

Our Pollution Incident Reduction Plan 2025–2029

Published March 2025



Part of our plan to make
Yorkshires rivers thrive



How to view this document

Contents page

Our contents page links to every section within this document. Clicking on a specific section will instantly take you to it.

- 1 Click on the contents button to return to the contents page.
- 2 This button takes you to the previous page.
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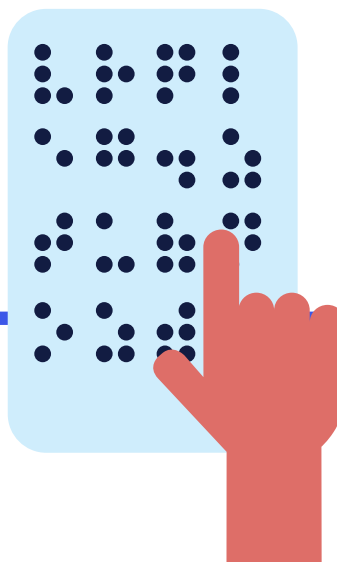
There are also many other clickable links within this document which we've made easy to spot by underlining and **highlighting** them in blue.

Accessibility matters. That's why we want all of our customers to be able to engage, navigate, and understand Our Pollution Incident Reduction Plan.

By using assistive technology like screen readers, text-to-text speech programmes and Braille displays, we can provide equal access to anyone with visual, mobility, or cognitive impairments.

We've taken steps to ensure this document supports additional accessibility needs:

- Screen readers will recite content in a logical order, as well as identifying headers and providing alternative text for images.
- Table of contents and bookmarks to aid navigation.
- Easy-to-read text that's structured using headings, clear paragraphs and tables.
- Comfortable colour contrast.

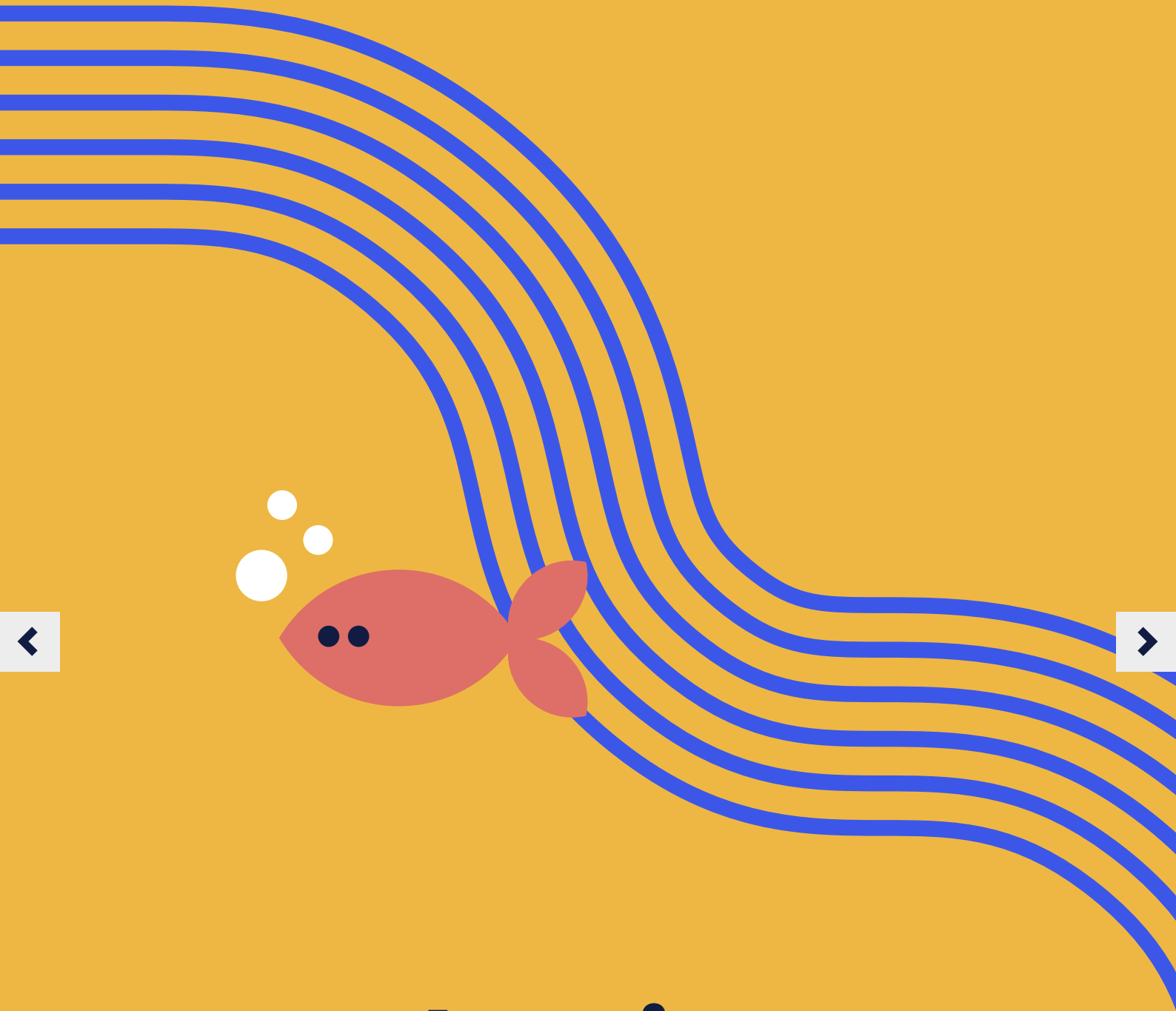


Contents

We've created colour-coded sections to help you to navigate this report easily. Just click on the section you are interested in on the contents page, and it will navigate you to that section.

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Introduction and background



Figure 1: Operational overview

Protecting Yorkshire's rich and diverse environment is key to everything we do. From supplying our customers with clean water, to treating wastewater and returning it safely back to our rivers and seas. We take our responsibility for protecting the environment seriously and our Pollution Incident Reduction Plan outlines how we plan to continue to reduce our impact.

We manage 53,000 km of sewers, 32,000 km of water pipes, and 655 water and Wastewater Treatment Works across the region, collecting, treating, and returning 1.3 billion litres of water every day. All these pumps and pipes have the potential to cause harm to the environment and we have a plan to make a meaningful change in our performance, including the number of pollution incidents we cause.

5.5m
customers

2.2m
households

1m
customers living
with illness
or disability

188,000
customers living
in water poverty

140,000
business and
non-household
customers

1.3bn
litres collected,
treated and
returned
every day

53,000km
sewers

32,000km
water pipes

50
Water Treatment
Works

605
Wastewater
Treatment Works

Climate change and population growth will affect our wastewater network in many ways, including our environmental performance.

That's why we have created our drainage and wastewater management plan, with the help of organisations like Lead Local Flood Authorities, The Rivers Trust and Environment Agency, which looks at our longer term context of pressures through to 2050 and beyond. Our investment plan for pollution closely aligns to the investment we are making across our business to make sure that our drainage and wastewater systems are strong and resilient to future pressures.

The drainage and wastewater management plan is a collaborative long-term strategic plan highlighting the needs and requirements of drainage, wastewater and environmental water quality for the next 25 years and beyond. This plan acts as the evidence base for all planned investment across our wastewater network, to make sure that we achieve the needs of our customers and the environment. There are some key themes within it which align to our pollution reduction plan, by helping us to:

- Keep our wastewater and drainage system strong
- Cope with population growth
- Adapt to climate change
- Create sustainable drainage systems

Focussing on population growth, our research tells us that there will be many more people in Yorkshire as we move into the future.

The population has increased sharply over the last 35 years and is expected to keep growing. Yorkshire households are predicted to increase by 30% by 2033, with a third of that growth coming from an increase in single person households. This means we will need to meet the needs of more people in the future. We also need to meet the demands of this growing population without increasing our impact on the environment by modelling and predicting the impact that population increase and climate change will have on our wastewater services, we can better prepare for the future and ensure we meet our customer's expectations and priorities.

More detail on our DWMP is available [here](#).

What is pollution?

Pollution is when a substance, or effluent in the case of sewage companies, enters a watercourse. Pollutions arise from asset failures such as: burst pipes, from the impacts of severe weather such as flooding, or the handling and storage of chemicals used in treatment processes.

Blockages in the sewer network is one of the main root causes of pollution across the water industry. 70% of all blockages are caused by wet wipes which is why we've called for a ban on plastics in all single-use sanitary items, as well as an end to 'fine to flush' labelling and the introduction of mandatory 'do not flush' warnings on all packaging. This will help keep the country blockage free and protect the environment.

Total incidents breakdown by asset type 2022 to 2024

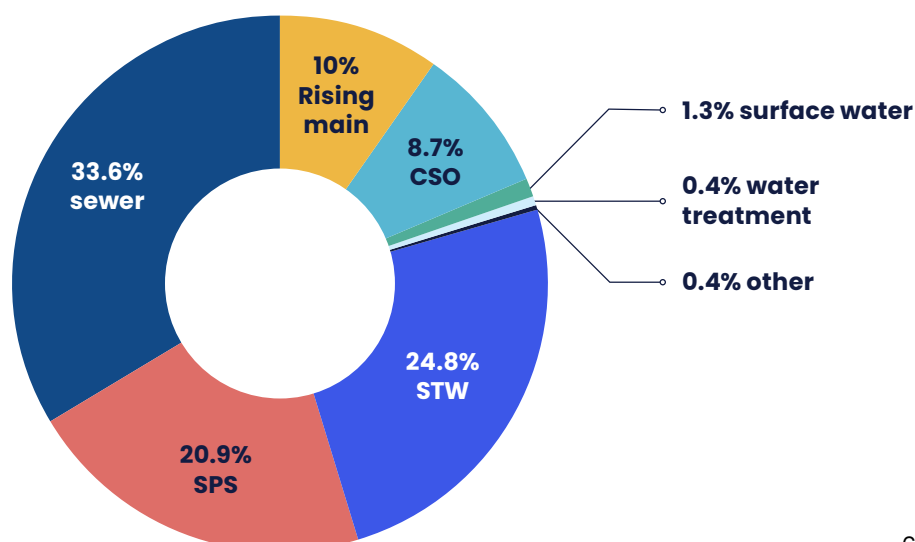


Figure 2: Incidents by asset type

Unfortunately, pollution incidents do still occur and where this happens incidents are categorised based on the extent of environmental impact they have using the Environment Agency's Common Incident Classification Scheme (CICS). Category 1 and 2 incidents are deemed as 'serious' incidents, Category 3 are those with 'minor' impact.

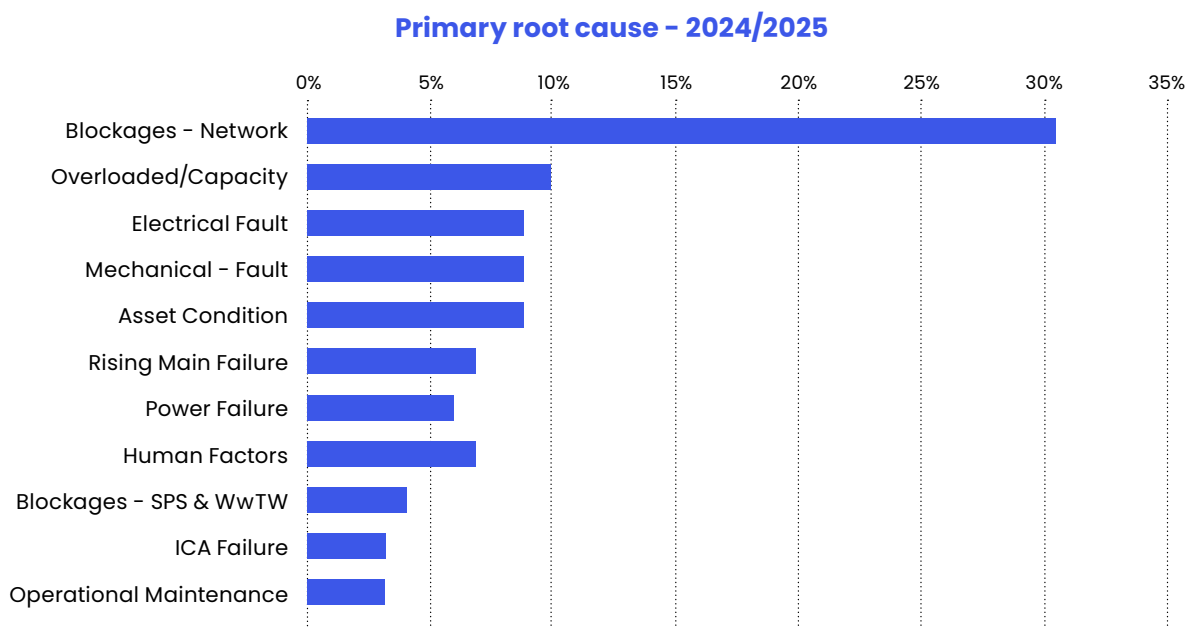


Figure 3: Incidents by primary root cause – 2024/2025

In 2018 Yorkshire Water commenced a significant programme of pollution improvement activity that has led to a downward trend in pollution incidents over the last five years, and this is a trend that we mean to continue. Despite challenging performance in recent years we believe our Pollution Incident Reduction Plan (PIRP) has helped us to drive improvements and if we sustain this focused effort, we will be able to continue our long-term trend of pollution reduction.

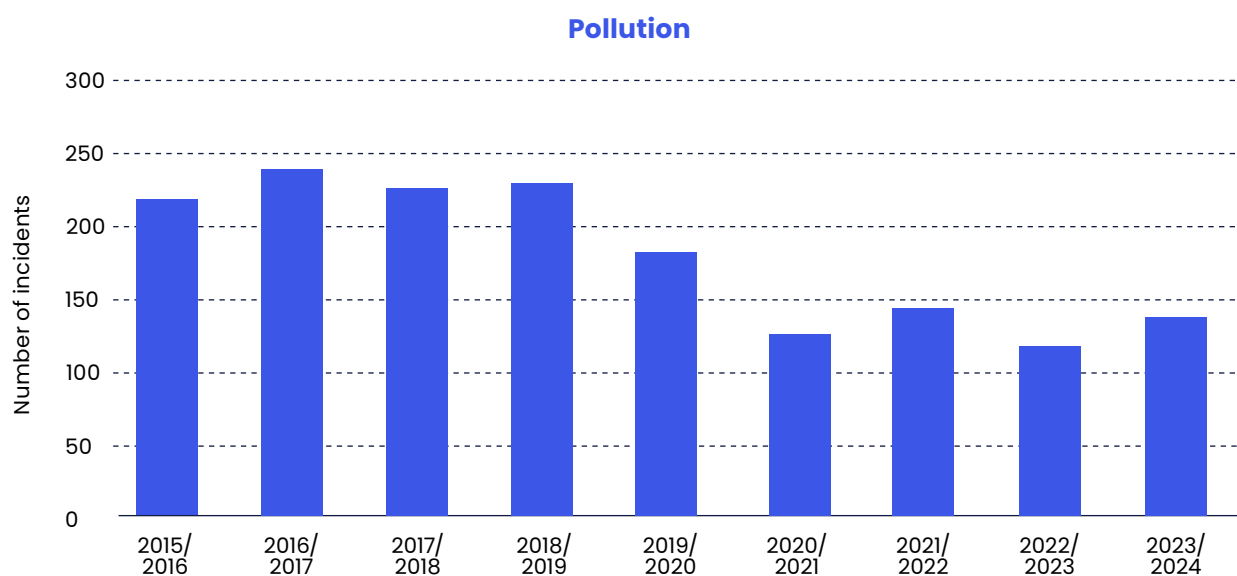


Figure 4: Total pollution performance 2016–2023

Here are some of the key initiatives we've completed over the last five years to drive improvements:

- **Network visibility:** Installing 1,000 devices across our network at pollution hotspots, enabling greater visibility of our network. We saw significant benefit in this approach through the early identification and response to issues before they impact the environment. By the end of 2024/2025, we had grown this number to 5,500 devices and we plan to go further in the next five years.
- **Intelligent pump reversal:** Pump blockages often occur on Sewage Pumping Stations due to the inappropriate disposal of wet wipes, sanitary products, and kitchen waste such as fats, oils and grease from both domestic properties and local businesses. When this happens, an Operator is sent to site to unblock the pump to prevent a pollution incident. In the last 5 years we have installed intelligent pumps at 500 sites across the region (1,000 pumps) that provide automatic blockage recognition, reverses the pump flow and clearing the blockage prior to any potential pollution. This gives us more time to deploy a colleague to site to fully resolve the cause. With any innovative technology we want to understand the real life at scale application before we roll out across our full asset base. We have completed the first phase, which included 500 of our highest risk stations. We are now evaluating and reviewing the outcomes, before we decide whether to proceed with the planned rollout to all remaining stations.
- **Pressure monitoring & smart air valves:** In the last five years we've installed pressure monitors on 150 of our highest risk rising mains, providing us with live performance information. This system highlights where an asset is drifting outside of its expected operating parameters and could be a developing problem, which may result in a failure. This, combined with other intelligence on how our pumped systems are operating, will enable us to respond quickly to any developing issues and resolve them before they cause a pollution incident. We have also deployed eight smart air valves at high-risk locations, as a trial to reduce the risk of rising main bursts caused by faulty air valves. We continue to review the infield performance to help shape our future investment plans.
- **Electrical signature analysis** – We have deployed Samotics condition monitoring on a large proportion of our wastewater SPS, CSO & Detention Tanks sites to capture early indication of pump failure and other issues, such as pump blockages, airlock and cavitation. We have successfully installed this technology and are actively monitoring on 1,388 pump assets. The alerts from the equipment are directed through Central Control and when a status outside of normal operations is detected, this will trigger an investigation from our operational team. There are already benefits being achieved from this intervention, where we have attended and rectified issues prior to environmental impact. We are not stopping there, a further 308 have been installed and going through the commissioning process and we plan to install a further 312 assets early in AMP8.

These are just a few of the interventions we have made to improve performance, but we recognise that there is still a long way to go, so this next iteration of our PIRP has been developed to drive us forward towards our vision of a Thriving Yorkshire, right for the Environment, right for Customers.

Serious pollution

We recognise that zero is the only acceptable number for serious pollution incidents (Category 1 & 2), and in recent years we have not achieved this level, including a further expected deterioration to our performance in 2024. Serious pollution events are the highest categorisations that can be awarded under the Common Incident Classification Scheme (CICS). CICS is the benchmarking employed by our regulators, the Environment Agency, to review the impact of a pollution event, to ascertain the incident severity and to apply a standardised categorisation.

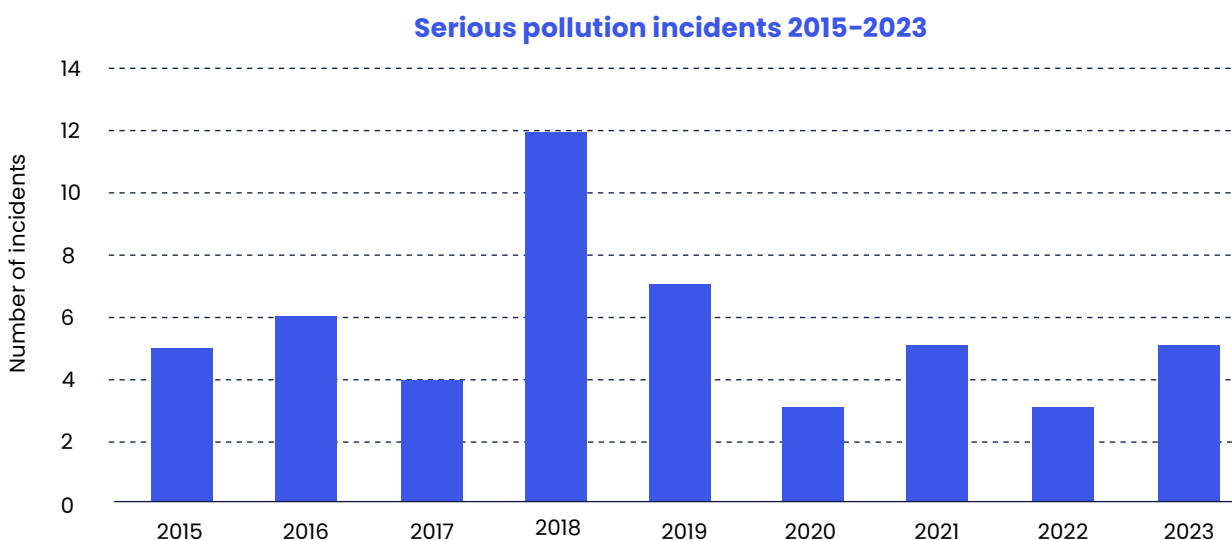


Figure 5: Serious pollution incidents 2015–2023

Our mutually agreed target with Ofwat and the Environment Agency will always remain at zero serious incidents per year, and we will not rest until we achieve this level of performance. We are disappointed by the number of serious pollutions and we are fully committed to making positive changes to address this issue.

% Serious pollution incidents by asset type 2020 to 2024

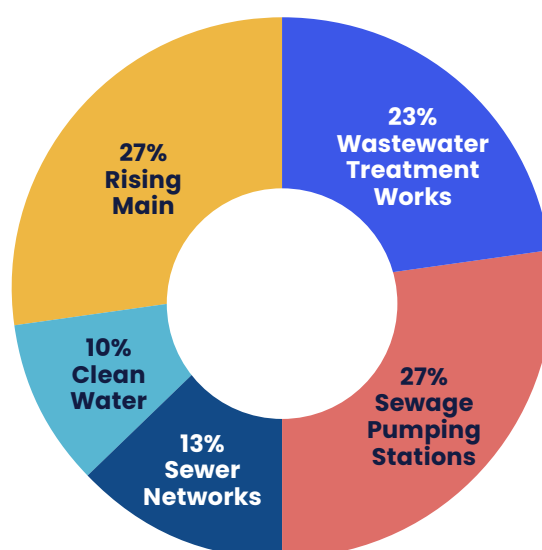


Figure 6: % Serious pollution incidents by asset type

When we have created our plan we have taken the learnings from each incident and are reviewing processes and procedures across the whole organisation, including clean and wastewater, and updating our management system. We have taken immediate steps, for example, refreshing our pollution training which is being rolled out across frontline operations in face-to-face interactive sessions.

Plans for AMP8 (2025–2029)

As a private business providing an essential public service, we're subject to stringent statutory requirements. An important part of our strategy is to make sure we deliver everything that's required of us by law, but we want to go further, surpassing the expectations of our customers, and exceed our own ambitious goals.

The Environment Agency expects all water companies to prevent serious pollution incidents and requires us to have effective pollution reduction plans to minimise category 3 incidents. Using 2024 performance as a baseline, the Environment Agency expects the following by 2030:

- 30% reduction in total pollution incidents
- 0 serious incidents



For Yorkshire Water this represents having no more than 98 pollutions per year by 2030 and zero serious pollution incidents. We're committed to going further and plan to outperform this target.

Our PIRP is a dynamic plan explains how we will reduce pollutions incidents across our asset base to achieve our goals in the period 2025–2029. The plan demonstrates how we will achieve the PR24 Business Plan glidepath performance commitments for both total and serious pollution incidents. The Plan has been submitted to the Environment Agency and has been externally assured.

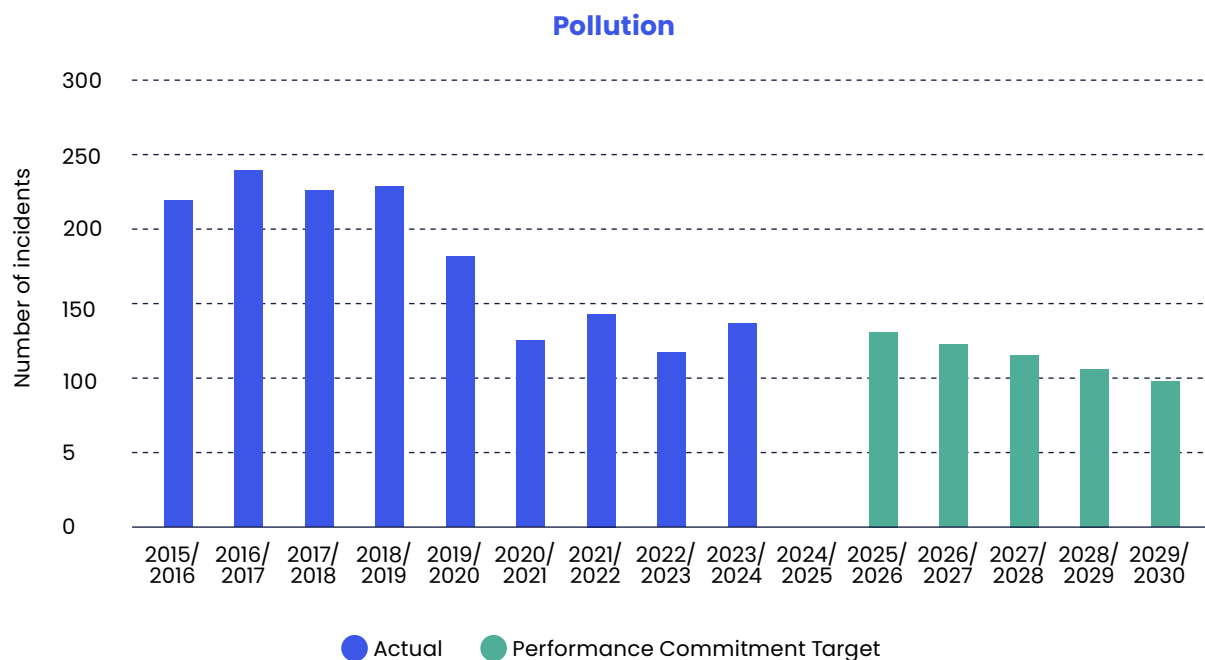


Figure 7: Pollution performance, including forecast pollution targets.

Here are the three main themes for our pollution reduction plan:

- **Asset health** – This is about strategically investing in our assets to improve overall health and reliability.
- **Operational intelligence** – Investing in additional monitoring on our assets which we will use to create actionable intelligence, allowing us to respond to issues before they cause an impact to the environment.
- **Enhanced operational effectiveness** – Enhancing our operational maintenance regimes and ensuring that we have an industry leading management of risk and response when incidents do occur.

Our plan is ambitious and we recognise that it will evolve throughout the 5 year period to ensure we continue to target the right risks, embed new and emerging technology and spend customers money wisely. We will review our plan quarterly with the Environment Agency, and we will complete a full review should there be any changes in regulatory guidance during the PIRP period. Our Board has signed off our pollution incident reduction plan and we have published our plan on our website as part of our drive for transparency and accountability to our customers and our regulators. Our Director of Water and Wastewater Services is accountable for the delivery and review of our plan.



Theme 1: Asset health

Investing in the overall health of our assets is crucial for ensuring the reliability of our services. By maintaining and effectively upgrading our infrastructure where required, we can prevent unexpected breakdowns and asset failures, minimising any impact to the environment.

We're investing over £60m to reduce the risk of pollution across our assets. We're focusing on these key areas to make our services better:

- **Rising mains:** Focussing on rising mains (RMs) which are pressurised wastewater pipes. These have historically cause a significant proportion of our serious incidents, so we are focussing on enhanced rehabilitation/renewal and/or installation of new sensors/air valves as required.

Assets impacted:

Rising Mains (RM)

- **Inlet works:** Focussing on improving the inlet works at our Wastewater Treatment Works to prevent blockages from occurring which lead to failures. This stream will be focussing on refurbishing or replacing inlet screens to enhance reliability across the Yorkshire region.

Assets impacted:

Wastewater Treatment Works (WwTW)

- **Power resilience:** Our analysis shows that a significant proportion of our incidents at our Sewage Pumping Stations and Wastewater Treatment Works assets are due to power supply failure, which often happens during periods of severe weather. In the last year, power failures accounted for approximately 10% of our total incidents, so we are driving investment to increase power supply resilience which will enable us to continue to operate effectively when power failures occur.

Assets impacted:

**Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)**

- **Enhancing critical asset maintenance:** Increasing our Capacity to ensure we complete a greater proportion of our cyclical operational, mechanical and electrical equipment maintenance even earlier, feeding in the learning from dynamic asset maintenance, moving from set time based maintenance to performance maintenance.

Assets impacted:

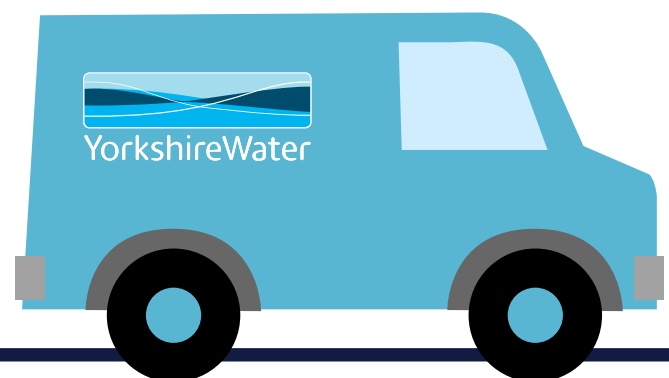
**Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Clean Water treatment & distribution**

We anticipate that our investment in asset health will account for approximately 30% of the expected improvement across our next 5 year plan investment period.

Case study: **Howden Broad Lane SPS**

Howden Broad Lane sewage pumping station (SPS) passes flow forward to Howden Wastewater Treatment Works. The site outperformed its environmental permit in terms of pass forward flow rate and storage, but even in permitted conditions its discharge was causing an impact on the receiving watercourse (Howden Dyke Drain) due to the low natural flow rates in the watercourse.

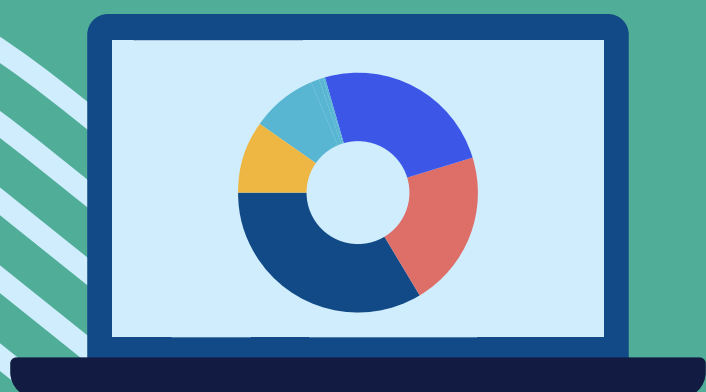
To mitigate any harm to the environment we have constructed two new rising mains that now conveys any storm flow from Howden Broad Lane SPS to a new 4,000m³ below ground storage tank, and then on to Howden Wastewater Treatment Works. Now this has been completed, the solution has immediately mitigated the impact to Howden Dyke with zero spills to this watercourse. We believe this is a great example where a solution has been developed which drives the best outcome for customers and for the environment.



Theme 2: Operational intelligence

Harnessing operational intelligence from our assets is vital for optimising performance and reducing risk to the environment, which is why we are looking to grow this area significantly across the next 5 years.

By leveraging data and insights from our telemetry infrastructure and utilising external engagement opportunities, we can make informed decisions that allow us to intervene early, and where possible prior to failures. This proactive approach allows us to identify potential issues before they become critical, ensuring a smoother and more reliable operation.



- **Telemetry enhancement:** We will be investing in over 20,000 additional monitoring points across our wastewater asset base, including sewer level monitors, Final Effluent Monitors and River Water Quality sensors. All of this additional monitoring will give us greater insight into the performance of our wastewater network. As part of this programme we are identifying and aligning deployment to ensure we can actively manage sensitive areas potentially at greater risk e.g. Sites of Special Scientific Interest, Special Areas of Conservation and Bathing Waters.
- **External engagement (river watch):** In addition to monitoring by telemetry devices, we are engaging with stakeholders such as the Rivers Trust and local river action through our Yorkshire River Watch app. This app allows people to report on the condition of our rivers across the region and identify where our assets may be causing a problem. Early identification of potential issues will help us to intervene quickly, reducing the potential of a serious incident occurring.

Assets impacted:

Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Sewer network

Assets impacted:

Sewer network

- **Control room operational intelligence:** With all this additional monitoring and information from our assets we have created a new dedicated team in our control room. This team will review the information coming in from around the region, utilising Artificial Intelligence and machine learning, assess any issues that may be presenting themselves and then pass alerts to our front line teams before they cause an issue to the environment.

Assets impacted:

Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Sewer network

We anticipate that our investment in Operational Intelligence will account for approximately 50% of the expected improvement across expected improvement across our next 5 year plan investment period.

Case study:

One of our key strategies involves investing in new technologies to enhance the visibility and management of our underground network.

To do this, we're rolling out over 20,000 smart monitoring technologies to reduce pollution incidents. This proactive approach aims to identify and mitigate potential issues before they escalate into significant environmental impacts. We're working on long-term solutions to build resilience against extreme weather conditions, which can make pollution problems worse.



Theme 3: Operational effectiveness

Operational effectiveness, particularly through enhanced maintenance practices, plays a crucial role in improving pollution performance.

Ensuring that our people and equipment are operating at their peak performance will mean that we will reduce failure and therefore result in less pollution. Additionally, proactive maintenance helps in early detection and rectification of potential issues that could lead to failure and therefore pollution risk.



How we are improving our operational effectiveness:

- Operational response and mitigation:** Our ambition is to respond proactively to the risk of failure. When things do go wrong, we need a world class response. That's why we are expanding our resource capability to enable us to respond to all Wastewater pollution within 2hrs with a dedicated expert team. Responding to pollution with a dedicated expert is crucial to help us improve performance. Firstly, experts possess knowledge and experience in identifying pollution sources, which allows for accurate assessment of the pollution impact and thorough investigations into the cause. This expertise ensures that the most effective solutions are implemented to prevent any repeat incidents. Their involvement also facilitates better communication and collaboration with stakeholders and wider Yorkshire water teams so that we get the right response, every time.
- RCA approach:** Every incident that has resulted in or had the potential to result in a pollution already undergoes Root-Cause Analysis (RCA). This is to identify the learning opportunities and reduce the likelihood of repeat incidents by taking effective, corrective action. We believe that we can enhance this process to ensure learning is documented and shared throughout the business to support continuous improvement. Along with our own internal RCA process, the water industry as a collective is committed to sharing best practice through collaborative groups. Yorkshire Water plays an active role in these groups which include the Pollution Reduction Group as well as the Sewer Network Abuse & Prevention Group.

Assets impacted:

Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Sewer network
Clean water treatment & distribution

Assets impacted:

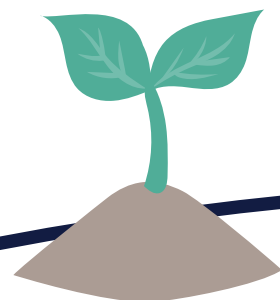
Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Sewer network
Clean water treatment & distribution

- Operational training & development:**

We are going to further enhance our teams competency. We have recently refreshed and rolled out our face to face training to increase awareness on how to prevent, mitigate and report pollution. This also relates to increasing awareness in our contractors and partners who work for us, to ensure that when they are working on our sites they are following our policies and procedures.

Assets impacted:

Wastewater Treatment Works (WwTW)
Sewage Pumping stations (SPS)
Rising Mains (RM)
Sewer network
Clean water treatment & distribution



- **Tackling blockages through education:**

We recognise that the best solution to any problem is to look to prevent the issue at source. With that in mind we commenced our education campaign around blockages in September 2023 and we are continuing to run these as we move into the next 5-year period. We are continuing targeting hotspot blockage areas, including the following items:

- **Education programmes** – working in schools with our key education programmes around unflushables, including our hey girls campaign and our LEGO Education-based programme to raise awareness of the causes of sewer blockages in schools around the region.
- **Network protection** – Our Network protection team will continue to visit commercial and residential customers to outline the negative impact foreign objects – such as wet wipes, fats, oils and greases, and sanitary items – can have on the sewer network.

Assets impacted:
Sewer network

Case study:

We have developed hands on, simulated pollution training for our operational frontline colleagues to improve our investigation and response when things go wrong.

The training combines classroom learning with practical, hands-on experience of managing and mitigating pollution incidents, bridging the gap between theory and practice. This blended approach ensures that individuals are not only well-informed but also capable of effectively addressing pollution challenges when they are responding in real time.

We commenced roll out in October 2024. We have over 100 colleagues already trained, and we anticipate this will be completed in 2025, ensuring we have the right culture to achieve our vision of a thriving Yorkshire, right for the customer, right for the environment.

We anticipate that our investment in Operational Intelligence will account for approximately 20% of the expected improvement across expected improvement across our next 5 year plan investment period.

Our delivery plan

Our pollution incident reduction plan is focused on delivering consistently excellent environmental performance. It's also fundamental to helping drive resilience in our overall asset base to avoid harm to the environment and provide great service to our customers and the people of Yorkshire. This plan will be a living document, it will be dynamic and will evolve with experience and the continued learning from our root cause analysis and industry best practice. We will review our plan quarterly with the Environment Agency.

In order to make sure our plan is successful we have strong governance and assurance in place to track delivery and benefit realisation. We run a tiered hub structure to track performance and identify/manage risks across the business. At the foundation level regular performance reports feed into Performance Excellence Hubs (PEX), that track performance and drive action to resolve developing issues at a local catchment level.

Management oversight is provided through our Delivery Assurance group, which tracks progress on our initiatives and provides a route for dilemma escalation. Senior management oversight is provided by the Wastewater and Clean Water Leadership Teams, and the progress of initiatives will be tracked through the Wastewater Programme board with Board oversight via the Safety Health & Environment (SHE) Committee. We have also had our plan reviewed by Cranfield University, to provide us with an extra level of assurance.





Summary

We are committed to protecting the environment which is why we've set ourselves an ambitious target which will see us outperform the targets set out by the Environment Agency within their WISER document.

We've learnt a lot over the past five years since we published our first PIRP and have built this into our new plan, as well as broader best practice from across the industry. Through a robust governance structure, we'll monitor our performance closely so we can remain agile and able to adapt our plan to emerging trends. We commit to publishing an annual progress report that will cover pollution performance and an update on PIRP initiative delivery.



What can you do to help?

We're delivering lots to help improve the state of Yorkshires Rivers and help them thrive. There are several ways that you as an individual can help improve your local river. Try these tips below:

Stop and think not down the sink

Blockages caused by fats, oils and greases can lead to sewage escapes into the local environment and, in some cases, pollution of watercourses. Following these simple guidelines can help to prevent this from happening:

- ✓ **Do** wipe and scrape plates, pans and utensils before washing (and put the waste into the bin).
- ✓ **Do** collect waste oil in a suitable secure container.
- ✓ **Do** arrange for oil to be collected by a licensed waste contractor.
- ✓ **Do** use strainers in sink plug holes (and empty contents into the bin).
- ✓ **Do** maintain Grease Traps and Enzyme Dosing equipment regularly.

- ✗ **Don't** put cooking oil, fat or grease down the sink.
- ✗ **Don't** pour waste oil, fat or grease down the drain.
- ✗ **Don't** scrape leftover food into the sink (place in the rubbish bin).
- ✗ **Don't** sweep waste into floor drains (put rubbish in the bin).
- ✗ **Don't** pour boiling hot water down the sink to try and dissolve fat and grease. It Doesn't work.

Only flush the 3 Ps! Pee, poo, and paper.

Flushing wipes blocks pipes! Toilets are only designed to remove human waste and toilet roll. Even when it says 'flushable' on the packet, these can take years to break down.

Install a water butt

Did you know in 2023, enough rain fell on your roof to fill an average water butt 450 times? Not only will this provide you with water to use in your garden, but it will also prevent our combined sewers becoming overwhelmed.

Think you've spotted pollution?

Please call us on **0800 138 34 84** or report it [here](#).

Be sure to make a note of where you've seen it and if you can see where it's coming from.



Thank you for reading



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