

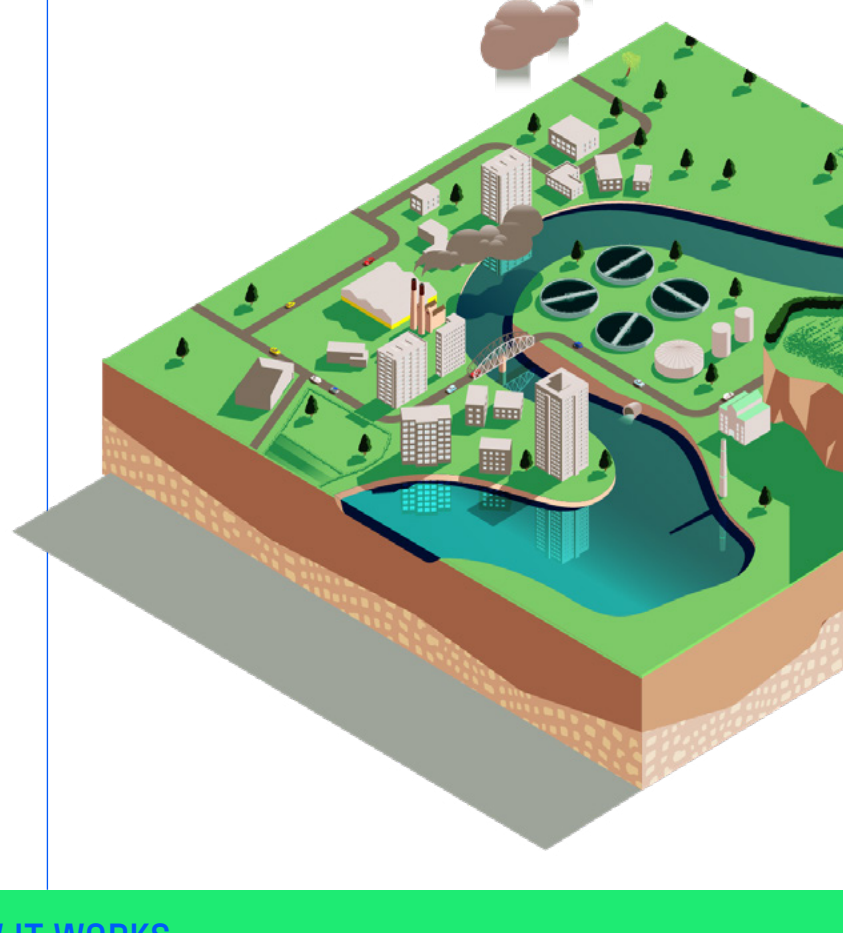
FACTSHEET

CUTTING THROUGH CONFUSION ON:

STORM OVERFLOWS

100,000 kilometres of England's sewer pipes were built before the mid-1960s and use an old-fashioned design that carries two kinds of waste: rainwater from street drains, and sewage from homes. They are therefore known as 'combined' sewers.

Combined sewers were built many decades before modern rates of population growth and climate change were understood, which means that there is often now more sewage and rainwater going into these systems than first envisaged.

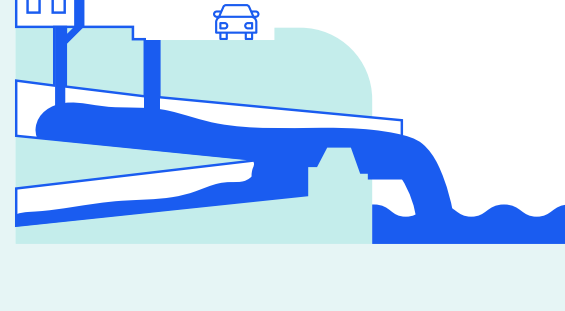
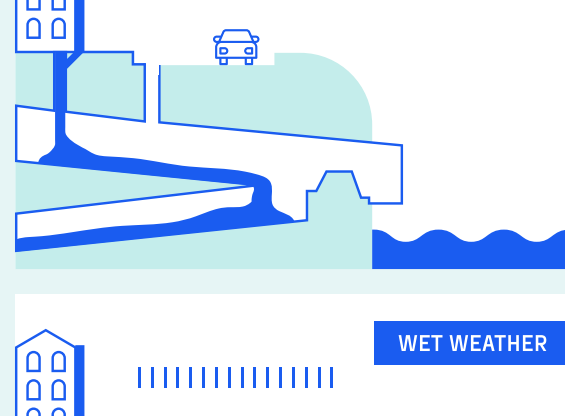


HOW IT WORKS

To prevent this mix of rainwater and sewage from overflowing into people's homes if sewer capacity was ever exceeded, when they were first built, engineers added 'storm overflows' at points along the sewer: like a sink or bath overflow, these let excess rainwater automatically flow out of the system into the sea or rivers. Without such a 'relief valve', people's homes would flood.

In many cases, the rainwater escaping from overflows will also contain dilute sewage. They are therefore permitted by the Environment Agency only where they meet certain controls. These ensure the environmental impact of overflows is very low (much less, for example, than sewage works, or fertiliser, or livestock).

In some areas, though, overflows do cause environmental harm – and are also seen as an old design that is no longer acceptable. For that reason, the water industry has committed to significantly reducing their use and eliminating the environmental harm they cause, with huge improvements planned for coming years.



MISCONCEPTION

Storm overflows are the main cause of pollution in rivers.

REALITY

Combined stormwater and sewage overflow accounts for around 4% of the reasons that rivers do not achieve 'good ecological status', the main test of river health. Other reasons are detailed in the graphic below.

MISCONCEPTION

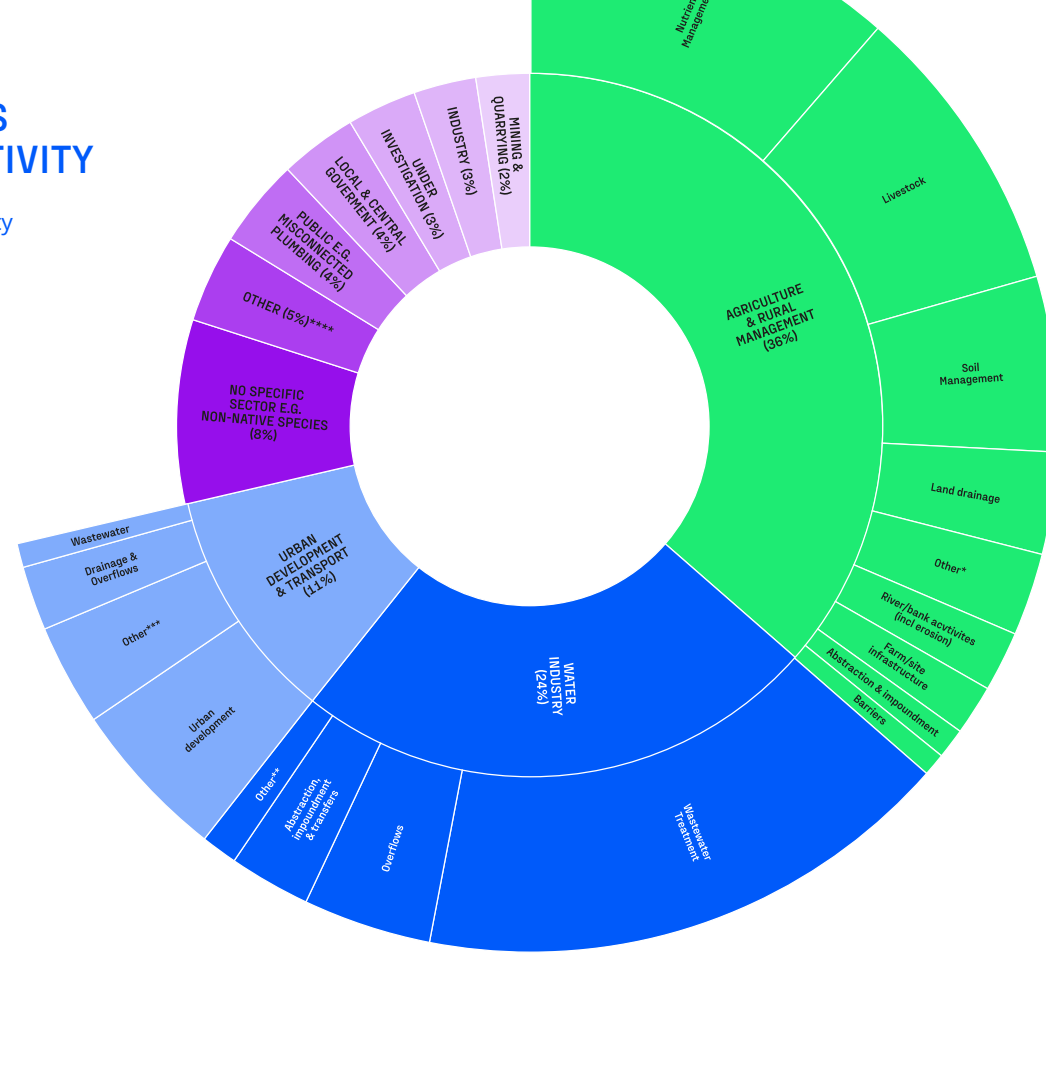
Water companies are deliberately pumping raw sewage into rivers through storm overflows.

REALITY

The operation of overflows is usually automatic, much like the overflow on a bath. Rainwater and diluted sewage spill out of the system when their level increases beyond a limit that was generally set many decades (or even a century or more) ago.

RIVERS IN ENGLAND: REASONS FOR NOT ACHIEVING GOOD ECOLOGICAL STATUS BY SECTOR AND ACTIVITY

Data from the Environment Agency



*Others include: Land use, Flood protection, Forestry, Unknown
 **Others include: Misconnections, Incidents
 ***Others include: Transport, Flood protection, Contaminated Land/River bed, Barriers, Unknown
 ****Others include: Navigation, Recreation, Waste

THE SEWAGE SYSTEM TODAY

4,000 TONNES
of sewage treated by water companies every day

25 MILLION
homes and businesses served

568,708 KM
of pipes carry wastewater away to treatment plants

6,335
sewage treatment plants across the UK

BACKGROUND

IMMEDIATE ACTIONS

Examples of immediate actions water companies are taking on storm overflows include:

- Investment in fitting additional screening
- Creation of reed beds and sustainable urban drainage solutions to help manage excess rainwater levels and keep them out of the sewer
- Sewer relining to prevent groundwater seeping into the system

£3.1 billion of regulated investment is planned for storm overflows between 2022 and 2025. This includes a £1.9 billion investment in the Thames Tideway Tunnel super sewer along with over 800 Investigations and over 800 improvement schemes to storm overflows.

In addition, companies have recently committed an additional £144 million on top of the regulated investment.



MISCONCEPTION

Using overflows is illegal, and polluting.

REALITY

Overflows were a deliberate design feature of sewers and are legal under permits issued by the Environment Agency. They must be used in accordance with those permits. They are one of the smaller sources of pollution in rivers.

MISCONCEPTION

Storm overflows aren't monitored and we don't know how often they spill.

REALITY

100%
of overflows will be monitored by the end of 2023. England is likely to be the first country in the world that achieves this, as monitoring in most countries is very low or even non-existent.

CHALLENGES

WHY CAN'T WE JUST STOP USING OVERFLOWS?

The total or near-total end of storm overflows would mean completely replumbing large parts of England and finding other ways of holding and managing surges of rainwater. In practice this would require digging up the roads of every major city, and building a very large number of huge steel tanks, as well as a range of other complex operational and engineering changes. It is not clear whether this is physically possible due to the amount of land it would require.

In addition, while we do not know for sure the cost of that level of ambition, it is likely to be in the hundreds of billions of pounds, perhaps adding up to £1,000 to the annual water bill. There is, though, a huge amount we can achieve without needing to go that far.

MISCONCEPTION

Water companies do not want to invest to fix the problem.

REALITY

Companies are keen to invest more to meet the increased expectations of customers and stakeholders, and are consulting on long term strategic plans (Drainage and Wastewater Management Plans) on how this could be done.

As spending by companies is ultimately paid for by customers, it's right that companies' plans should be scrutinised by regulators to ensure that they provide value for money and that the investments companies propose provide as much environmental benefit as possible, including when compared with other potential environmental projects. This scrutiny will be carried out through PR24, the next price review for the water sector, which will determine investment, service levels and bills for the period from 2025 to 2030.

WHAT MORE NEEDS TO BE DONE?

We can radically reduce the use of overflows by taking three measures:

INVESTMENT
Companies are creating long-term "Drainage and Wastewater Management Plans" to identify the investment needs in each region. New infrastructure – and, crucially, improving the health of existing sewers (for example, through replacement, relining, and restoration – like where tree roots have penetrated pipes) is a major priority for industry regulators to discuss.

UNFLUSHABLES
There are 300,000 blockages in sewers each year caused mainly by wet wipes (as well as other products), plus fat, oil and grease poured into drains. These blockages cause sewers to flood and overflow. The water industry will shortly launch its first national campaign to inform customers about how they can use products in a sustainable way, building on the success of the 'Fine to Flush' standard for wipes that ensures products will not block sewers.

POLICY CHANGE
At the moment, every new housing development is automatically allowed to connect surface water run off to the public sewer which contributes to large volumes of rainwater going into the system. This means that there is little incentive for developers to look at managing surface water in a different way, such as through the use of swales, reed beds and other methods of retaining the water above ground. Water companies are working with stakeholders to call on the government to remove the automatic right to connect. Instead, developers are obligated to look at alternative ways of managing surface water before permission to connect is granted. Less surface water in the sewers will mean a reduced likelihood of storm overflows operating and will therefore minimise environmental harm. Surface water retained in structures such as reed beds and drainage ponds also has the additional potential to benefit biodiversity.



STORM OVERFLOWS IN NUMBERS

650,000+
storm overflows across Europe

15,000+
storm overflows in England and Wales

According to government

£7.1 BN is being invested to protect and improve the environment overall. This includes Water Recovery National Environment Programme, Green Industry schemes and the Thames Tideway Super Sewer.