



South West
Water

Storm overflows

Event duration monitoring Annual report 2022



southwestwater.co.uk



new
deal

Bringing water to life

Our purpose is to bring water to life – with c.2,000 people, working for South West Water, who live in the communities we serve. We are committed to improving the environment in the South West.

This document accompanies our Annual Return for 2022. It explains what storm discharges are, how we monitor them, the environmental context for the South West, how we use overflow data to inform investments and sets out our future plans.

This document covers the following:

- Our region
- A summary
- What are storm overflows
- What is Event Duration Monitoring (EDM)
- Drainage responsibilities
- What we are doing for the future.

Introduction

Over the course of the year, we have prioritised listening to, and reflected on the views of others to make sure we are focused on the right things.

We have been listening to the views of our customers, in our public meetings, as part of WaterShare+, hearing about the things that matter most, such as concerns about bills, community investment and the use of storm overflows.

The world is rapidly changing, and so is the responsibility of businesses to do what's right for our environment. Understandably, the bar is getting higher, expectations on us as water companies have never been greater, and rightly so.

Storm overflows are the safety valves in our network that prevent homes and businesses from flooding if the system is overloaded in times of heavy or short, sharp rainfall. There's no doubt, these are now the unacceptable face of the water industry. We treat around 97% of everything that enters our wastewater system and there are occasions where storm overflows are necessary.

We have now installed monitors on 100% of our storm overflows and for the first time, we can now monitor and act on activity across hundreds of storm overflows across or region.

We are committed to achieving an average of 20 spills per storm overflow by 2025. Even with a greater number of storm overflows that are monitored, average spills have reduced from 38.9 in 2021 to 28.5 in 2022 – a reduction of approximately one third. This is due to a combination of dry weather and our interventions and investments.

This reduction is because we have been investing to reduce the use of storm overflows. Our WaterFit programme, launched last spring saw £45million of investment on improving our system, focusing on how we can remove excess flows from the system and reduce spills from overflows. We have also recently launched WaterFit Live, providing near real time data on the performance of our network at beaches, which we know are so important to the people of the Great South West. This also shows the investments we are fast tracking to reduce the use of storm overflows.

Our region

South West Water is the water and wastewater service provider for Cornwall, Devon and parts of Dorset and Somerset. We also provide water services to Bournemouth Water customers in parts of Dorset, Hampshire and Wiltshire. More recently, with support from our existing customers and agreement with Government, we have taken on the responsibility for water and wastewater services on the Isles of Scilly.



OUR AREA

DID YOU KNOW?

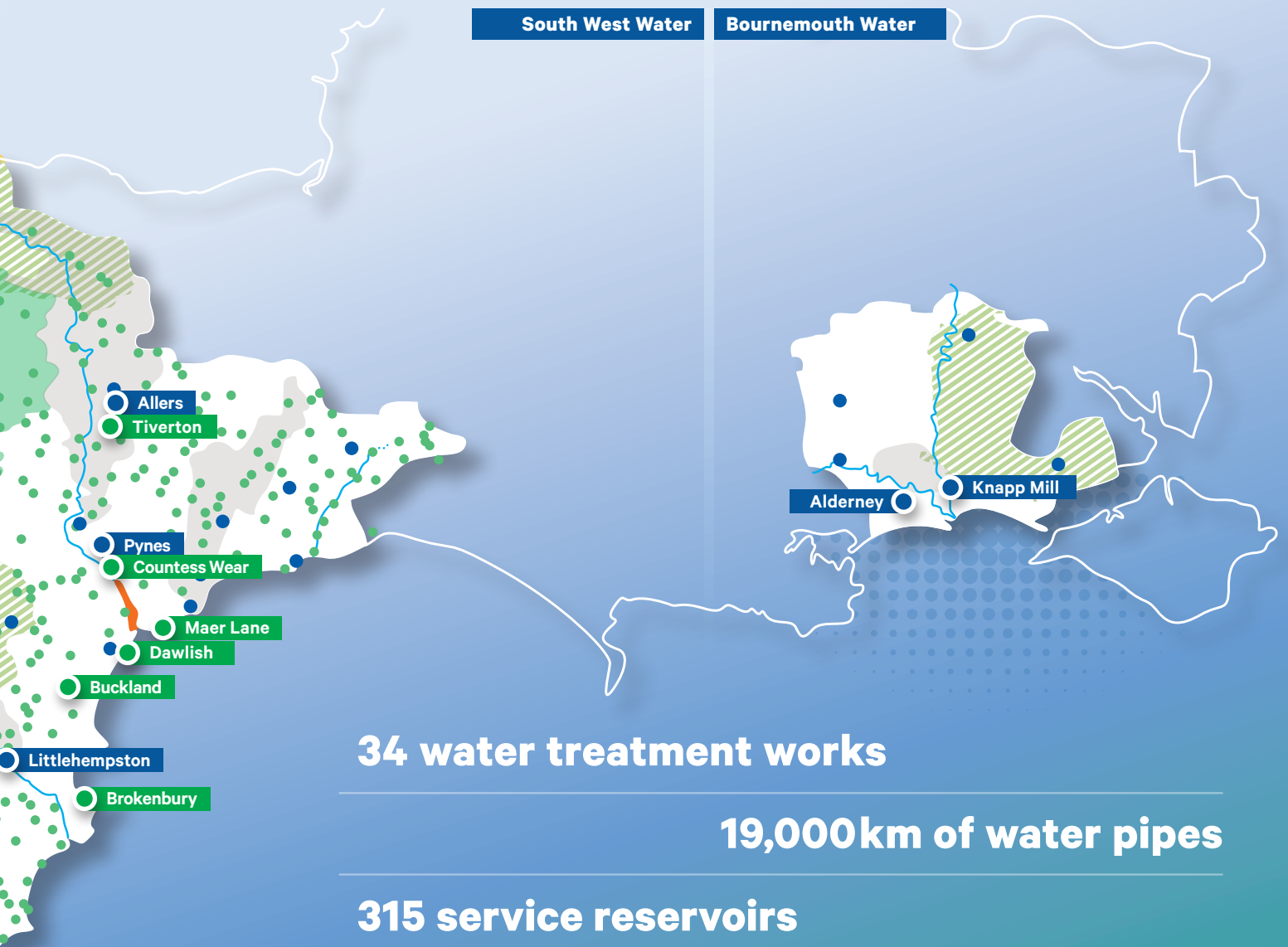
2.2 million resident population equivalent (over 1 million customers) and **10 million** visitors to our area each year



25 designated Shellfish Waters

34% of all the designated Bathing Waters in England





34 water treatment works

19,000km of water pipes

315 service reservoirs

268 water pumping stations

A sewerage network
23,000 km
in length

1,220
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

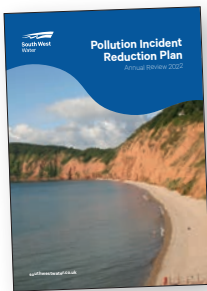
Summary

This is an important discussion as there's nothing more important than water – it's essential for life, health and the planet.

We have a 23,000km system of combined sewage and surface water pipes. This sewerage system developed over many years, takes not just sewage but also rainwater from roads and fields. In periods of intense and heavy rainfall, the sewers can become overloaded and to avoid sewage backing up into your homes and businesses, we have overflows that act as a safety release mechanism.

We all want the same thing – to improve water quality.

We will build on the success of beach and coastal investment and for the second year running, 100% of our regions' Bathing Waters achieved stringent bathing water standards, up from c.28% in 1991 and we intend to keep it this way. That's why we are investing to reduce the use of storm overflows even further.



Find out more about our PIRP [here](#)

- We also have a focused Pollution Incident Reduction Plan (PIRP), and alongside our plans for storm overflows will help improve our rivers and seas. Since 2020 the PIRP has helped us reduce pollutions by c.50%.
- We have restored and protected c.109,000 hectares of land in the region through our Upstream Thinking programme founded in 2006. This is our catchment management initiative that works with the agricultural industry to prevent pollution incidents, which contributes one-third of the water quality impact. This includes working with 1,700 farms and providing grants to farmers to invest in their own infrastructure to improve river quality.
- Poor river quality is caused by a range of factors and contributions, where river pollution from valued regional industries such as farming and mining, together with urban run-off is also increasing. This means continued partnership work is essential.
- 70% of pollutions happen in the network, the majority caused by blockages. Use of wet wipes creates 4,500 blockages each year – we remove 450 tonnes of rag each year, enough to fill 30 double decker buses. We hope all of our customers can help us with the challenge of taking these unflushables out of our system which would reduce pollution incidents.



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The use of wet wipes creates **4,500 blockages each year**

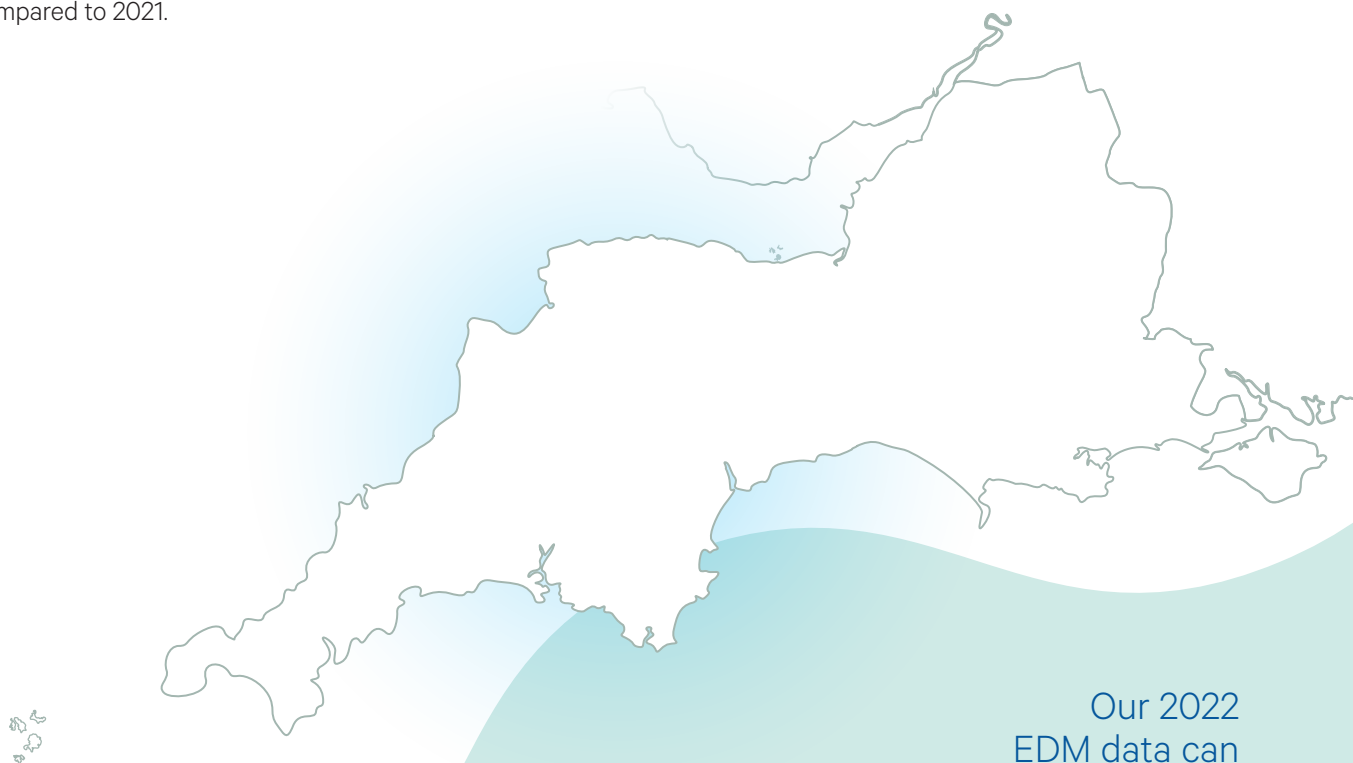
- We're a region that sees huge population swings through the year, and we know the population in the South West has increased by 20% in the last 30 years. Tourism is up by 50% in the last 15 years putting further pressure on our network.
- We have now installed Event Duration Monitors (EDMs) on 100% of our storm overflows.
- We have improved over 298 stormwater overflows to Bathing Waters and 382 to Shellfish Waters since 1989, by adding more than 222,100 cubic metres of additional stormwater storage built at a cost of over £100million. This work was targeted at those storm overflows which were having an adverse effect on bathing or Shellfish Waters, or the environmental quality of rivers. We have also invested significantly to install EDMs on our intermittent discharges.
- Partnerships are key to progress. South West Water has a vital role to play; but so too does everyone who lives and works in the region. We are installing monitors all along the Rivers Dart and Tavy to understand how we can support the region's first inland Bathing Waters.
We'll continue working with farmers, landowners and partners right across the region to further develop more sustainable nature-based solutions.
- Our EDM data for 2022 shows a reduction in the duration and number of spills compared to 2021.

SOUTH WEST FACTS

DID YOU KNOW?

We have invested
£9bn
to improve water and
wastewater infrastructure
over the last 30 years

There are
**860 miles
of coastline**
in the South West



Our 2022
EDM data can
be found [here](#)

Combined Storm Overflows

We are continuing our investment in the network and infrastructure. This includes reducing the usage of storm overflows across our region.

Combined storm overflows are designed to release excess storm water into rivers and seas when a prolonged rainfall occurs. This helps prevent the risk of sewage backing up, preventing homes and public spaces being flooded by allowing a controlled release.

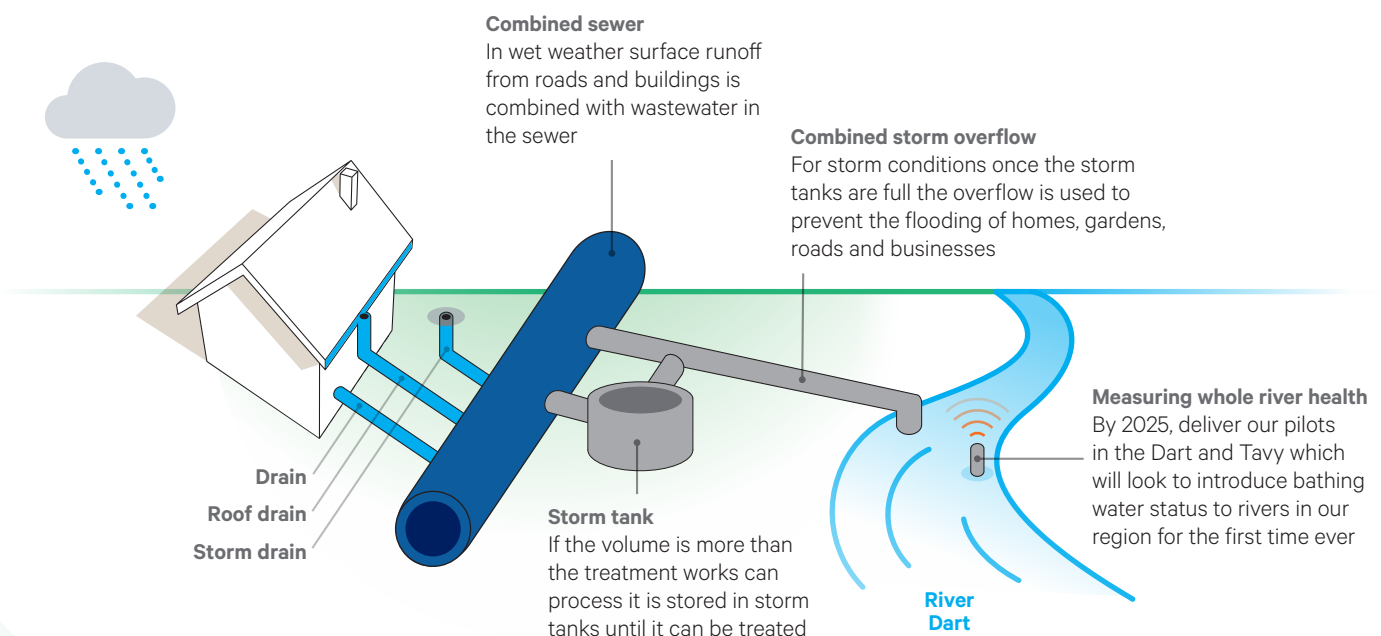
Here's what we are doing

We are committed to reducing our impact on rivers by one third by 2025. We have now installed Event Duration Monitors at 100% of our storm overflows – ahead of the regulatory timeline.

Here's how you can help

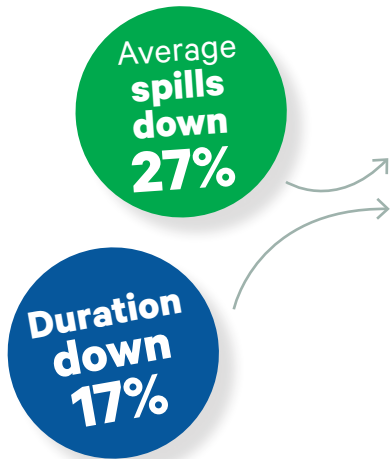
We can all do something to limit the impact of storm overflow including:

- 1 Only flush the three Ps: poo, paper and pee.**
Sanitary items, such as wet wipes, do not break down properly in our sewers and cause blockages.
- 2 Do not put FOGs (fats, oils and grease) down the sink.**
Instead, allow them to cool and scrape them into the bin so that they don't solidify in your pipes.
- 3 Install a water butt to collect rainwater.**
This water can be used to maintain your garden during summer and will also reduce the volume of water going down the drain.



Event Duration Monitoring

The main driver of storm overflow operation is weather.



The 2022 EDM data

During 2022 we focussed on completing the deployment of the remaining Event Duration Monitors on our storm overflows ahead of the regulatory deadline, with 99.3% completed by 31 December 2022 and 100% completed by 31 March 2023.

Overall spill numbers recorded by our EDMs for our storm overflows are summarised below.

Storm overflow	2021	2022	Difference
Number of storm overflows with spill data	1,093	1,323	230
Number of spills	42,484	37,649	-4,835
Average number of spills	38.9	28.5	-10.4
Duration of spills (hours)	351,784	290,271	-61,513
Average duration of spills (hours)	8.3	7.7	-0.6

A key influence on the number of times our storm overflows operate will be the weather. For the whole of the UK, rainfall was mostly below average for the year, with the months from January to August and December all being drier than average with autumn months wetter than average.

The table above shows a decrease in both average number of spills and average duration of spills from 2021 to 2022 as well as the total number and total duration of spills.

Our 2022 EDM data can be found [here](#)

Data reporting

EDM data provides valuable information that helps South West Water to understand the sewer performance and helps the Environment Agency to ensure that sewerage systems are compliant.

EDM data also improves the visibility of the performance of the sewerage network for our customers and stakeholders.

Summarised reports are consistently produced by South West Water, and provided to the Environment Agency on an annual basis (and seasonally for Bathing Waters) with the date/time duration of each overflow. Written reports on individual events are also provided at the request of the Environment Agency.

All overflows are included in the annual return which covers the period 1 January 2022 to 31 December 2022 inclusive and was submitted at the end of February 2023.

Overflows that have the potential to affect Bathing Waters also have a seasonal return each year covering the period 1 May to 30 September inclusive, submitted by 31 October. The data from this return can be used to help determine Bathing Water classifications.

For Shellfish Waters the annual written report is sent to the Local Food Authority (LFA) and the Environmental Health Officer (EHO). In some cases notifications of overflows affecting Shellfish Waters are required and made to the LFA, EHO and Environment Agency within 24 hours to help protect the quality of shellfish.

WaterFit



Find out more about our WaterFit plans here southwestwater.co.uk/waterfit

Everyone in the South West is passionate about our beaches and we want everyone to feel confident in bathing water quality. That is why we are reducing the use of storm overflows and launching WaterFit Live ahead of this year's bathing season.

The WaterFit Live map is designed to share information about the region's bathing beaches, location and performance of storm overflows and our plans to improve water quality.

We hope that sharing information about water quality will help people feel confident about our beaches and the quality of the water. This new system demonstrates our commitment to share more information with customers on both environmental performance and investment plans across the South West's 860 miles of coastline.

Through **'Your Beach, Your Say, Our Investment'** customers will be able to share knowledge with us about their local beach and help prioritise our next round of investment from 2025.



Drainage responsibilities

Multiple factors affect our network and that's why partnership working is so important.

Private drainage, highways drainage, rural run-off and river flooding all contribute to overloading our network and systems.

As well as rainfall, groundwater infiltration is a factor. There are times and locations where groundwater levels can become higher than sewers causing groundwater to enter the sewer. In the South West this can also occur in coastal areas due to sea water infiltration (tidal ingress). As a result of tidal ingress some storm overflows operate for longer periods, due to sea water flowing in and out past the monitor with the rise and fall of the tide.

Storm overflows can discharge through misuse of the system. Wet wipes make up more than 90% of the material causing sewers to block. We do all have a part to play in improving how we use our sewer system.

To help customers and businesses understand the contribution they can make, we work in our communities and proactively engage with our customers via the **'Love Your Loo'** and **'Think Sink'** campaigns to raise awareness. We actively encourage everyone to love their loo by only flushing pee, paper and poo. Inappropriately flushing baby wipes, hygiene wipes, cleaning wipes, cleansing pads and sanitary products contribute to 8,500 blocked sewers a year, which costs about £4.5million a year adding to customer bills. The 'Think Sink' campaign targets businesses, reminding food service establishments of their responsibilities regarding the proper disposal of fat, oil, grease (FOG) and food waste.

By keeping our sewers free of wet wipes and other sanitary products as well as ensuring fats, oils and grease are not poured down the sink, we can help reduce the frequency of storm overflows operating.



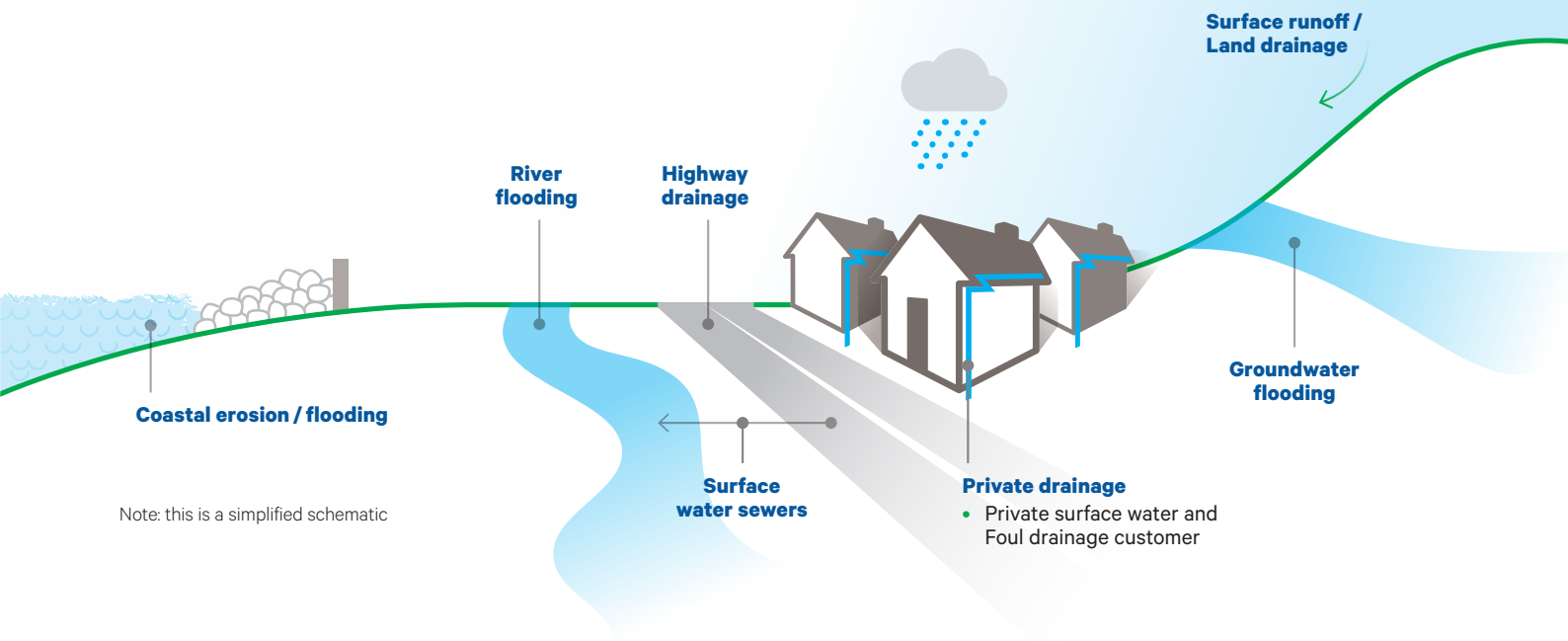
Find out more here:

southwestwater.co.uk/loveyourloo

southwestwater.co.uk/thinksink



CCTV survey showing fat build up in a sewer



Note: this is a simplified schematic

Flooding responsibilities are set out below.

Location	Description	Responsibility
Surface runoff / Land drainage	Landowners are responsible for their land drainage and should not cause problems for neighbours	<ul style="list-style-type: none"> • Lead Local Flood Authorities • Land owners
Highways	Surface water on roads, highways and pavements, blocked road drains/gullies and overgrown verges	<ul style="list-style-type: none"> • Highways Authorities • Highways England/Welsh Government • Transport for London
Groundwater	Waterlogged ground when water pools on the surface	<ul style="list-style-type: none"> • Lead Local Flood Authorities • Landowner
Rivers and watercourses	Water draining into rivers and streams from nearby land	<ul style="list-style-type: none"> • Lead Local Flood Authorities • Environment Agency/Natural Resources Wales • Riparian Owners • Landowner
Coastal / Tidal	Rough seas, high tides or storm inundation on lower land	<ul style="list-style-type: none"> • Local Authorities • Environment Agency • Natural Resources Wales
Surface water sewers	Most properties, including flows from gutters and roads drain rainfall to public sewers. Highway drainage is provided for rainfall onto the highway but in reality also includes water from fields/other properties that finds its way onto the highway	<ul style="list-style-type: none"> • Water and wastewater companies • Local Authorities • Housing Associations • Private land owners • Highway Authorities
Public sewers	Sewer flooding from manholes and covers	<ul style="list-style-type: none"> • Water and wastewater companies
Private sewers	Flooding from cesspits/septic tanks, toilets or internal drains	<ul style="list-style-type: none"> • Homeowner

What we are doing for the future

Our programme for 2020-2025 (AMP7) includes:

- A £500million programme in wastewater improvements
- This investment will support the delivery of our new set of commitments, which outlines how we will look after our seas and rivers in the South West.

Our commitments include:

- **Reducing our impact on rivers by one third**
- **Helping everyone to enjoy our 860 miles of coastline** by achieving bathing water quality standards all year around
- For bathing waters, **we will target no more than 10 spills, by 2025**
- **We will target zero serious pollutions by 2025**
- **We will achieve the region's first ever 'river bathing waters'** using learnings from our pilots on the Rivers Dart and Tavy
- **We will plant a quarter of a million trees** to support river health and help tackle climate change.

Further to this:

- **We will continue to work with our regulators on legislative change**, campaigning for a ban on wet wipes, and championing the removal of the automatic right to connect to our network, by new building and housing developers.
- **Our 'Downstream Thinking' catchment management programme will help reduce sewer flooding risk and storm overflow discharges** through the application of Sustainable Drainage Schemes (SuDS) and wider landscape management.
- **We will work with partners who are key to resolving catchment drainage issues** and we will develop Drainage and Wastewater Management Plans for our whole region to create more joined up solutions.
- **We have put in place a new EDM and flow team**, and enhanced performance monitoring to review overflow numbers and quickly identify potential problems and issues.
- **We are trialling a new software system and service** called Meniscus that allows EDM data to be used proactively to identify issues on the wastewater network.

We welcome the Government's consultation on the future approach to managing and reducing the impact of storm overflows which provides further clarity on the outcomes and the timelines in which to achieve these. We will respond to this consultation in due course.



