Water Quality

The Environment Agency's role and responsibilities

Simon Moody and Lindsay Faulkner

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Place

We have a unique environment covering Hampshire, Sussex, Kent and the Isle of Wight with the South Downs and New Forest National Parks, and 100's of designated sites, globally iconic chalk streams, a quarter of England's vegetated shingle habitat, designated shellfish beds, and multiple water supply zones.

Over 70% of our public water supply comes from groundwater sources, all of which are especially sensitive to pollution.

Most of our coastal fringe is internationally designated, providing a valuable service by improving water quality and capturing carbon, which is valued at £1.3 billion per annum.



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Our role as the environmental regulator

To implement the regulations and environmental standards set out by government, in relation to discharges from sewage treatment works and sewage systems.

- grant discharge permits
- carry out compliance inspections, audits and environmental monitoring
- respond to serious environmental incidents
- undertake enforcement action

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Policy Framework

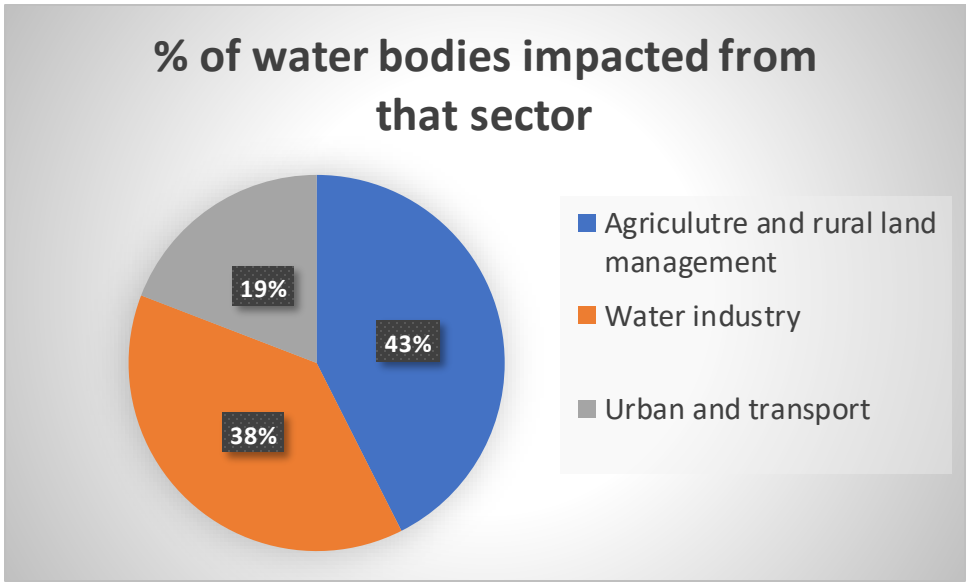
- Environment Act 2021
- Defra Plan for Water
- Environment Improvement Plan 2023
- FCERM strategy
- Storm overflows discharge reduction plan
- EA2025



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Water Quality:

- Water quality and the ecological health of rivers and coastal waters must improve. The most recent classification results showed that only 16% of our rivers met the criteria for a good river.
- The main sources of pollution which are preventing our water bodies reaching overall good status are:



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Water Quality

The EA is working with all those who want to be part of the solution. We are:

- Holding water companies to account to reduce pollution, tackle storm overflows and invest more of their profits into the environment.
- Working with farmers to support environmentally friendly farming that doesn't damage water quality.
- Working with NGOs and others to protect and restore chalk streams and other water environments under threat.
- Responding to environmental incidents (one every 45 minutes) to stop and reverse damage to our rivers. We are a Category 1 Incident Responder.
- Carrying out a major industry-wide criminal investigation into potential non-compliance by water companies at wastewater treatment works.
- Prosecuting the most serious polluters: 58 prosecutions against water and sewerage companies since 2015 securing fines of over £147m.
- Making the case for the funding we need to monitor what's happening to our rivers and coastal waters, enforce the rules that protect them, and enhance nature rather than just slow its degradation.

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Water and sewerage companies Environmental Performance Assessment 2022

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For a version of this document in an accessible format, and for individual water and sewerage company data reports please visit:
http://www.gov.uk/government/publications/water-and-sewerage-companies-in-england-environmental-performance-report-2022
Note: discharge permit compliance is a core metric, required to be green for a water company to achieve a 4 star performance rating

Metric and units[1]	Total pollution incidents per 10,000km²(actual)	Serious pollution incidents – actual number	Self-reported pollution incidents %[3]	Discharge permit compliance[4] % (failing sites)	Satisfactory sludge use and disposal %	WINEP[5] scheme delivery on time %	Supply Demand Balance Index (SDBI) score	Performance star rating (out of 4)[1]
Anglian Water	33 (255)	11	73 (83)	98.6 (12)	99.96	99 .8	100	★★☆☆
Northumbrian Water	20 (60)	0	91 (92)	98.9 (2)	100	100	100	★★★☆
Severn Trent Water	21 (193)	1	87 (93)	99.3 (5)	100	100	100	★★★★
Southern Water	90 (358)	5	90 (95)	98.2 (6)	100	100	100	★★☆☆
South West Water	62 (108)	2	78 (87)	99.4 (2)	99.14	99 .6	86	★★☆☆
Thames Water	30 (331)	17	74 (94)	99.5 (2)	100	95.	100	★★☆☆
United Utilities	16 (126)	0	88 (90)	98.5 (6)	98.93	100	100	★★★☆
Wessex Water	31 (110)	5	92 (97)	99.4 (2)	100	100	100	★★☆☆
Yorkshire Water	22 (117)	3	77 (95)	99.7 (1)	99.91	100	100	★★★☆
Sector - England	31 (1,658)	44	82 (92)	99.0 (38)	99.79	99.5	98.4 (average)	
Dŵr Cymru Welsh Water	25 (89)	5	69 (46)	98.5 (9)	100	100	100	★★☆☆

Red Significantly below target Amber Below target Green Achieved target or better R A G Red, amber, green metric thresholds

Note: These results are drawn, in part, from information submitted by the companies and may change as a result of subsequent audits and checking

[1] Refer to the EPA metric guide for detailed information including how we calculate performance star ratings (https://www.gov.uk/government/publications/water-and-sewerage-companies-in-england-environmental-performance-report-2022)

[2] of sewer length [3] The figure in brackets is the combined self-reporting percentage for just sewage treatment works and pumping stations - this must be 90% or more for a green rating

[4] with numeric water quality limits for treated wastewater at sewage treatment works and water treatment works [5] Water Industry National Environment Programme

Source: Environment Agency & Natural Resources Wales

We have the following expectations of water companies (2020-25)

- trend to minimise all pollution incidents (category 1 to 3) by 2025 – there should be at least a 40% reduction compared to numbers of incidents recorded in 2016
- serious pollution incidents must trend towards zero
- a plan in place to achieve 100% compliance for all licences and permits and 100% compliance with all look-up table conditions (where a limit cannot be exceeded more than a specified number of times in a 12 month period)
- high levels of self-reporting of pollution incidents with at least 80% of incidents self-reported by 2025 and more than 90% of incidents self-reported for just STWs and pumping stations (PS) combined
- business plans include all measures identified within the WINEP and these are planned well and completed to agreed timescales and specification
- assess resilience of their water supply system to predicted droughts and other non-drought water supply hazards
- manage sewage sludge treatment and re-use so as not to cause pollution to land, surface water or groundwater

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Improvements….

- Sewage treatment works now discharge 67% less phosphorus and 79% less ammonia into rivers than they did in 1995.
- The number of serious water pollution incidents caused by the water and sewerage companies has been reduced dramatically, from over 500 in the early 1990s down to just 62 in 2021.
- The bathing waters around our coasts are in the best state they have been for decades: in 2022, 72% of beaches and inland waters met the ‘Excellent’ standard, the highest since new stringent standards were introduced in 2015.

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What is Price Review and WINEP?

- Ofwat's process of determining what the water companies can charge water customers over the next five years.
- Process carried out in five-year cycles for more than 25 years.
- Produces an Asset Management Plan (AMP) for each water company, which covers capital maintenance, supply/demand balance and environmental programme.
- Water Industry National Environment Programme.
- List of environmentally beneficial actions devised to investigate/rectify non-compliance with directives and environmental targets.
- The actions identified in the WINEP are costed by the water companies and feed into the price review. EA, Ofwat, NE assess and agree these solutions and their associated costs.

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More to do

- Operation Standard – national investigation into storm compliance for all water companies 2020.
- EDM (Event & Duration Monitoring) compliance project – high spilling & dry weather operation of storm discharges.

  All the data is published online. More info on EDM here.
- Infiltration Reduction Plans.

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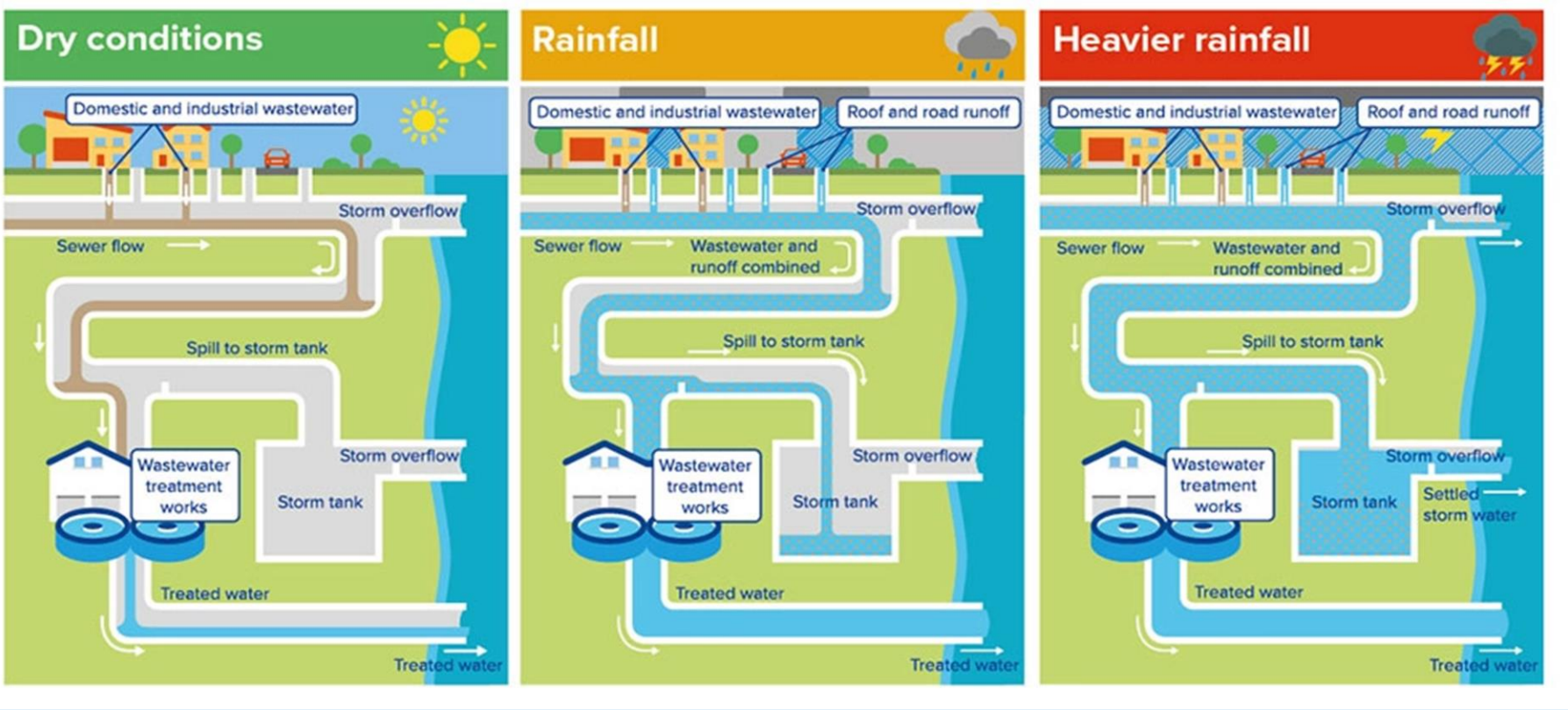
Hot Topics

Storm overflows

Bathing Waters

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Storm discharges



Storm overflows

- Sewage pollution can be devastating to human health, local biodiversity and our environment.
- Storm overflows must only be used under strict permitted conditions that control their environmental impact
- We have significantly driven up monitoring and transparency from water companies in recent years, so that everyone can see what is going on.
- The EA has taken tough action against those companies which are breaking the rules.
- We have launched a major investigation into possible unauthorised spills at thousands of sewage treatment works.

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Bathing Waters

Swimfo

- EA monitors the quality of bathing water under the Bathing Water Regulations and Defra publish the classifications.
- Bathing water quality has improved over the last decade due to robust EA regulation and work with partners.
- In 2022 nationally 92.8% met the highest standards of Good and Excellent.
- 2023 Classifications due to be released 01/12/23
- Poor weather in 2023 (and 2018 data is dropping off) is likely to impact classifications.





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Bathing Water 2022 Classifications

- Monitored weekly from May until September
  - Up to 20 samples taken at each bathing water.
  - Tested in accredited lab for bacteria likely to impact bathers e.g. E coli and intestinal enterococci (not used for Water Quality in rivers and streams).
  - Set location where most bathers are present

- 4 years of results are combined to give a long-term assessment of water quality over that time.
  - 2023 Classifications use data from 2019, 2021, 2022 and 2023 results.
  - Split into Excellent, Good, Sufficient and Poor

	Total	Excellent	Good	Sufficient	poor
SSD	53	39	10	3	1
KSL	39	23	15	0	1
SE	92	62	25	3	2

Excellent	Good	Sufficient	poor
73.6%	18.9%	5.7%	1.9%
59.0%	38.5%	0.0%	2.6%
67.4%	27.2%	3.3%	2.2%

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Bathing Waters

- Water quality issues at Bathing waters are complex. Engagement and partnership working can help to unlock these issues.

- Issues are often a combination of wider catchment issues, rather than a single source.
  - E.g. they can relate to diffuse pollution entering the surface water systems from multiple sources across the urban catchments.
  - Including misconnections, sewer infrastructure problems, run-off from agricultural and industrial land, and general run-off from roads and roofs etc.

- Bathing Water Action plans are used to investigate issues and plan actions across partners.



Fluidion sampling is being used to investigate issues

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Pollution Risk Forecast (PRF)

Predictions using rainfall and other factors to assess when there may or may not be a risk of reduced bathing water quality.



Combined Sewage Overflow (CSO)

Overflows that allow rainwater and diluted sewage (which is usually screened to remove solids), to bypass sewage treatment works and flow directly into rivers and coastal waters.



Permitted Storm Overflow

Permitted discharges of excess flows from Sewage treatment works during heavy rain, either directly to environment, or via storm tanks. Only when volume of rain and wastewater is greater than the treatment works can cope with.



Pollution Incident

Uncontrolled events which may have an environmental and/or operational impact within the EAs remit.

Blocked or broken pipe causing accidental release.

Know your terminology

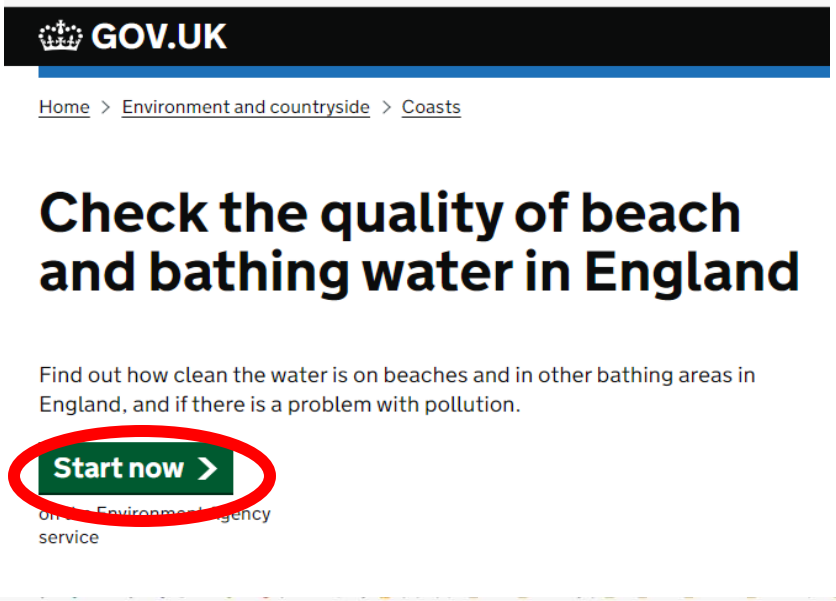
Working together

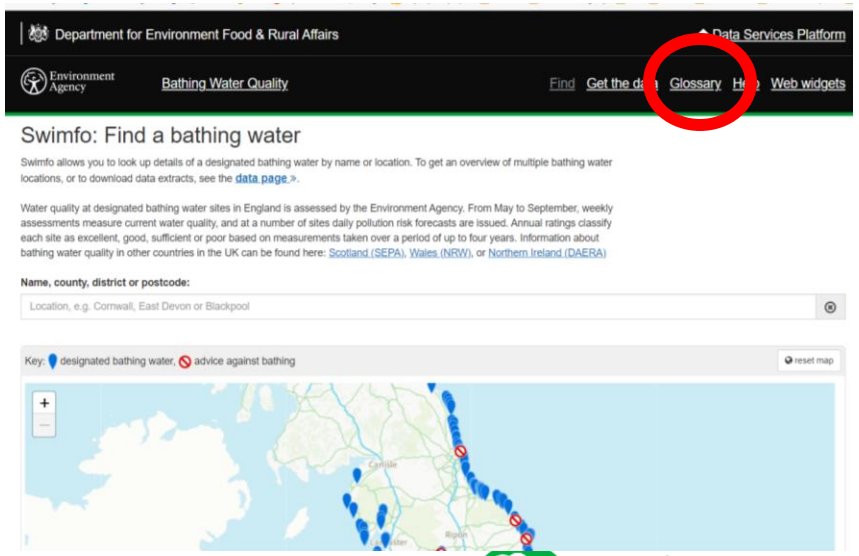


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Call to arms for Local Authorities

- Head to Swimfo for all useful info!
- Understand the terminology – help us to share & educate
- Get involved - work in partnership





[Bathing waters - GOV.UK (www.gov.uk)]
[Bathing water quality glossary (data.gov.uk)]

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Call to arms for Local Authorities

- Well thought through sustainable development, enacted through the planning process and detailed in the new levelling up bill.
- Consider water holistically – code for sustainable homes, water use, soak aways, SUDs.
- Keep strategic flood risk assessments (as part of your local planning duties) up to date and in line with latest climate change guidance
- Maintain highways assets

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Help us:

Pollution incidents can be reported at any time to our Incident Communication Service:

phone

0800 80 70 60

email at

Incident_Communication_Service@environment-agency.gov.uk.

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END

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