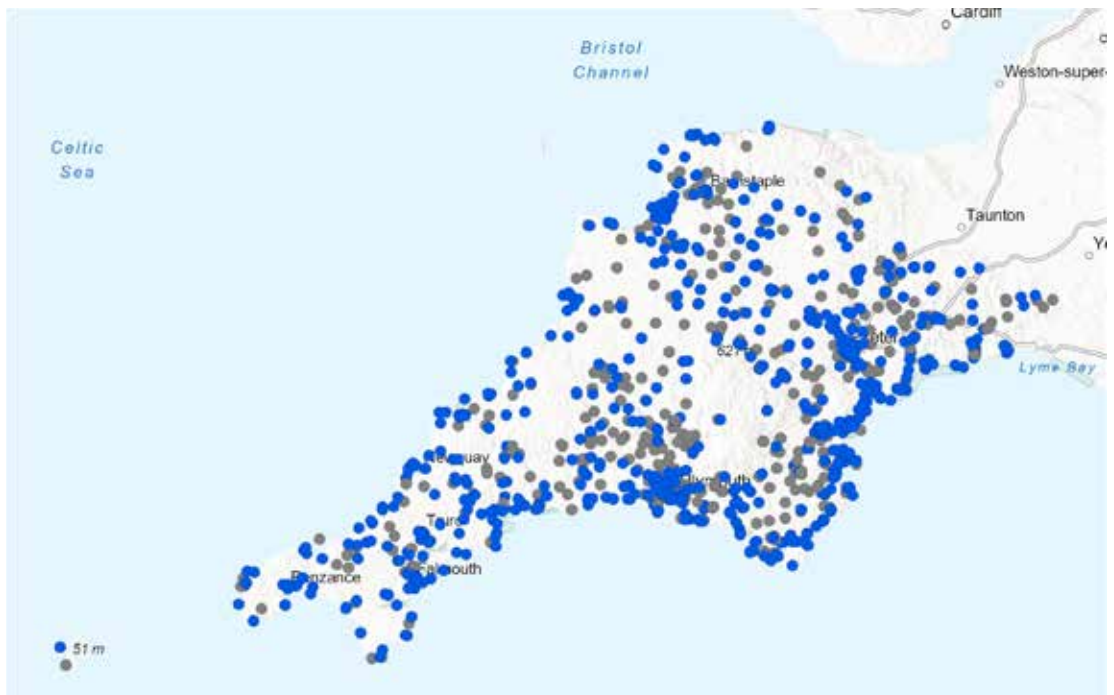
→ **We will deliver for the long term – as we build resilience we can better tackle the future onslaught of climate change and adapt to the future. With plans that align with long term legal targets and our strategic direction to 2050, we will invest wisely in the right assets at the right time.**

Sites meeting 2050 Government targets

2025



2030



2035



2040



How we'll deliver our plan



Centre for Resilience in Environment, Water and Waste



We are building on the expertise we gained through previous major programmes of coastal investment such as Clean Sweep and WaterFit recognising that the storm overflow programme is the largest single component of our business plan to 2030 and is both multifaceted and dispersed at many locations across the region.

With a programme of this scale, we have already made significant progress to ensure we are ready to deliver our outputs. We have mobilised our supply chain and we specifically recognise that we need to improve our capability to deliver green and blue solutions. We have built on the success of our Upstream Thinking catchment management programme and are engaging partners with extensive experience in these types of solutions.

Our preparedness is further supported by our pioneering new research Centre for Resilience in Environment, Water and Waste (CREWW) established with the University of Exeter, where we are researching some of the most important challenges faced by the water sector and our customers today.

Our interventions

As we look to reduce discharges we have a twin track approach to investment

Blue /green solutions

These types of approaches work alongside natural processes to reduce the amount of rainwater entering our sewers and slowing the flow of water through the environment.

Green and blue solutions include creating ponds and raingardens to help rainwater soakaway into the landscape naturally and developing Sustainable Urban Drainage Schemes (SuDS) and wetlands. These solutions offer resilience to changing weather patterns and also boost nature which is incredibly important at a time when nature is in decline.

Grey solutions

These are more traditional engineering solutions which will either increase the capacity of the system by ensuring sewers and works can hold and process more load and by building storage in the network and at works that can hold rainwater and sewage until we can return it back to the environment safely. This is a solution that to some extent treats the symptom only, rather than the cause, and is not a long term sustainable solution to changing weather – but it can provide a quick and certain step change.

Working with nature

We know it is important to balance how we resolve urgent and high impact issues quickly and using green and blue solutions which typically take longer to deliver benefits. By 2030, 40% of our storm overflow investment will be in blue and green solutions and we'll build our capacity and capability over the next five years to deliver a greater proportion of these types of solutions in future investment periods.

We know that blue and green solutions are not always suitable, we'll need to blend our solutions to meet the needs of the environment and customers and to ensure that we strike the right balance between deliverability and affordability. Our approach will need us to work with specialist partners to deliver these types of schemes and we're already developing these relationships in our supply chain.

Working with customers and communities

Customers are a really important part of our plan to help us to deliver environmental improvements. We will be leading campaigns such as Love your Loo and Think Sink to reduce sewer blockages and the creation of fatbergs whilst also slowing the flow of water into drains.

Working in catchments

The mix of interventions that we need in each catchment will vary. Each catchment will need its own catchment plan to deliver. Our catchment plans are shown in the annex – we have 84 in total. These show the action we are taking now and in the future to address the risks in those highest priority catchments. By making these public, everyone can be confident that we have clear plans in place that they can understand.



Improved monitoring

We already have monitors on all of our storm overflow discharge points and we'll be installing additional monitors in rivers to be able to see the river water quality in near real time. This will boost the transparency further of our operations and performance – and allows us to flex our plans in the future as we learn more.

We're planning on installing 245 monitors by 2030 with a significant increase in monitoring by 2050 when around 1,000 monitors will need to have been installed. This additional data set presents a new opportunity to utilise artificial intelligence (AI) to predict where discharges may occur and help us to respond before a pollution incident occurs. This level of increased monitoring is a significant change to the way our system operates, and we'll need to innovate with the supply chain to find new ways of delivering and maintaining this new infrastructure.



Proactive water quality sampling

Water quality really does matter to us, but as well as taking the action to improve it, we also want to be able to understand it better and give local communities comfort that they can safely enjoy the water environment. We plan to significantly increase our water quality monitoring programme at beaches and also the rivers and streams that flow into them. We will monitor more beaches, more frequently and test for a wider range of parameters.

Critically important is the speed that we can process results of the monitoring activity and whilst some result are available in less than an hour, more complex (and relevant) bacteriological results take over 24 hours to be returned. To give a near real-time understanding of water quality we are piloting a testing method that will give an indication of bacteriological quality within 30 minutes, this pilot is on-going.

We will use this information to develop water quality profiles for bathing waters and support conversations with local communities on a daily basis regarding water quality and use this as far as possible to help inform bathing water users and event managers.

We know that heavy rain and the associated catchment run-off from fields and drains represent a source of contamination irrespective of storm water discharges. For this reason the Environment Agency recommends that beaches are not used after heavy rain. Additional monitoring will provide evidence of when this situation has arisen and a clear link to root cause aimed at helping re-build trust with our customers and validate that for the vast majority of time the quality of water at our bathing waters is excellent.

We will finalise the breadth and depth of this enhanced monitoring regime through piloting the approach at a number of locations over the remainder of this Asset Management Period seeking out innovative solutions as well as talking to local communities and event organisers to refine and evolve our plans.

What will it cost?

The total cost of our investment programme is £1,065m and this comprises of £761m for storm overflows and £305m for base maintenance on our sewerage network and wastewater treatment works. This is based on our least cost and best value option.

There is an overlap between the storm overflow plan and the base maintenance of our wastewater infrastructure and we have optimised our interventions. As a result we have reduced the enhancement programme accordingly.

Storm overflow enhancement investment

Delivering a step change in storm overflow performance by 2030.

£725m

Improving our sewerage network and storm overflows to reduce spills to meet Government targets and ensure

6 out of 10 storm overflows will not spill more than 10 times each year including all of our beaches

All our bathing waters and shellfish waters overflows will meet new stringent standards of no more than 10 spills per year by 2030

£10m

Identifying opportunities to reduce storm overflows and additionally prevent future pollution incidents. The outputs of our investigations will inform subsequent interventions in AMP9

£25m

installing 245 river water quality monitors in rivers in our region to collect information on the potential impact of our storm overflow discharges to the receiving water.

Base Maintenance Investment

Delivering both pollution and discharge reduction benefits whilst maintaining our assets in a steady state for future generations.

£154m

in maintaining our wastewater treatment works and bioresources assets and meeting the challenges of supply-demand

£104m

in rehabilitation and replacement of our gravity and pumped sewerage network assets

£37m

to increase the resilience and reliability of our sewage pumping stations

£10m

to address localised sewer flooding issues.

Beyond 2030

Our long term plan delivers

Long term outcome targets for storm overflow reduction

Achieved	Our Focus	Key Outcomes
By 2035	Finalise improvements at overflows that discharge to ecologically sensitive waters	<ul style="list-style-type: none">• 8 in 10 storm overflows will meet not spill more than 10 times each year.• Meet government targets at 100% of storm overflows to ecologically sensitive waters.
By 2040	Finalise remaining improvements at overflows discharging to inland waters	<ul style="list-style-type: none">• 100% of storm overflows will meet new stringent standards – a full decade ahead of government targets.
By 2045	Maintain and continuously improve, keep track with latest scientific evidence on risks to coastal waters, rivers and the impact of climate change and development	<ul style="list-style-type: none">• Ensure 100% of overflows are fitted with screens that prevent sewage litter to waterways.• Successful conclusion of our storm programme well ahead of all Government targets.

We have heard how important improvements in storm overflow performance are and so we'll complete our storm overflow improvements by 2040, ten years ahead of the Government targets.

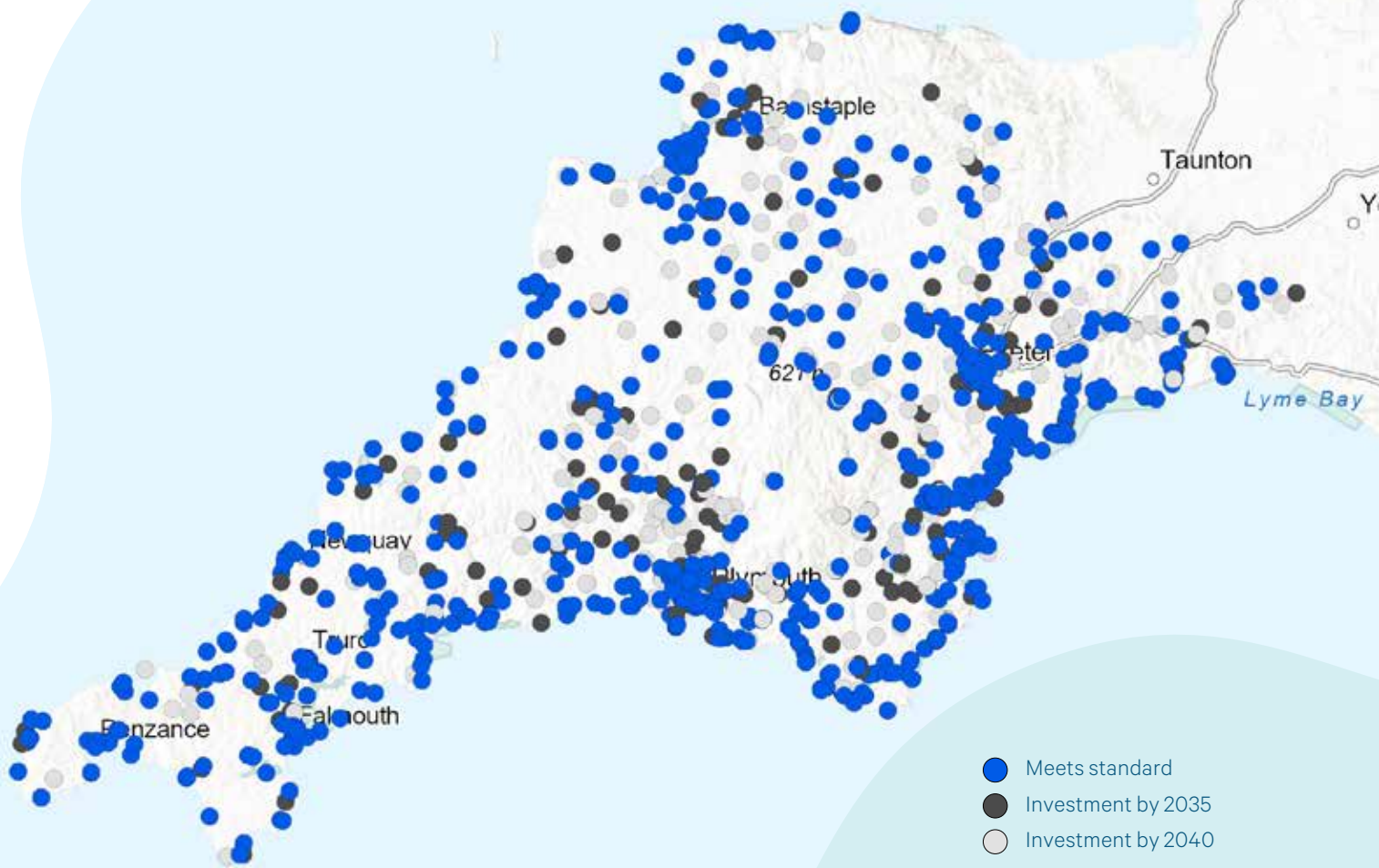
Storm overflow investment between 2030 and 2040 is focussed on improvements on rivers, reducing both the frequency that overflows spill and prioritising areas where there are ecological harm risks. We have ambitious plans to deliver improvements at 100% of our high priority site storm overflows by 2040, ten years ahead of the target and we'll ensure that we meet the target of improving 75% of our high priority storm overflows by 2035.

We're working with local groups to support 16 applications for new inland bathing waters and where these are successfully designated within the region, we'll prioritise our activities at these sites to support the bathing water quality.

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Working with nature

Our plan is adaptive and as our data and understanding of our storm overflow performance improves, we will review the remaining programme both annually and at each subsequent price review which happens every five years.

As we develop our experience and capability we will use our Green First Strategy, to remove and reduce flows into the sewer, limiting the need for concrete storage tanks and hard engineering solutions. The percentage of flows we treat through blue-green solutions will increase over future investment periods.

Blue-green solutions often require a longer lead time and specialist skills to deliver so we'll develop our understanding and approach to enable us to manage more flow through these types of solutions in future years.

Our longer term ambitions also include developing a smarter sewerage network. We've already begun this journey by installing 100% monitoring across our storm overflow sites which gives us visibility when they operate. We'll widen the visibility we have of what's happening across our network, meaning we'll be able to predict when events may occur and where we can, take preventative action to stop this. The data we'll gather will also help us have a better understanding of how our sewerage network operates each day, meaning we can make more efficient choices about how to operate, maintain and invest in the future.

Unlocking value for the region

We're evolving our wastewater network into one that we and future generations can feel proud of.

As custodians of the water cycle in our catchment, we know that working with alongside communities, stakeholders and customers, our investment will deliver benefits that support both the environment and economy of the region including:

Greater access to and enjoyment of our waterways

The significant reduction of storm overflows and pollution incidents, combined with increased water quality monitoring, will reduce the risk to public health or ecological harm to rivers and seas. This in turn will enable our communities to make the most of accessible bathing waters across our watercourses and coastline throughout the year as we rebuild trust in the quality of our waters.

A sustainable local tourism economy

Through responsible stewardship of wastewater flows, we will help our catchment to realise its potential as the premier destination for nautical tourism in England – supporting long-term economic health of the region.

A healthy local environment

As we increase our use of nature-based solutions to reduce the flows entering our sewer network we'll see additional benefits as biodiversity around these sites increases, carbon is stored, and the amenity value of areas improves.

Reduced risk of flooding and pollution events

Our programmes to work with communities to adopt sustainable drainage solutions and divert flows away from sewers will ensure that the risk of flooding to homes and businesses is kept at low levels even with the increased water into the system from increased rainfall and population growth. In doing so, we will eradicate damage caused by plastics, fats and wet wipes for the long-term benefit of all – providing peace of mind to our communities.

Job creation to boost the local economy

The storm overflow investment programme itself creates c.1,100 additional jobs, peaking in 2029/30. This is within an assessed total of c.2,000 jobs created by our total AMP8 programme, thereby supporting the regional economy. We envisage that this will offset reductions in jobs elsewhere in the construction industry as large-scale programmes in other sectors reduce.





We're doing this

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