

# Storm overflows

## Their impact and what are we doing about them

Dorset Coastal Forum

Matt Wheeldon – Director of Infrastructure Development

**Wessex Water**  
YTL GROUP



# The one-pipe problem

## Foul water



## Surface water



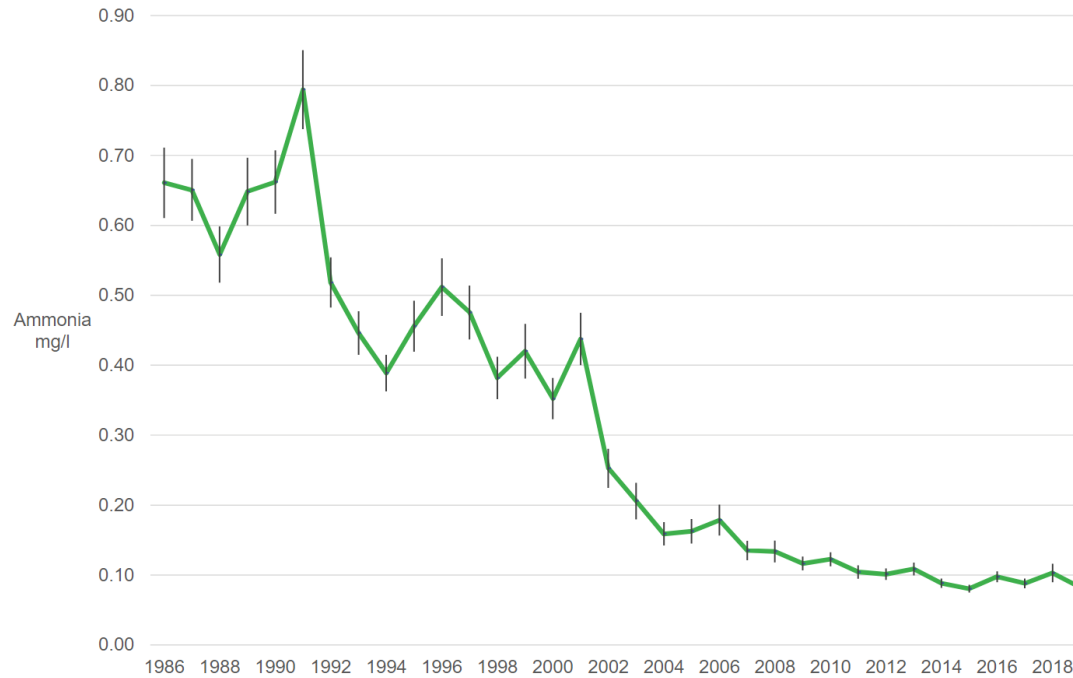
1 roof (surface water) is the equivalent flow to 100 separately drained properties (foul only flow)

## Combined drain

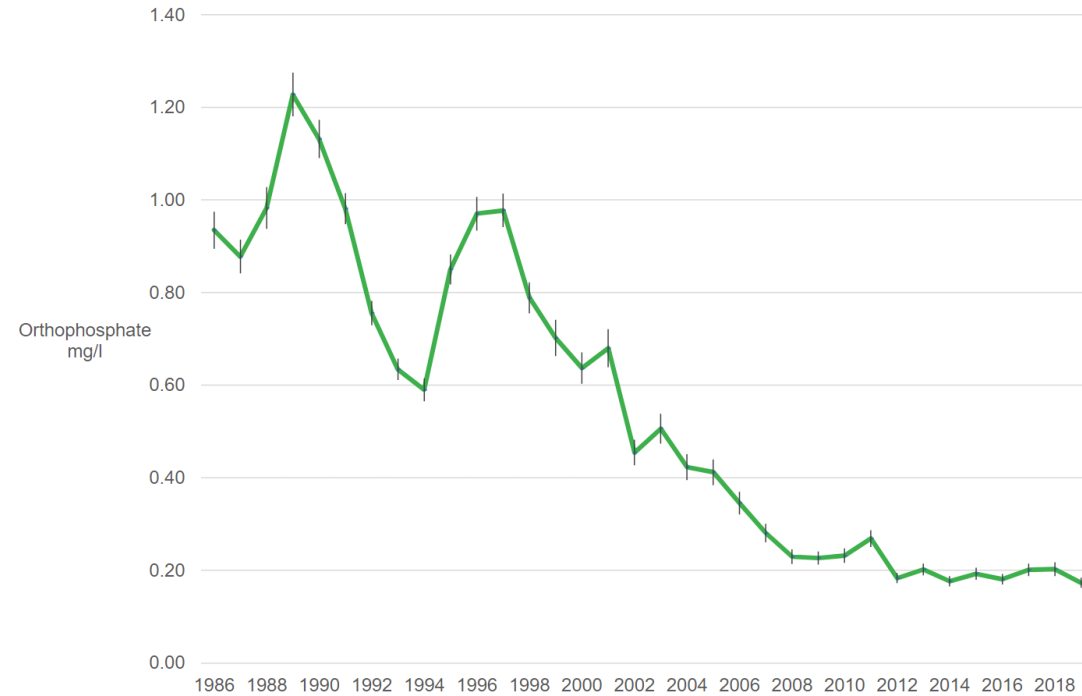
More than half of all properties in England are built like this

# Key river pollutants

## Ammonia levels (1986-2019)



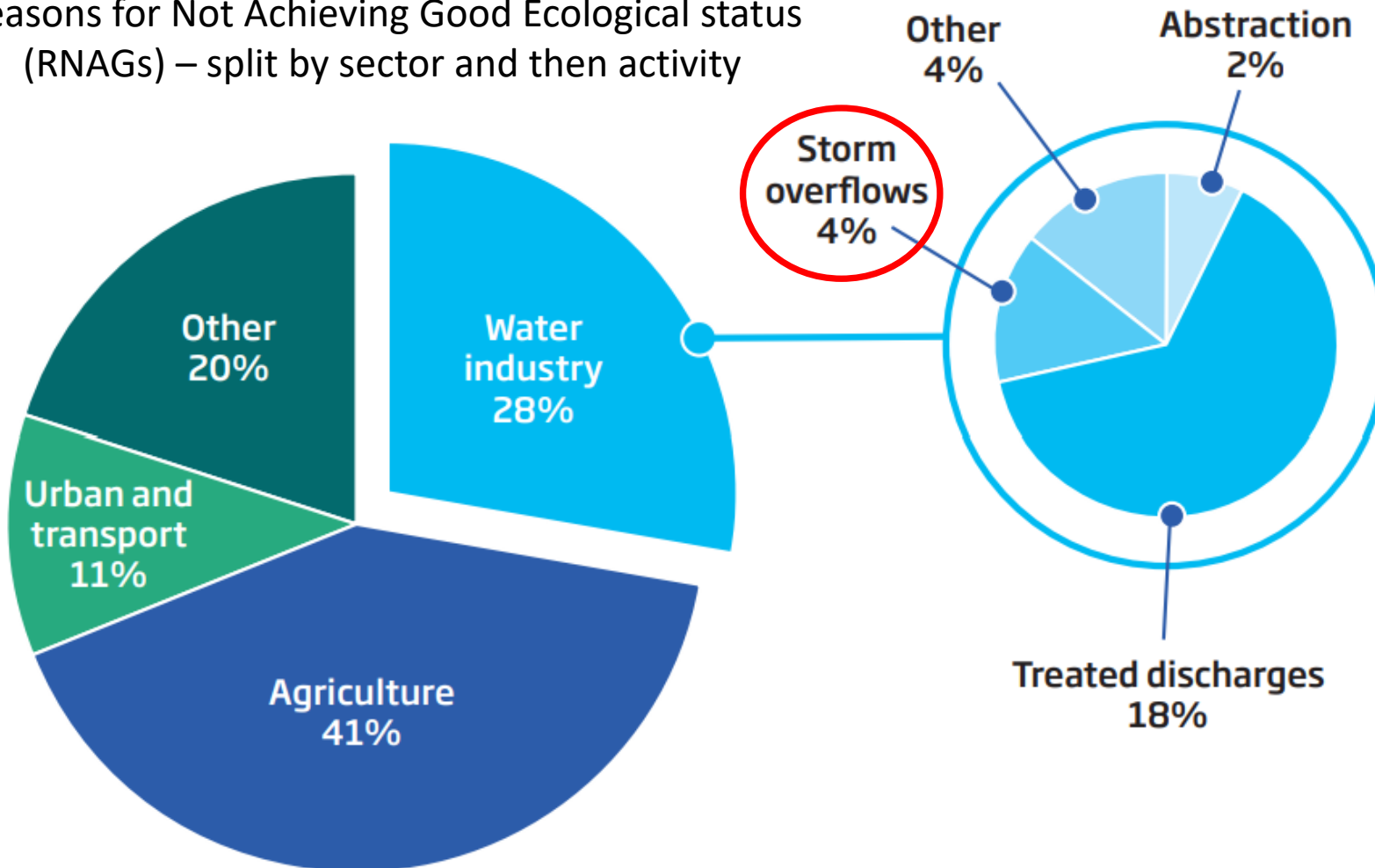
## Orthophosphate levels (1986-2019)



Scan the QR code to access this data

# Good ecological status

Reasons for Not Achieving Good Ecological status (RNAGs) – split by sector and then activity



In Wessex Water, storm overflows currently account for 9 of the 1074 RNAGs (0.9%)

NONE in Dorset

Scan the QR code to access the source of this data

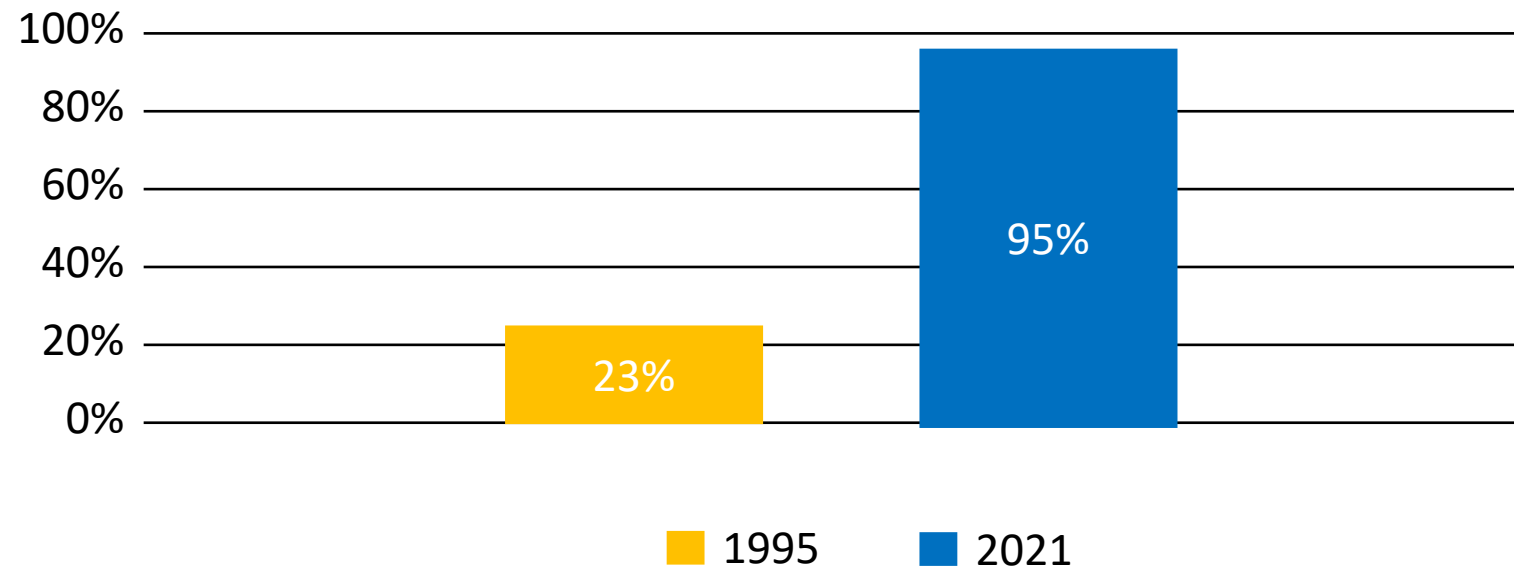


# Bathing water quality trends

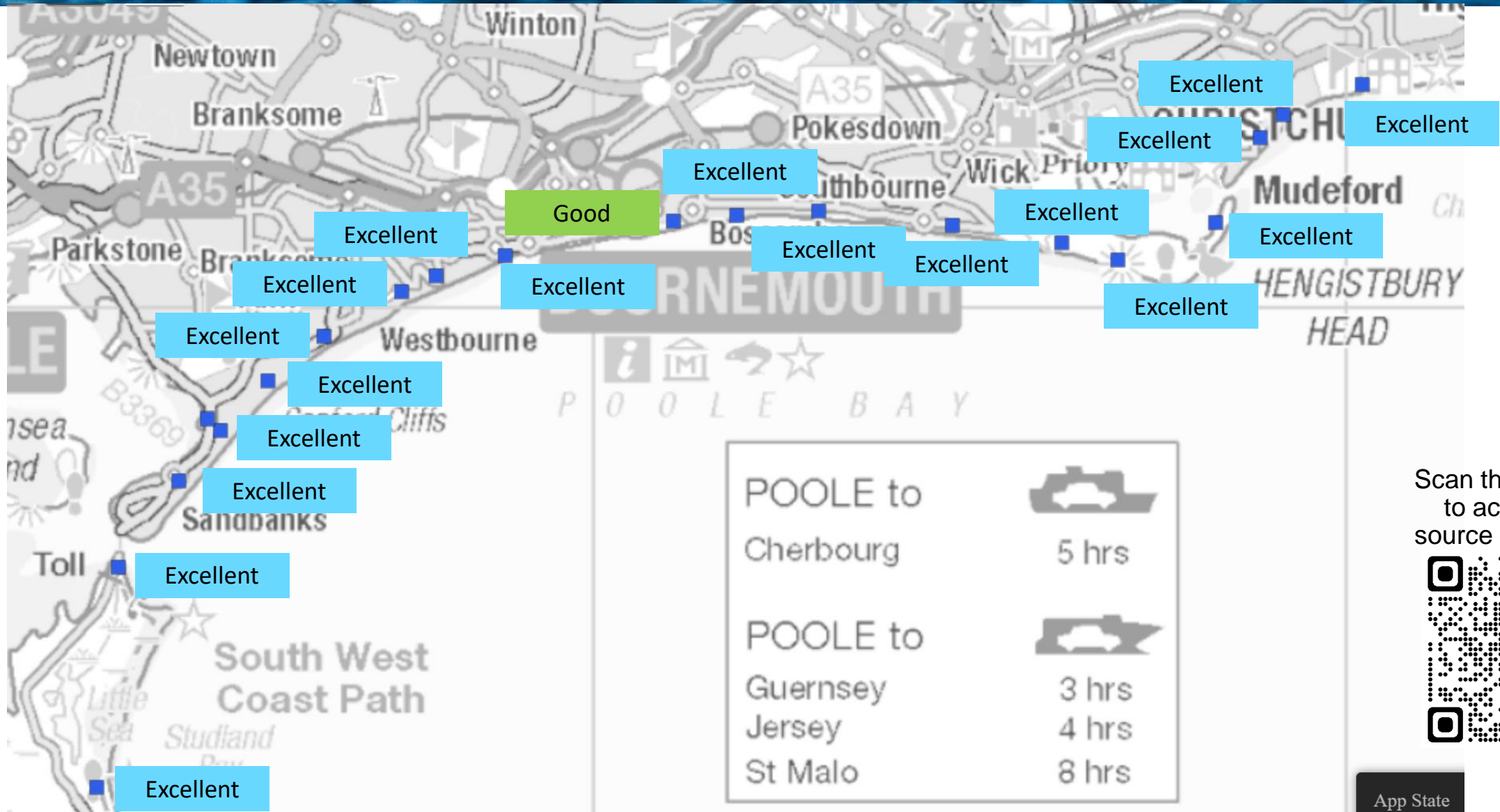
## National picture 1995-2021

### Bathing Water Quality in England

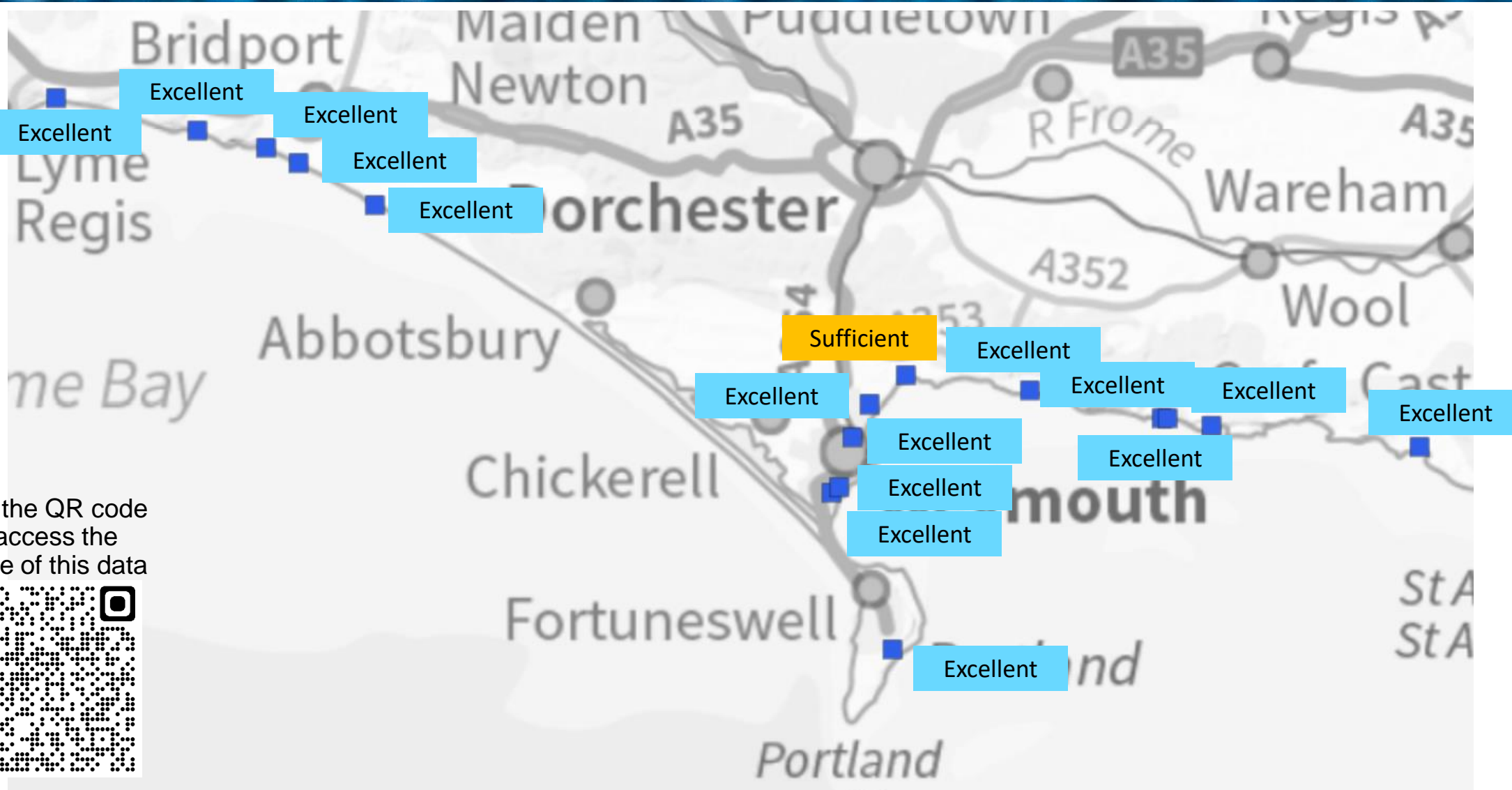
Sites reaching the highest standards – Excellent or Good  
Source: Department for Environment Food and Rural Affairs  
(DEFRA)



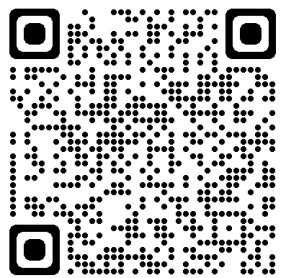
# Bathing water quality – local picture 2022



# Bathing water quality – local picture 2022



Scan the QR code to access the source of this data



# Solutions.....

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# Start with the principles...

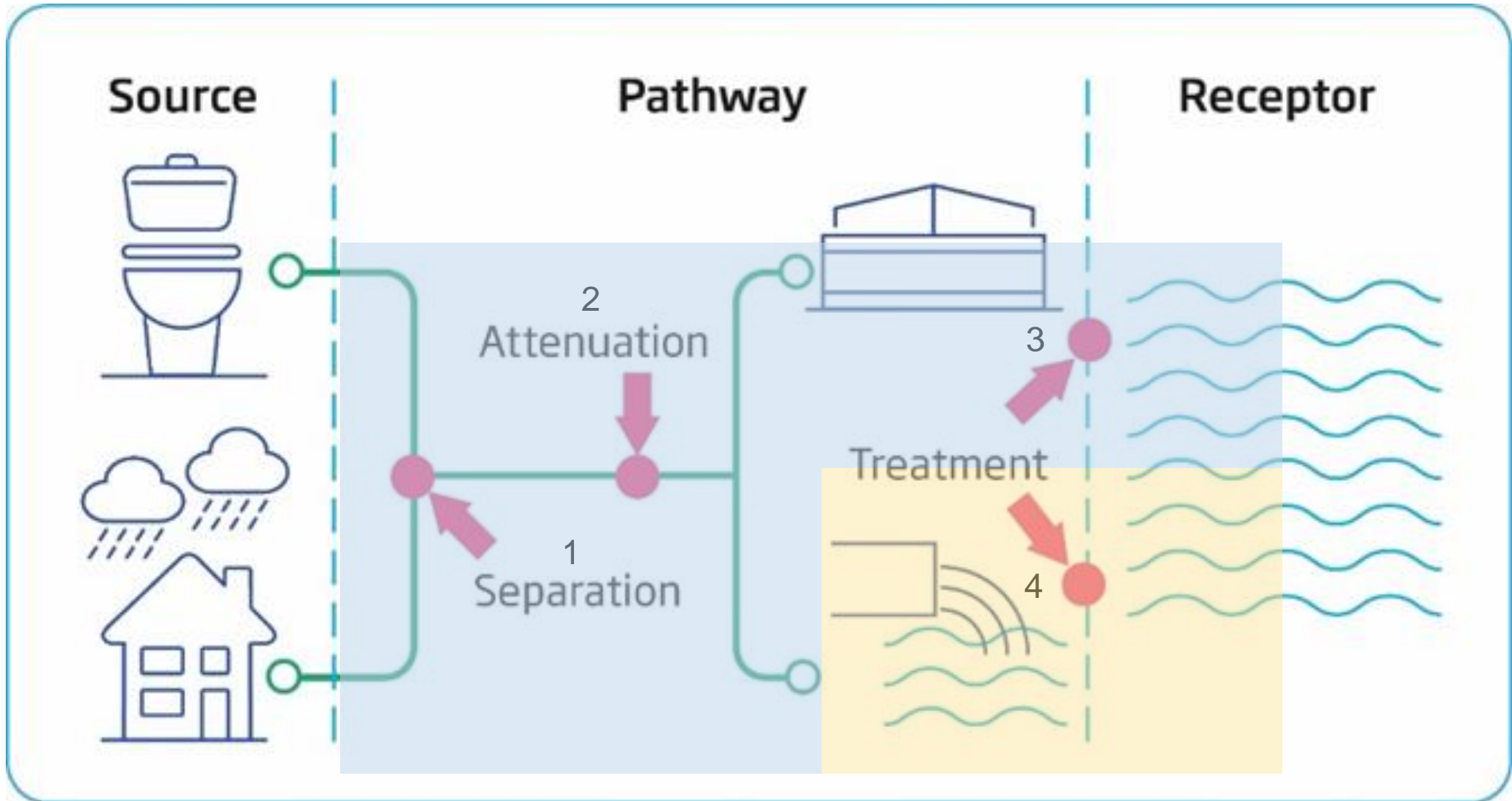
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Rainwater should first and foremost be treated as a RESOURCE, captured near where it lands and reused where possible....



Rainwater should be returned to the environment AS CLOSE TO WHERE IT LANDED as possible and **never mixed with sewage**

# 4 solution options



# Solutions: relative benefits

Outcome	Solution	Relative Benefits Assessment				
		Water efficiency	Biodiversity	Customer bills	Embodied Carbon	Operational Carbon
Reduction in discharges	1. Separation (property level)	✓	✓	✓	✓	✓
	1. Separation (community level)	✗	✓	✗	✓	✓
	2. Attenuation	✗	✗	✗	✗	✗
	3. Treatment capacity increases at WRCs	✗	✗	✗	✗	✗
Reduction in harm	4. Treatment at overflow: nature-based solutions	✗	✓	✗	✓	✓
	4. Treatment at overflow: grey solutions (e.g. UV)	✗	✗	✗	✗	✗

# The best solutions...

...address the problem at source

...need changes to regulation and legislation to help them happen

Legislation amendments to enable water companies to:

- construct private soakaways
- discharge rainwater to watercourses
- seal private pipes that are letting in groundwater
- charge highways authorities for draining roads

Regulation changes to encourage water companies to:

- embark on progressive private property separation
- solve groundwater induced overflows with nature-based solutions

# What are we doing about them?

aka 'Our plan'

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# Our NOW plan

- 92 projects this 5 year period - £3m/month
  - Increasing treatment capacity at WRCs
  - Increasing storage at WRCs and in the network
  - Sealing networks
  - Adding nature-based treatment solutions
- Plus
  - Rainsaver's Project in Chippenham
  - Near real-time water quality monitoring for public health
- Read about it in our  
Storm Overflows Improvement Plan

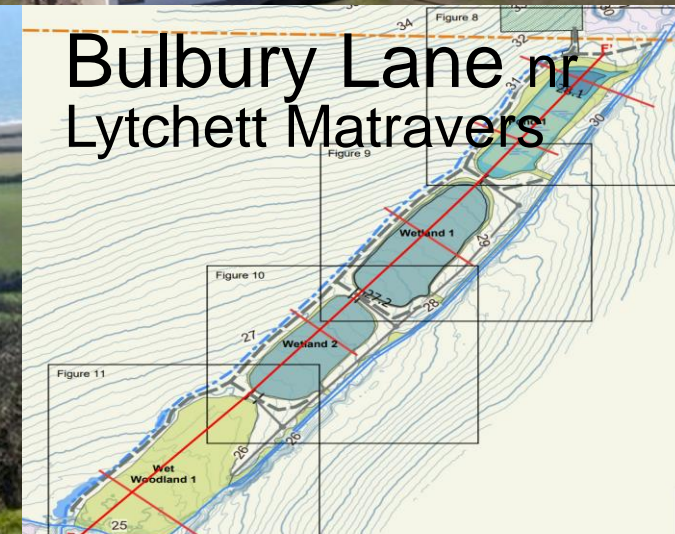
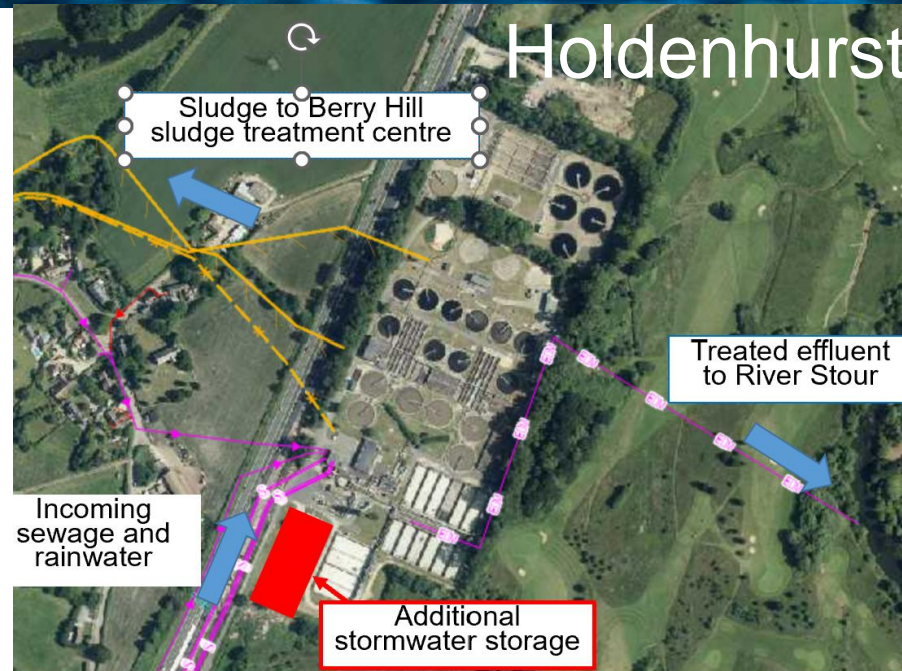


# Our NOW plan

27 ongoing projects  
in Dorset and BCP

Solutions include:

- Sewer sealing
- Storage tank construction
- Separation of rainwater
- Nature-based treatment solutions
- 'concrete' treatment solutions



# Our FUTURE plan – 2025 onwards

2025-2030 investment increase to c£7m/month

	2025-30	2030-35	2035-40	2040-45	2045-50	Total
Number of Storm overflow improvement schemes	128	174	129	142	140	712

## Dorset and BCP

- 266 overflows
- 108 will meet the targets by 2025
- 54 more improvements in 2025-30



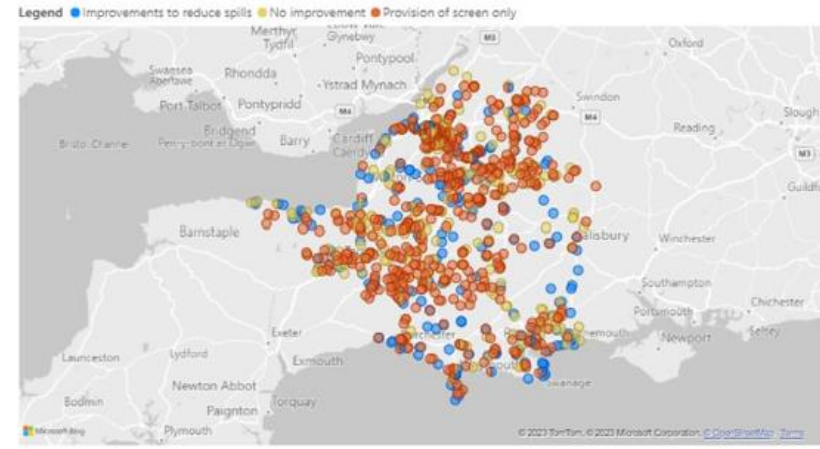
# New national dashboard coming soon



## Storm Overflow Action Plan National Dashboard (England)

Filter by:

- Water company
- Local authority
- River basin



Provides investment dates and discharge reduction predictions for each storm overflow

**What else?**

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# River water quality monitoring

- Environment Act 2021 requires upstream and downstream monitoring of discharge points



# A new approach for public health and safety risk information

pH

Conductivity

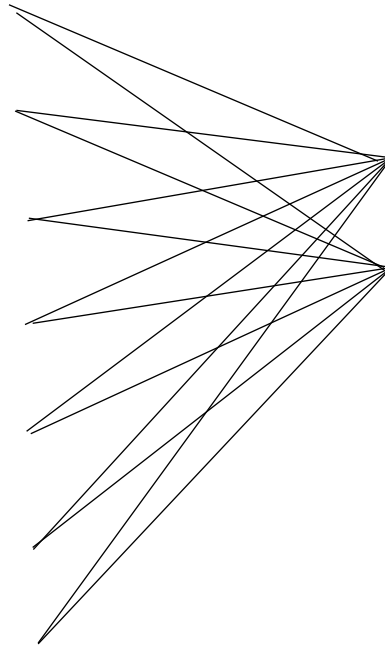
River flow

Temperature

Dissolved O<sub>2</sub>

Turbidity

Ammonia



E. Coli

I. Enterococci

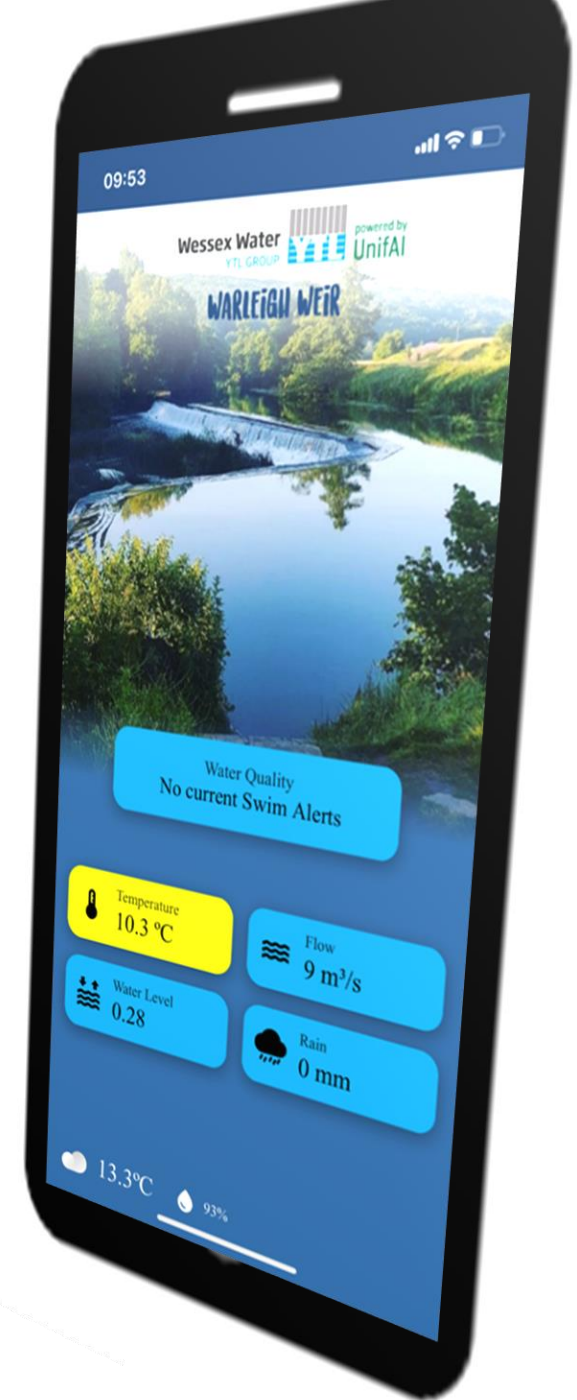


## WARLEIGH WEIR – RIVER WATER INFORMATION

Wild swimmers can find out the current water quality, temperature and flowrate at Warleigh Weir.



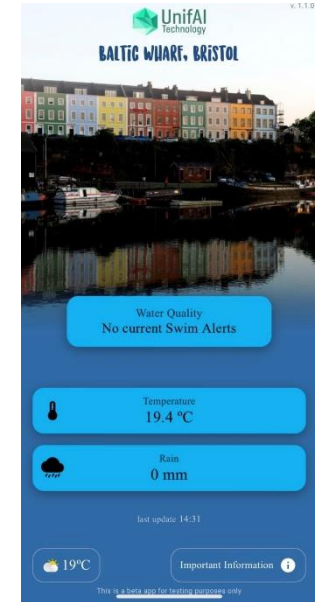
Scan me



# Wider roll-out

Further recreational sites:

- **Bristol Floating Harbour** – [App now ready](#)
- Farleigh Hungerford planned for 2023
- Bathampton Meadows planned for 2023
- Langport scoping in 2023
- Extra 20 sites identified across region

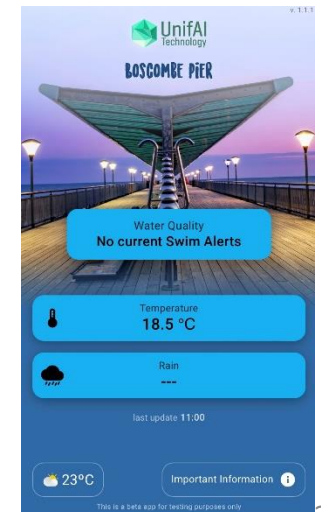
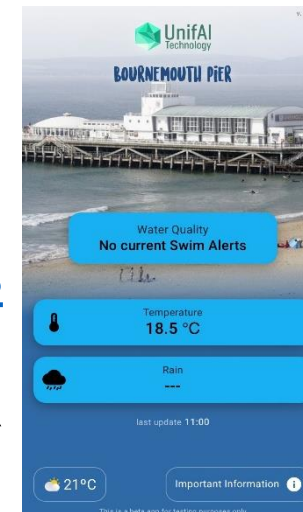


Poole Harbour Water quality forecasting:

- Norovirus and Ecoli
- Alerts for shellfisheries & recreation

## Boscombe & Bournemouth piers

- July to Dec 2023, currently spot sampling
- BCP My Boscombe app to display data



# Rainsaver trial – Chippenham 200

## Water butt



## Soaker hose



## Rain garden planter



## Rain garden



The trial will allow us to understand:

- customer attitudes and appetite,
- the optimal customer journey,
- potential solutions,
- costs of installation and effectiveness of chosen solutions, and
- pros and cons of using an external contractor.

## Soak away



## Underground water storage tank



**Thanks for listening**

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