Storm overflows

Lisa Bush
Head of Pollution Improvement Strategy
Anglian Water

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What are storm overflows?

And why they are necessary today?

What they are...

Storm overflows or **CSOs** are a designed part of our sewerage system that act as **'pressure-release-valves'** to avoid the network backing up and flooding properties when there is heavy rain

Sewers have not been designed like this for many years, but **urban creep**, changing **rainfall** patterns with **climate change**, and a lack of natural drainage, are all increasing pressures on these outdated systems

Storm overflows are **common** across Europe, with a total of **650,000** storm overflows across the continent. **15,000** of these are in England and **1,500** in the Anglian Water region.

During **wet weather** and **snow melt**, storm overflows release diluted wastewater into rivers, preventing a combination of sewage and rain from overloading the sewers and backing up into homes and businesses.

Why they're a problem

Despite storm discharges being predominantly rainwater, it is never desirable for untreated sewage to be released to the environment

Storm overflows are amongst the reasons why rivers fall short of 'Good Ecological Status', though only account for around 4% of these reasons nationally, and less than 1% of the reasons in our region (see below)

Storm overflows operate under permits from the Environment Agency, and none of our storm overflows are considered by them to be 'unsatisfactory'.

How are Anglian Water performing?

2022 we saw a 54% reduction in duration of spills, and the joint biggest reduction across the water industry for 2021 –2022. The last time we saw numbers this low was in 2018, when only 9% of our network was covered by EDMs. 2022 spills have reduced to 89,514 hours in 2022 from 194,594 hours in 2021;

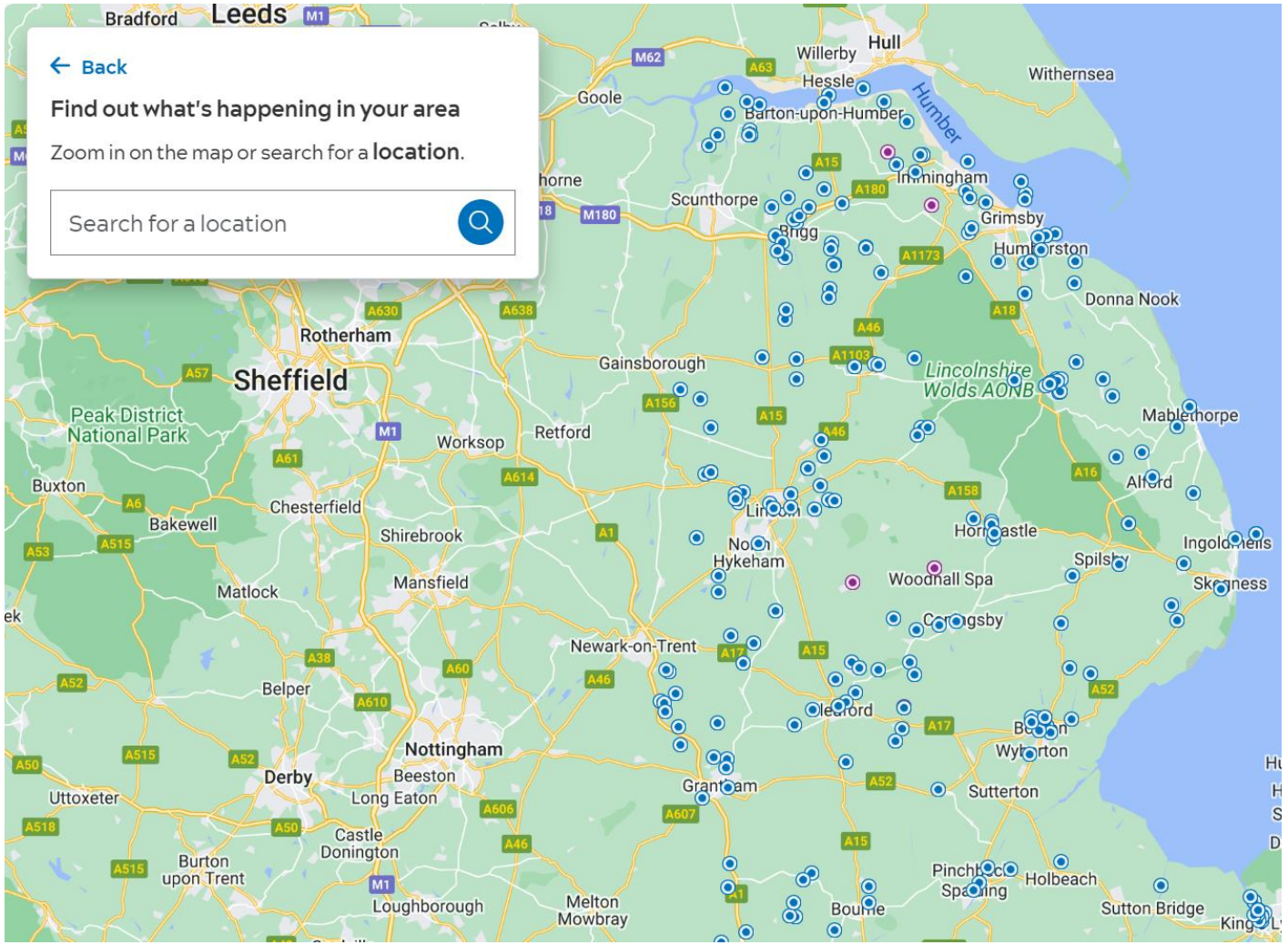
- The average duration of spills per EDM equals 84 hours during 2022 compared with 232 hours in 2021 and 405 hours in 2018 when we first reported EDM information.
- The average number of spills across all storm overflows was 15, down from 25 the year before.
- At the end of 2022, our EDM coverage was at 68%, up from 54% in 2021, we will have 100% coverage by the end of this year (December 2023).

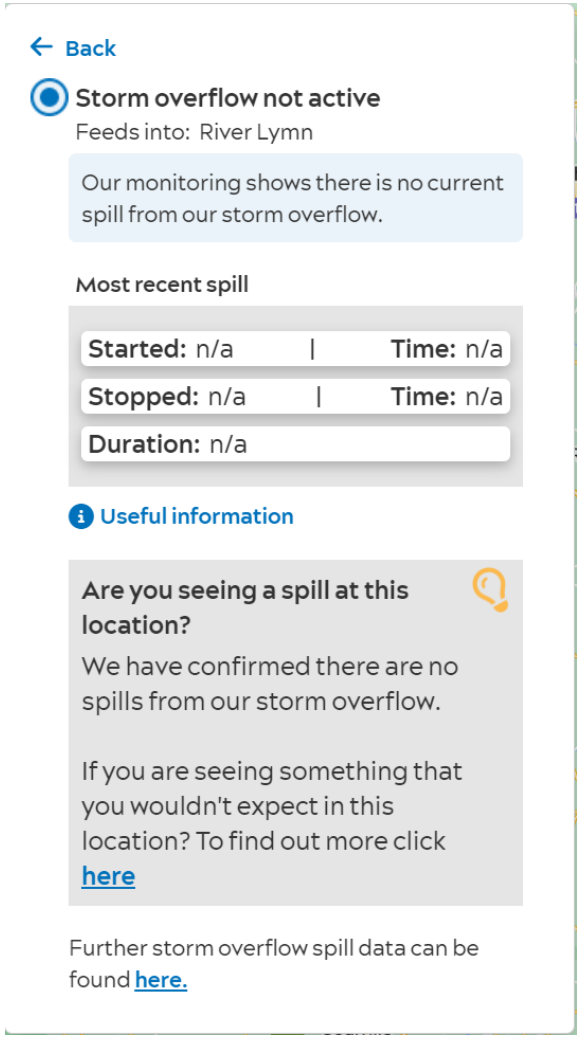
Our targets:

- **By 2025 reduce spills to an average of 20 spills**
- **By 2035 reduce spills by 75% on our most sensitive receptors**
- **By 2050 reduce spills to an average of 10 spills**

While we are pleased with this progress, there is still a great deal to be done to reduce the impacts of spills on our rivers and waterways.

How can I find out more?





What does it look like for Lincolnshire?

	2020					2021					2022				
District Council	Number of EDMs installed	Total Spill Count	Total Duration	Average spill	Average duration	Number of EDMs installed	Total Spill Count	Total Duration	Average spill	Average duration	Number of EDMs installed	Total Spill Count	Total Duration	Average spill	Average duration
Boston	10	94	262.48	9.40	26.25	12	194	444.67	16.17	37.06	12	142	390.58	11.83	32.55
East Lindsey	30	971	8631.93	32.37	287.73	37	1067	6194.69	28.84	167.42	42	930	3535.57	22.14	84.18
Lincoln	3	137	2998.81	45.67	999.60	3	8	4.03	2.67	1.34	4	15	16.8	3.75	4.20
NE Lincolnshire	7	380	1731	54.29	247.29	11	546	2393.77	49.64	217.62	13	456	1287.02	35.08	99.00
North Kesteven	9	108	761	12.00	84.56	18	536	4965.71	29.78	275.87	22	461	3982.75	20.95	181.03
N Lincolnshire	14	248	2554.6	17.71	182.47	18	550	5436.88	30.56	302.05	22	291	1592.25	13.23	72.38
South Holland	2	52	324.5	26.00	162.25	5	164	1241.83	32.80	248.37	7	175	1176	25.00	168.00
South Kesteven	7	116	1868.75	16.57	266.96	14	430	5477.16	30.71	391.23	17	415	2463	24.41	144.88
West Lindsey	13	233	3027.25	17.92	232.87	21	657	5856.89	31.29	278.90	23	535	3736.75	23.26	162.47
	95	2339	22160.32	25.77	276.66	139	4152	32015.63	28.05	213.32	162	3420	18180.72	19.96	105.41

We welcome scrutiny on our water recycling and pollutions

Over 2020-2025 we're investing £811 million as part of our Water Industry Natural Environment Programme – the largest programme of any water company. This includes £200m of direct investment in reducing storm overflow spills

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:

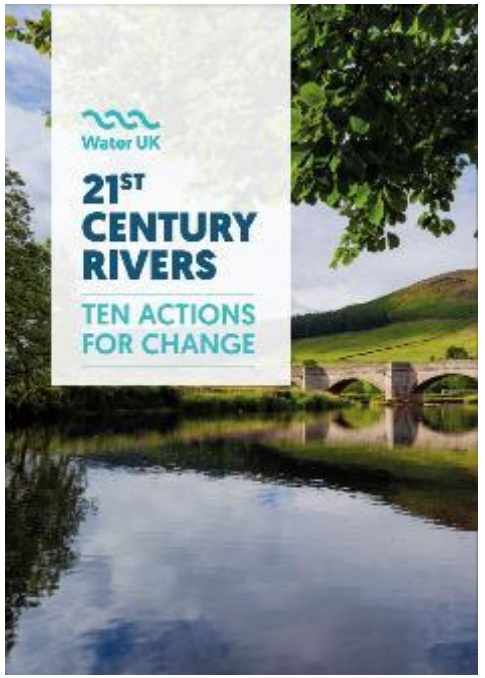
- Agriculture and rural management
- Urban development and transport
- Non-native species
- Misconnected plumbing

Storm spills investment in numbers

- **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



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Investment Details 2020-2025: Going beyond the regulations

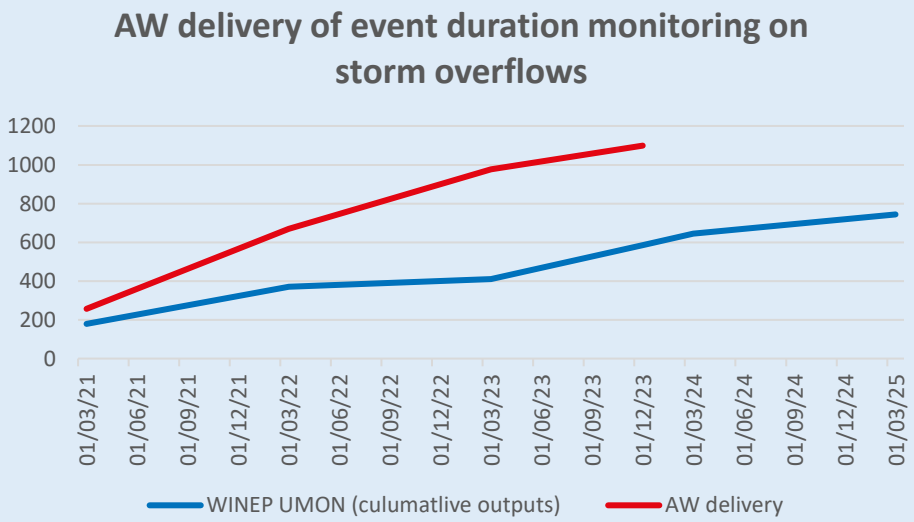
In the period 2020-2025 Anglian Water were funded to deliver the following environmental improvements for storm overflows:

- Deliver 77% event duration monitoring coverage on storm overflows by 2025
- Deliver 10 storm overflow improvement schemes on the highest risk overflows (in terms of ecological impact) reducing spills to 40 per year.

In recognition of the high public concern regarding storm overflow, Anglian Water has committed to go beyond it's regulatory requirement and Ofwat allowed funding for storm overflows for this period. We have committed to:

- 100% coverage of storm overflows by December 2023.
- 11 storm overflow improvement schemes, aiming to go beyond 40 spill requirements wherever possible.
- 5 of these improvement scheme are located in LCC region

Site name	Environmental obligation	What Anglian Water is delivering
HORNCASTLE-SPORTS GROUND SSO	40 spills per year by 2025	Solution to get to 10 spills / yr in 2025
Caistor WRC	40 spills per year by 2025	Deliver to max of 40 spills per year
Coningsby WRC	40 spills per year by 2025	Deliver to max of 40 spills per year
HARLAXTON STW	40 spills per year by 2025	Solution to get to 10 spills / yr in 2025
HOLBEACH STW	40 spills per year by 2025	Solution to get to 20 spills / yr in 2025



Investment Details 2025-2030: Environmental programme

Headline figures for Lincolnshire County Council area

- 139 Storm Overflows in this region
- 54 of these already spill less than 10 times per year (based on 2022 spill monitor data) which is the spill target for 2050.
- Between 2020-2025 we are investing over £5million. This is 50% of the overall spend.
- Between 2025-2030 we will be investing over £28mill on improvements to storm overflows within Lincolnshire County Council.
- Interventions include: Improved monitoring, storm storage tanks & lagoons (both within the sewer network and at our WRCs), new screens to prevent the visible pollution impact of storm spills and installing sustainable urban drainage system (SuDS) to prevent rain water entering the sewers.

Investment Details 2025-2030: Named spill reduction schemes

We have a number of storm overflows in Lincolnshire County Council's area that have been identified for spill reduction schemes between 2025-2030 based on collaborative prioritisation meetings with Rivers Trust, EA, Natural England and Anglian Water.

There remains opportunities to swap in / swap out schemes

Site	Estimated Solution Cost	Provisional solution strategy
ALFORD STW	£558,570.00	Glass coated steel storm tank and pumping station
BOSTON-EAST SIDE TPS	£9,349,106.50	Storm Storage Tank, Pumping Station & UV Plant at WRC
BOURNE STW	£1,112,337.60	Glass coated steel storm tank and pumping station
CANWICK STW	£2,784,509.28	Glass coated steel storm tank and pumping station
LOUTH SPAW LANE SSO	£826,900.35	Offline collection storage
LOUTH STW	£895,491.81	New storm lagoon
LOUTH-BRIDGE ST SSO	£744,842.46	Sustainable urban drainage system (SuDS) - wet swales
LOUTH-CHURCH LIGHTS CSO	£111,300.29	Sustainable urban drainage system (SuDS) - wet swales
LOUTH-JAMES ST SSO	£68,572.86	Sustainable urban drainage system (SuDS) - wet swales
MARSTON STW (LINCS)	£1,515,333.84	Glass coated steel storm tank and pumping station
NETTLEHAM STW	£448,213.59	New storm lagoon and pumping station
NORTH THORESBY STW	£77,185.14	Increase pass forward flow on the WRC
SPILSBY STW	£707,442.15	New storm tank and pumping station
SPILSBY STW	£496,605.24	Glass coated steel storm tank and pumping station
STAMFORD-HUDDS MILL TPS	£177,303.96	Sustainable urban drainage system (SuDS)
SUTTON BRIDGE STW	£529,024.35	New storm tank and pumping station
TETNEY-NEWTON MARSH STW	£1,439,232.72	New storm lagoon and pumping station
WILLINGHAM STW	£415,555.92	Glass coated steel storm tank and pumping station

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