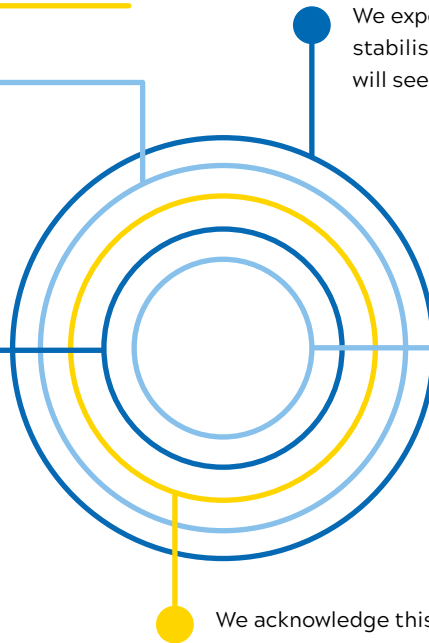


# Fast Facts on Pollutions

## Total pollutions performance in 2022

In 2022, the overall total number of pollution incidents for Category 1, 2 and 3 pollutions was 255. This number was stubbornly similar to that of 2021 at 258 pollution incidents.

We saw an overall reduction in serious pollutions in 2022 and a return to zero 'major' Category 1 incidents. The reduction in serious incidents from our waste assets this year (five less than in 2021) was eroded by an increase in two potable water incidents.



We expect year four (2023) will see us stabilise our position, while year five (2024) will see a downturn in total pollutions.

As a result of our performance, we are expecting to be red in the Environment Agency's Environmental Performance Assessment (EPA) rating for 2022. We are extremely disappointed with this result, but as set out in our PIRP, we believe the many changes we are making will bring change in the medium and long term.

We acknowledge this performance is not acceptable and we remain absolutely focussed on correcting it.

## 2022 pollution performance in context

Our region was significantly challenged by flooding in 2021 with some of the worst-ever rainfall the region has seen, taking place over an extensive 11 week period. We saw a significant increase in hydraulic loading (which is the volume of wastewater applied to the surface of the processing unit per time period). This was the root cause of our pollutions

(accounting for 35% of all pollution incidents) and we are addressing this. Importantly though, this event was an outlier compared to previous history.

By mid-2022 we saw our pollution run rates deviate from the expected

trajectory - at which point we critically reviewed our approaches and started to simultaneously rebuild our plan to accelerate work already in development, alongside bringing in new thinking.

This course correction has formed the basis for our recently published Pollution Incident Reduction Plan (PIRP) for the next two years.



## What is a serious pollution?

A discharge or escape of water, sewage, sludge, or chemicals which impacts the environment and is not permitted.

The EA (Environment Agency) uses the Common Incident Classification Scheme 16\_02 to categorise incidents.

**There are four categories:**

### Cat. 1

major, serious, persistent and/or extensive impact or effect on the environment, people and/or property

### Cat. 2

significant impact or effect on the environment, people and/or property

### Cat. 3

minor or minimal impact or effect on the environment, people and/or property

### Cat. 4

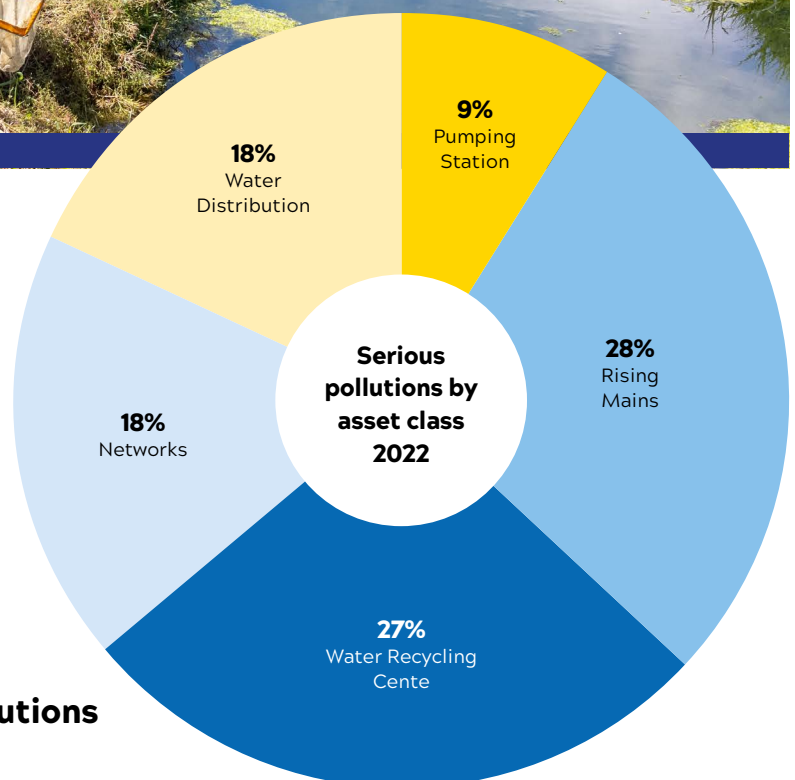
substantiated incident with no impact



## Serious pollutions at Anglian Water

We have seen a downward trend in serious pollutions this year, which is a potential indicator of the future direction of travel. However, we cannot celebrate this result as we recognise zero is the only acceptable number for serious pollutions, and our plan is geared to that mindset.

Last year's 11 serious pollutions were predominantly Cat 2 and made up of issues with rising mains, water recycling centres but also two incidents caused by bursts on clean, drinking water mains.



## Contributing factors on serious pollutions informing ongoing PIRP strategy



**44%**  
on unmapped,  
low flow or  
dry ditches



More than  
**10%**  
third party  
factors from  
farming/IDB



**9,378 kms**  
have an angularity  
value of 0 - so no  
kinks whatsoever

**67,433kms**  
of relatively straight  
water bodies (86%) versus  
**10,713kms**  
of remaining more  
sinuous channels

## Rising Mains are the most significant contributor at 28%

We have a higher proportion of rising mains than our industry counterparts because of the flat landscape of our region which means we need to pump sewage rather than relying on gravity as others do. Furthermore, many of our rising main run across vast, rural areas and under farmland or drainage ditches. Ground movement, changes in pressure or damage caused by a third party working the land can all cause rising mains to burst. The pressurised nature of a rising main means a significant volume of sewage can escape quickly, covering a large area and moving into watercourses or surface water drains, which can increase the extent of the impact on the environment.

## Water Recycling Centres at 27% make up the next largest category

Biological processes can be disrupted by natural events such as fluctuations in weather but also failures in the mechanical and electrical components that help to provide an optimal environment for the right biology to flourish. Although there is rarely any visual impact from a water recycling centre, higher than desirable levels of ammonia or solids can enter watercourses causing harm. In many cases, our effluent is the only or largest contributor of flow in the watercourse – this again can exacerbate the impact.

## Sewer Networks caused 18% of serious incidents

Our network assets are numerous, with a sizeable proportion in rural areas. As such, issues can go unnoticed for a period increasing both the extent and persistence of the incident. The flat topography also allows discharges to stagnate. Our dynamic sewer visualisation programme will provide us with further visibility of the performance of our network and enable a faster response.

## Finally, we have seen an increase in clean water (potable) events this year (2 up from 0 in 2021)

As pressurised assets, large water main bursts with large volumes of flow are difficult to contain and more likely to lead to serious impacts. Last summer, this region was particularly affected by record high temperatures up to 40C, an above average Soil Moisture Deficit and increased water demand, which in combination led to an increase in bursts on water mains (2145 bursts March to September in 2022 compared to 1172 in the same period in 2021).

## What we have learned

Having looked closely at the drivers for pollutions and interrogated the unique features of our region in relation to these, we have been able to determine additional key areas of focus.

While our preventative asset strategies are aligned to industry best practice and in some cases leading, our deeper dive into our failings have revealed some regional differences that we now need to address. **For example:**



**Persistence, or distance of pollution.** The narrow watercourses that are symbolic of our heavily drained region mean pollutions can travel greater distances creating an increased vulnerability to serious pollutions that we need to address



**Rural and remote.** The high proportion of rural communities in our region (89% rural versus 11% urban) means we have many unmonitored remote locations across our sewer asset base. The scale of this is broadly a unique issue to us AW (Anglian Water), the risk for which accounts for 50% of serious events. But this is not an excuse, and we must take appropriate action to mitigate the innate features of our region



**Third party damage.** The rural nature of our region also means third party damage to our assets is a primary factor and we are prioritising work with local stakeholders to bring about improvements.



**Weather vulnerabilities.** In downpours, high flows of rainwater have affected the performance of our Water Recycling Centres. On the frontline of climate change in the UK, we also have a number of mains that are vulnerable to climate change and associated impacts such as ground movement.





## How we're addressing our pollutions performance

We've critically assessed our performance to date, taking a fresh look at aspects such as serious pollutions to uncover new ways of thinking that will benefit the wider environment of the region we serve.

Our recently published Pollution Incident Reduction Plan (July 2023) sets out a comprehensive plan of action. **This includes:**

A root and branch review of our performance, teams and operations, putting steps in place to ensure we have the right operational controls and processes to do the basics brilliantly



Furthering the use of technology, applying it to different asset types which in turn is giving us more information than ever before



Overhauling our management systems and assurance processes and placing a firm emphasis on the prevention of pollutions and continuous learning and improvement in all that we do.



Our interventions are resulting in an 83% positive success rate from our predictive analytics, where these systems are, at these early stages, correctly identifying and enabling us to resolve a flagged issue.

## Timelines to improving our pollutions performance



While our plans are being implemented at pace, we're realistic that it will take time for these actions to turn into results. This doesn't mean we lack ambition – far from it.

The extensive changes we are making mean we now have a more comprehensive understanding of our pollutions performance across our network than ever before. This in turn is identifying pollutions that in previous decades may have been missed, while at the same time we are preventing others from occurring in the first place.



For this reason, we are expecting performance to stabilise in 2023 as we embed our changes, followed by a strong reduction in total pollutions by the end of the AMP (2024).

