

Improving water quality across the South East



Since the water industry was privatised in the 1980s, companies have invested an average of £10 billion a year to increase the volume of wastewater that is fully treated before being released back into the environment from 50% to 95%. We're now focused on tackling that last 5%.

The Victorians designed our wastewater network

The 'combined sewer' was built to carry both wastewater from homes and businesses, as well as 'clean' rain-water run-off from roads and urban areas. This approach was only changed in the 1960s, with new wastewater networks designed to transport only wastewater, with rainwater being diverted back to the environment.



The Victorians didn't design our sewer network to deal with rapid urbanisation and climate change

We're already seeing the impacts of climate change on regional weather patterns, delivering longer, drier summers and winters and more frequent periods of heavy rainfall. For example, this winter we have experienced the country's most active storm season since records began.

This extreme weather, coupled with increasing populations and urbanisation, means that much of the ground that used to soak up the rain has now been paved over or built on. The knock-on effect of this is that the volume of water entering the sewers has increased.

Huge volumes of water now gather in the system very quickly during a storm – where the flow

Did you know?

Our combined sewer system is similar to those found in other European countries – in fact, many of them copied our design.

In the United States they have separate storm channels (as seen in movies over the years, think Grease and Armageddon).

into our treatment works can increase ten-fold within a few hours. Instead of allowing that water to back up into homes, businesses and communities, the water is released via storm overflows. This is our only option to maintain wastewater treatment services for our customers during storm events and periods of increased flow.

There's increasing pressure from the public to accelerate improvements.

We understand the volume of these storm releases is no longer acceptable to our customers or sustainable for our environment.

That's why we welcomed DEFRA's Storm Overflows Discharge Reduction Plan, published in August 2022, which aims to eliminate them completely by 2050, except for during unusually heavy rainfall. It calls for a "challenge" of an average of 20 pollutions per storm overflow, but as we were already achieving close to that, we wanted to go further and faster. We believe a step-change is required.

What are we doing about the problem now?

We set up our Clean Rivers and Seas Task Force in 2021 to drive a rapid change in thinking in this area. Working with partners across our region, we're looking at ways to reduce the use of storm overflows, without risking flooding of our sites or customers' homes or businesses.

Working with local councils, landowners, communities, customers and the Highways Agency to slow the flow of rainwater run-off in some very simple ways, we can very quickly reduce our reliance on overflows. We have six

pilot projects already set up, in Kent, Hampshire, East Sussex and the Isle of Wight, looking at:

- rainwater harvesting
- more permeable paving
- misconnections
- soak-aways (including tree pits)
- relocation of drains
- rain gardens, planters and greening of public spaces.

We've also invested in new, larger storm tanks at several of our key sites, which help us better manage the release of flood water during heavy rainfall.

1 Isle of Wight

- Installing slow-drain water butts in eligible areas including Cowes, East Cowes, Gurnard, Fishbourne, Wootton, Freshwater and Yarmouth. Trials have shown up to a 70% reduction in local storm overflows as a result.
- Capturing rainwater from large roofs including commercial buildings, residential apartment complexes and schools with the use of raingarden planters.
- Optimising infrastructure and going beyond permit requirements to unlock extra storage and improve processes.
- Removing and redirecting misconnections of surface water from the combined sewer into surface water or highways line where appropriate and also directly into a watercourse where available.
- Installing Sustainable Drainage Systems (SuDS) in highways, such as swales, in-road raingardens, pocket basins and tree pits to capture rainwater from roads and reduce flooding.



2 Swalecliffe

- Site reconfigurations to hold extra flow and reduce storm overflow releases by up to 30%.
- Working with landowners, local authorities, and the Environment Agency to rectify misconnections of surface water into the combined sewer.
- Working with our Partners in Local Authorities to turn Cornwallis circle into a SuDS Park to increase natural drainage. We'll also be offering free installation of slow-drain water butts to every property in Cornwallis Circle. With these two interventions combined, we'll be able to manage 1.2 hectares of impermeable area.
- Installing raingarden planters in schools to slow the flow of rainwater off school roofs and playgrounds, reducing standing water and preventing the sewer system becoming overwhelmed and causing storm overflows.
- Identifying the most effective impermeable land opportunities and investigating the best way to resolve them.

3 Margate

- Installing roadside SuDS which will manage a 5200m² area of impermeable land.

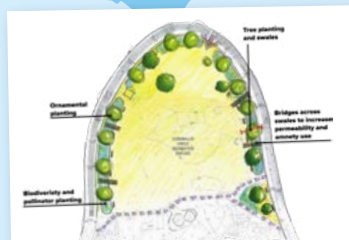
4 Deal

- Working with landowners, local authorities, and the Environment Agency to rectify misconnections of surface water into the combined sewer.
- Offering free installation of slow-drain water butts to slow the flow of rainwater entering the sewer system.
- Installing raingarden planters in schools to slow the flow of rainwater off school roofs and playgrounds, reducing standing water and preventing the sewer system becoming overwhelmed.



5 Fairlight

- Working with landowners, local authorities, and the Environment Agency to rectify misconnections of surface water into the combined sewer.
- Investigating the use of green solutions to reduce surface water in Market Wood and Hastings Country Park.



Plans for Cornwallis Circle SuDS Park ▶

We recently published our **Clean Rivers and Seas Plan** to tackle storm overflows. Scan the code to view an interactive map explaining:



- Why individual storm overflows release.
- If they release into a site of interest such as shellfish or bathing waters.
- What we're planning to do to solve the issue and the level of investment required.
- When we aim to start the work.