

# Norfolk County Council Scrutiny Committee



**Dr Robin Price** – Director of Quality and Environment

**Jonathan Glerum** – Regional Flood & Coastal Manager

**Emily Linsdell** – Regional Engagement Intern

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22 March 2023



# Our water company

The **largest** water and water recycling company in England by geographic area



Employing more than

**5,000**  
people

Serving almost

**7 million**  
customers across the  
East of England and Hartlepool

The driest region in  
the UK with

 **2/3**  
of the national average  
rainfall each year



One of the UK's  
fastest-growing regions,  
projected to grow by

**175,000**  
homes by 2025

Operating more than

**76,000km**

  
of sewers -  
almost twice  
the world's  
circumference! - and **1,128**  
water recycling centres.

# A look at the big picture: strategic goals and ambitions driven by purpose

Our purpose is to bring environmental and social prosperity to the region we serve through our commitment to *love every drop.*

Our four key goals for 2020-2025 are guided by the views and needs of our stakeholders

- 1 To **make life better** for our customers, every single day
- 2 To **deliver our 2020–2025 Final Determination**
- 3 To **deliver** our identified business priorities
- 4 To **create a sustainable future** for our region

Our 25-year strategic ambitions are shaped to deliver on our purpose and drive us to achieve more, for everyone



By 2030, be a **net zero carbon** business and reduce the carbon in building and maintaining our assets by 70%.



Work with others to **achieve significant improvement in ecological quality** across our catchments.



Make the **East of England** **resilient** to the risks of drought and flooding.



**Enable sustainable economic and housing growth** in the UK's fastest growing region.

# Get River Positive

Driven by our purpose, and the shared expectations of our customers that rivers should be beautiful places, rich in nature, Anglian Water joined forces with Severn Trent in March 2022 to launch [Get River Positive](#)

This means we will strive to do no harm to UK rivers and do everything we can to ensure they can thrive.



## Our five Get River Positive commitments

- ▶ Ensure storm overflows and sewage treatment works do not harm rivers.
- ▶ Create more opportunities for everyone to enjoy our region's rivers.
- ▶ Support others to improve and care for rivers.
- ▶ Enhance our rivers and create new habitats so wildlife can thrive.
- ▶ Be open and transparent about our performance and our plans.





# Welcome scrutiny on water recycling and pollutions



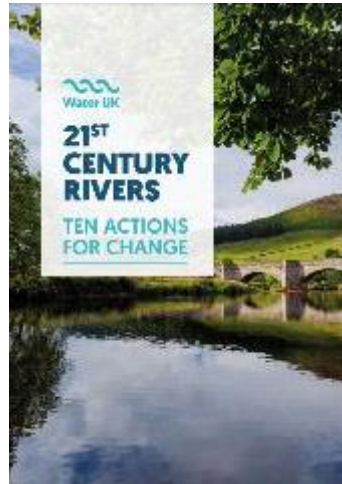
**We're investing £811 million between 2020-2025 as part of our Water Industry Natural Environment Programme**

## Setting the scene: the big picture

**Across the UK** combined sewer overflows contribute just 4% of the reasons why UK rivers are not high quality (and only 1% in the East of England).

Other drivers impacting river water quality include:

- Agriculture and rural management
- Urban development and transport
- Non-native species
- Misconnected plumbing



## Storm spills investment in numbers

- Our accelerated £200 million+ AMP7 programme
- Installing more storm tanks: £80 million
- Increasing capacity at water recycling centres, reducing the risk of spills to the environment: £56 million
- Targeting investment to increase monitoring, directly reduce spills and pollutions, and protect the environment: £46 million
- Improving bathing water quality: £21.5 million
- Installing sustainable drainage solutions: £20 million

## The future we want to see

- **The statutory need to tackle storm overflows ensuring prioritisation through the price review process**
- **A new, jointly owned national plan for rivers**
- **An end to the automatic right to connect**
- **A ban on wet wipes that don't meet Fine to Flush standards**
- **Collaborative action to restore rivers and natural habitats**

# Communications about water quality

## Our coastal bathing waters

Our 48 bathing waters are some of the cleanest in the UK. We have achieved this through:

- A long-term commitment to the coast
- Investing more than £300 million in our coastal network
- Working closely with others, including councils, the EA, landowners, businesses and homeowners
- Developing a sophisticated technology and marine models to understand the factors affecting the quality of our bathing waters, whilst investing over £2 million to develop our BeachAware system.

## BeachAware

BeachAware uses a coastal model which holds bacteria thresholds for beaches and predicts the movement of plumes and impact they may have to bathing water quality.

Based on these findings the system sends alerts to the local authority, the EA and Surfers Against Sewage.

BeachAware alerts can be generated following the activation of a storm overflow as a result of rainfall. Whilst the discharges from storm overflows are usually predominantly rainwater, the BeachAware system sends out notifications as a precaution.

Other factors which impact beach water:

- ✓ Misconnected private drains
- ✓ Run-off from highways and farmland
- ✓ Dog and wild animal fouling

Other key factors in Norfolk are the impact from birds, seaweed and algae.

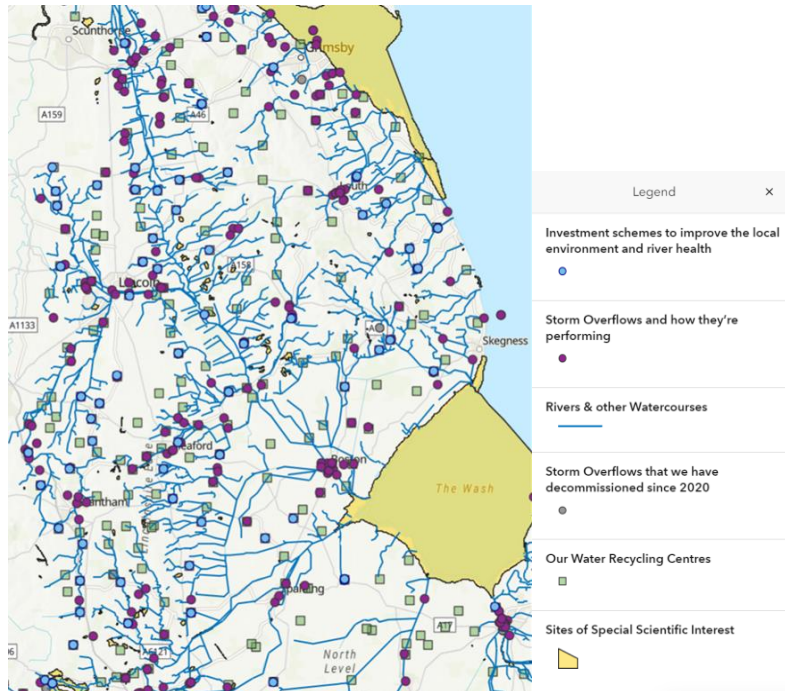
Our Coastal Catchment Managers work collaboratively to investigate and address issues of pollution.

# Where else to find information

## The Get River Positive Map

An interactive map where you can view:

- Storm overflows and their performance
- Rivers and SSSIs
- Anglian Water's assets
- Investment schemes
- Decommissioned storm overflows

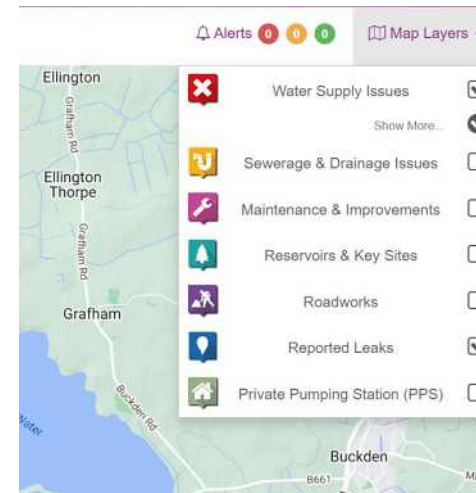


## In Your Area

An interactive map where you can view:

- Details about sewerage and drainage issues
- Maintenance plans
- Planned improvements and investments

*Remember to filter map layers to see all that is going on in your area!*



# What are Storm Overflows?



- Storm overflows – permits issued by the Environment Agency (EA).
- Combined sewers take both sewage and rainwater and become inundated with water following high rainfall events – Storm overflows take pressure off the system by releasing excess water into rivers and sea and protect homes and businesses from flooding.
- Vast majority of what storm overflows release is rainwater.
- These types of sewers were built in Victorian times and 60s and 70s – none have been built since privatisation (1989).
- Event duration monitoring programme complete by end of 2023 to monitor storm overflows.
- Opportunity to target investment in storm overflows.



# Event Duration Monitors (EDMs) – installation and maintenance

- **EDMs tell us:** if and for how long our storm overflows discharge for. **This allows us to:** identify those that aren't performing as we would like so that we can decide where to invest.
- Currently about **84%** of our storm overflows are fitted with EDMs, but by the end of the year we will have 100% coverage.
- The data which our EDMs collect is monitored by the EA.
- We ensure that our EDMs are regularly maintained and recognise the importance of this, especially as they tend to be in volatile locations.
- Following an activation alert, we assess the data to determine if a spill has occurred – about one third of recorded events are false spills (activations). During our investigations we use the data we have gathered to understand the causes of false activations.



# Storm overflow incidences

- All water companies provide the EA with EDM data every year as part of their regulatory annual return to fulfil their permitted conditions to discharge from storm overflows under the Environmental Permitting Regulations. The data is available on the DEFRA data services platform.
- Our 2022 return is currently being verified by the EA. Figures at this stage across our region show a reduction of 54% in the total hours of spills compared to 2021, with an average of 14 spills per overflow— down from 25 in 2021.
- Figures also show that we are fully treating our wastewater 99% of the time, with the other 1% being dealt with under exceptional circumstances, as allowed by our permits.
- 84.57 % of storm overflows in Norfolk now have an EDM fitted – up from 66.86% in 2021.
- 2022 figures for Norfolk show a reduction of 2,596 in the total hours of spills compared to 2021, with total activations up by 784. Data is currently being verified by the EA.
- Latest figures show that during 2022 there were two discharges from storm overflows in Norfolk that were classed as minor pollutions (Cat 3) to water. Both were caused by blockages.

# Steps to reduce and prevent storm overflows



## Our Water Industry National Environment Programme (WINEP)

We are investing over £800 million between 2020-25 to protect the environment and improve river water quality. This is the largest investment of any UK water company.

Within WINEP we are investing £220 million alone on reducing storm spills, this includes:

- 🔧 £56 million on capacity upgrades at Water Treatment Works
- 🔧 £80 million on installing additional storm tanks
- 🔧 £23 million on increasing overflow monitoring and improving visibility
- 🔧 £21.5 million on improving bathing water quality

## Sewer monitors

We are installing an additional 22,000 sewer monitors, which alongside our EDMs will tell us where problems are and where we need to invest.

## Get River Positive (GRP)

Through meeting the five commitments, GRP aims to:

- Eliminate all serious pollutions by 2025
- Reduce less serious pollutions by 45%
- Reduce spills from storm overflows to an average of 20 per year by 2025.

## Storm Harvester

This is our data intelligence system which we are linking our EDM and operational monitoring devices to.

This system draws on multiple sources of information in our region (including river levels, rainfall and borehole levels) to flag when the network is operating abnormally – helping us to react quicker.

## Storm Overflow and Assessment Framework

We use this to survey and assess the impact of our highest spilling storm overflows. We invest where we find evidence of impact.

# Retrofitting and upgrading storm overflows



- Removing Storm Overflows is complicated – requires re-plumbing of towns and cities and new flood defence measures to continue to protect customers.
- We have focused on reducing the impact of Storm Overflows for many years – prioritising those where there is highest environmental risk.
- EA has issued environmental permits for the 1552 Storm Overflows in our region.
- In recent years we have surrendered permits for 16% of our overflows - removing them where we can.

In Norfolk alone, we have surrendered the permits for 19 overflows since 2019.

- Partnerships with the local planning authority, local Rivers Trust, farmers, landowners, and highways authorities are vital to improve river health and reduce storm flow activations. By not flushing unflushables, customers can play their part too.


- Welcome the Government's announcement earlier this year about a consultation on Schedule 3 of the Flood and Water Management Act. The aim is to make Sustainable Drainage Systems mandatory and remove the automatic right to connect which will help to reduce storm overflow activations.



# How we decide which storm overflows to prioritise for investment

- We investigate if a storm overflow is operating unusually and assess if a polluting discharge has taken place – not all spills cause environmental harm.
- Where an environmental impact is confirmed, the event is reported to the EA. We then resolve the cause through operational activities or investment to repair or replace damaged or deteriorated assets.
- For 2020-2025 we have followed the Storm Overflow Assessment Framework which uses a five-stage process to help us prioritise where to focus infrastructure improvements.
- Also working with experts in AI to innovate and improve devices which monitor spills and enhance accuracy to better understand our network.
- And currently working with the EA, Natural England and the Rivers Trust to plan our investment programme for 2025-2030 which prioritises storm overflow investment according to new DEFRA classifications of high priority sites as defined by ([Storm overflows discharge reduction plan - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/672212/storm-overflow-discharge-reduction-plan.pdf))

# The next steps for Heacham


 Working with the EA and the Borough Council of King's Lynn & West Norfolk to investigate the bathing water classification at Heacham, Hunstanton Main Beach and Hunstanton (Old Hunstanton).


 **Factors impacting water quality at Heacham:**


- Research has identified birds feeding on the mudflats as the main source of contamination.
- Further potential impacts from the River Heacham, surface water outfalls and an emergency storm overflow in Hunstanton.

 **Treatment at the Heacham Water Recycling Centre:**

- Does not discharge to the environment via a storm overflow – there isn't one onsite.
- Due to the proximity to bathing waters, treated effluent is disinfected with UV light which removes harmful bacteria and viruses.

 Surface water drains are designed to only take rainwater from roads and roofs. We have carried out misconnection surveys along these drains and run a 'Blue Crab' campaign to remind people that it should only be rain down the drain.

 Optimisation of South End Road pumping station at Hunstanton has resulted in reductions in storm related discharges. Previous investigations have indicated this asset poses a low risk to water quality.

 Continuing to work with stakeholders to investigate bathing water quality, with work focusing on reducing impacts from surface water outfalls and investigating water quality along the River Heacham.

# How Norfolk compares with other parts of the region

In addition to the Heacham and Hunstanton bathing waters, there are 3 'Good' and 3 'Excellent' bathing waters in North Norfolk plus 5 'Excellent' and 1 'Good' bathing waters in Great Yarmouth borough.

A reasonably strong performance but appreciate disappointment as all were previously classed as 'Excellent'.

## East Runton

- Classification mainly impacted by low EA sample frequency which skewed average levels even when elevations in bacteria are very small
- Also impacted by the presence of decaying seaweed piles on the beach
- EA to review the frequency at which they sample beaches in the area. Council has agreed to consider instructing their shoreline rangers to remove decaying seaweed piles from the tidal zone in future
- Minor impact from Anglian Water assets. Plan to investigate further via a future WINEP investigation, subject to agreed funding

## Mundesley

- There was one sample this year linked to heavy rainfall during which there were short duration spills from 2 storm overflows in the catchment. This may have combined with urban and agricultural run-off to cause the elevated bacteria level.
- We have proposed a WINEP scheme to reduce spills to less than 2 per bathing season in this catchment in 2025-2030.

# How Norfolk compares with other parts of the region

## Sea Palling

- We have no assets in this catchment so will not be a contributing factor.
- Only very minor elevations in bacteria were recorded in the EA samples but this was enough for the beach to drop to good due to a low EA sample frequency at this beach.

## Hemsby

- We have no outfalls in the immediate area and have proposed a WINEP investigation next AMP (2025-2030) to understand whether our outfalls several miles away in Great Yarmouth Quay can have an impact (similar studies in other areas would suggest they are too far away).
- This beach also appears to have been impacted by algal blooms and the presence of decaying seaweed piles on the beach. The Borough Council has agreed to consider instructing their shoreline rangers to remove decaying seaweed piles from the tidal zone.



# The sources of river pollution

Across the UK combined sewer overflows contribute just 4% of the reasons why UK rivers are not achieving 'good status' – and the figure for the East of England is only 1%.

The other main contributors to river pollution are:

## Agricultural run-off

- Arable land mainly injects nutrients (phosphorus and nitrates), chemicals (pesticides) and soil sediment into rivers.
- Farming livestock also contributes faecal bacteria and pathogens, chemicals and soil sediment.
- Within Norfolk, agriculture and rural land management contributes the most pollutants to the rivers and waterways.

## Highways run-off

- Up to 300 pollutants build up on roads and when it rains, they are washed into nearby rivers.

## Urban development (including industry)

- Pollution from urban areas, including hydrocarbons, metals, litter, nutrients and pathogens, impact water quality.

# Other factors impacting river water quality

## Blockages

80% of the 40,000 sewer blockages we experience a year are avoidable. These blockages contribute to river water quality because they stop our sewers flowing and as a result storm overflows discharge to prevent customers' toilets backing up.

## Mechanical breakdown

If we experience mechanical failures on our network, storm overflows can discharge to reduce the customer impacts of these failures. To reduce the chance of mechanical breakdown, our teams work proactively to ensure that our assets are performing well and can carry on doing so. For example, we have an extensive pumping station service programme which is carried out between January and May every year.

## Misconnected plumbing

Across our network we battle with misconnections. This is when surface water is plumbed directly into the foul sewer, which reduces the capacity of the sewer and could result in spills during heavy rainfall. Likewise, toilets, dishwashers, sinks and washing machines could be plumbed into the surface water sewer, which would result in this dirty water discharging straight into rivers.

## Private sewage treatment/septic tanks

## Physical modifications

## Invasive species

# Thank you for listening

