

# Friar's Cliff residents association

Sep 2023



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## Agenda

- The one-pipe problem
- The impact
- Bathing waters and public health
- Nutrients
- Recent BBC news


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## The one-pipe problem

**Foul water**



**Surface water**



**Combined drain**

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

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

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## What impact do they have?

It depends what type of impact you are asking about?

**Health of the Water Environment**  
(governed by the Water Framework Directive)



or

**Public health**  
(governed by the Bathing Water Directive)



or maybe

**Emotional health**  
(governed by the media?)



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## Environmental Health

e.g. Water Framework Directive

**Ecological status**

- Biological
- Physio-chemical
- Hydro-morphological
- Specific pollutants

e.g. phosphorus

**Chemical status**

- Priority substances
- Priority hazardous substances
- Other pollutants

e.g. PFOS

**83+ parameters "one out – all out"**

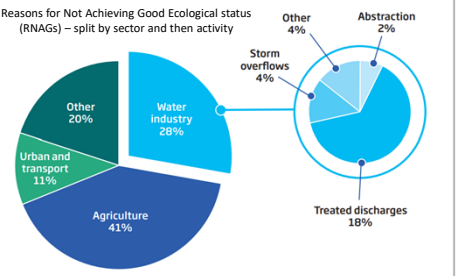
14% of rivers meet Good Ecological Status

0% of rivers meet Good Chemical Status

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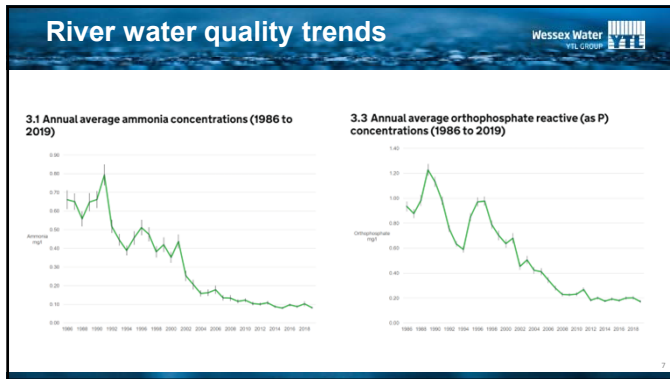
## Good ecological status

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%)

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### Public health...

...is measured by the number of Faecal Indicator Organisms (FIOs) per colony forming unit (cfu)

Results are posted on the Government website [Bathing water quality \(data.gov.uk\)](https://www.gov.uk/bathing-water-quality) – **several days** after the sample is taken

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### Public health in open water...

Meeting 'Excellent' Bathing Water standards **does not mean the water is fit to ingest**...people can get ill from drinking just a few faecal bacteria

Faecal Indicator Organisms (FIOs) (cfu/100ml)	Indicative 'Excellent' Bathing Water Standards	Drinking Water Standards
I. Enterococci	100	0
E. Coli	250	0

River water that is clean enough to ingest safely will be **sterile** - like your tap water...we need to be wise about what we wish for...

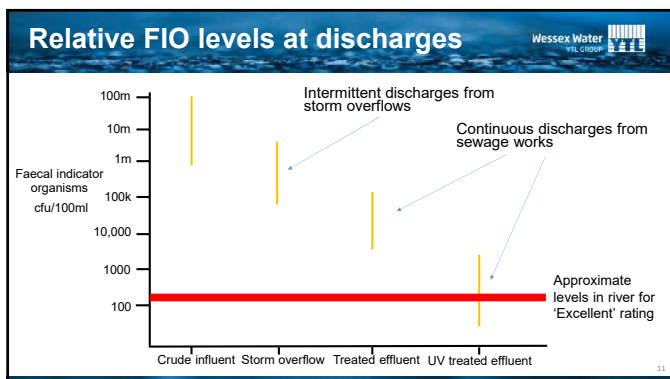
UK Health Security Agency (previously Public Health England), **advise** anyone swimming in water that has not been disinfected, should avoid swallowing or splashing water into their mouth

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### Sources of FIOs

- Continuous discharges
- Intermittent discharges (Storm overflows)
- Water company owned
- Privately owned

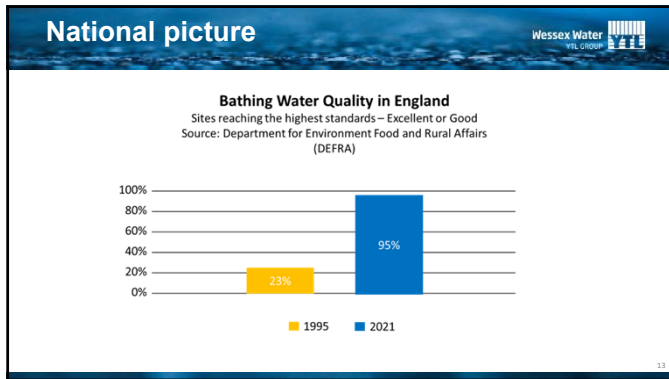
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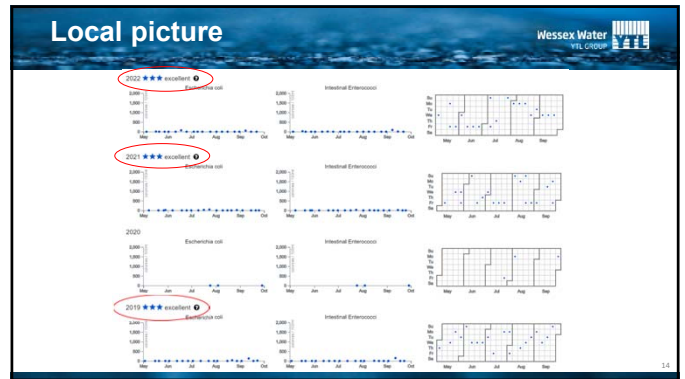
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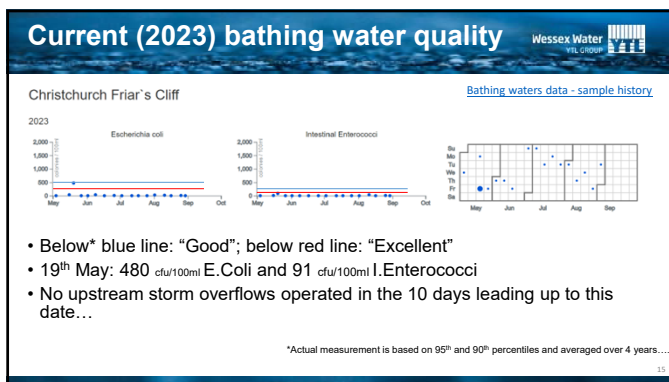
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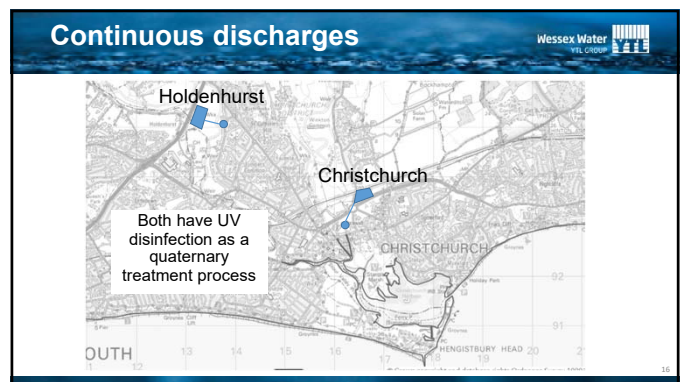
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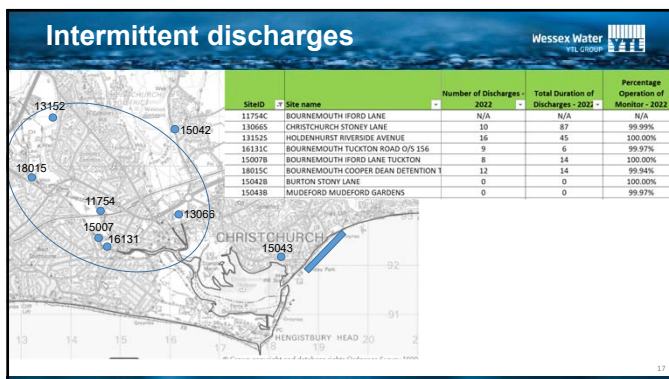
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### Investment plans

SiteID	Site name	Date new Govnt targets will be met
13066S	CHRISTCHURCH STONEY LANE	2030
13152S	HOLDENHURST RIVERSIDE AVENUE	2024
16131C	BOURNEMOUTH TUCKTON ROAD O/S 156	2035
15007B	BOURNEMOUTH IFORD LANE TUCKTON	2030
18015C	BOURNEMOUTH COOPER DEAN DETENTION TANK	2030
15042B	BURTON STONY LANE	Targets already met
15043B	MUDEFORD GARDENS	Targets already met

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### Major ongoing investment

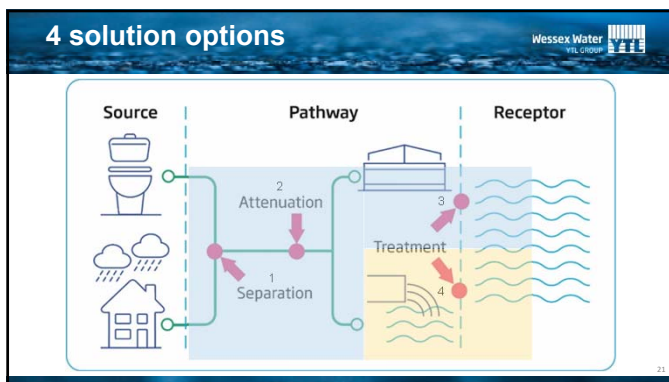
- Holdenhurst sewage treatment works serves about 180,000 people and treats c380 l/s on a normal day and has a max capacity of 1,424 l/s
- There is 20,800m<sup>3</sup> of storage at the treatment works
- 9,000m<sup>3</sup> more to reduce discharges to c2 per bathing season now being constructed

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### Friar's Cliff

- Christchurch mostly has a two pipe drainage network
- Hence only 3 overflows – two of which don't operate
- The one that does is right at the end of the network and gets preliminary (fine screening) and primary (settlement) treatment

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### 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	✗	✗	✗	✗	✗
Reduction in harm	3. Treatment capacity increases at WRCs	✗	✗	✗	✗	✗
	4. Treatment at overflow: nature-based solutions	✗	✓	✗	✓	✓
	4. Treatment at overflow: grey solutions (e.g. UV)	✗	✗	✗	✗	✗

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### Greener solutions...

...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

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### A new approach for public health and safety risk information

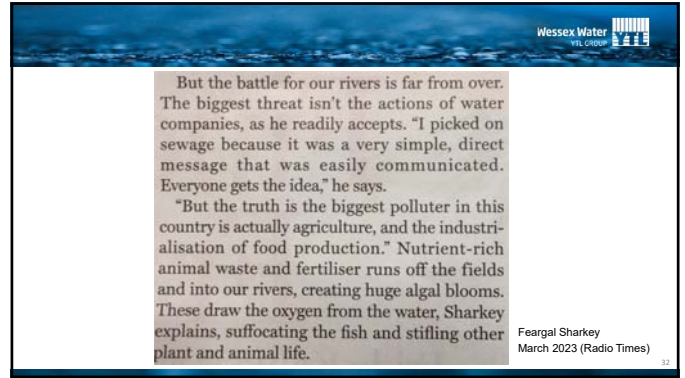
The diagram shows a funnel of water quality parameters: pH, Conductivity, River flow, Temperature, Dissolved O<sub>2</sub>, Turbidity, and Ammonia. These parameters are linked to the presence of **E.Coli** and **I. Enterococci**. 
   
A smartphone app is shown displaying a map of the river and water quality data. 
   
A QR code is provided for more information: **WARLEIGH WEIR – RIVER WATER INFORMATION**. 
   
Text below the QR code: "Wild swimmers can find out the current water quality, temperature and flowrate at Warleigh Weir." 
   
A "Scan me" button is located below the QR code.

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