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Westcountry Rivers Trust

The state of our evidence relating to rivers. No news is bad news...

THE STATE OF OUR EVIDENCE RELATING TO RIVERS

NO NEWS IS BAD NEWS...

wrt.org.uk

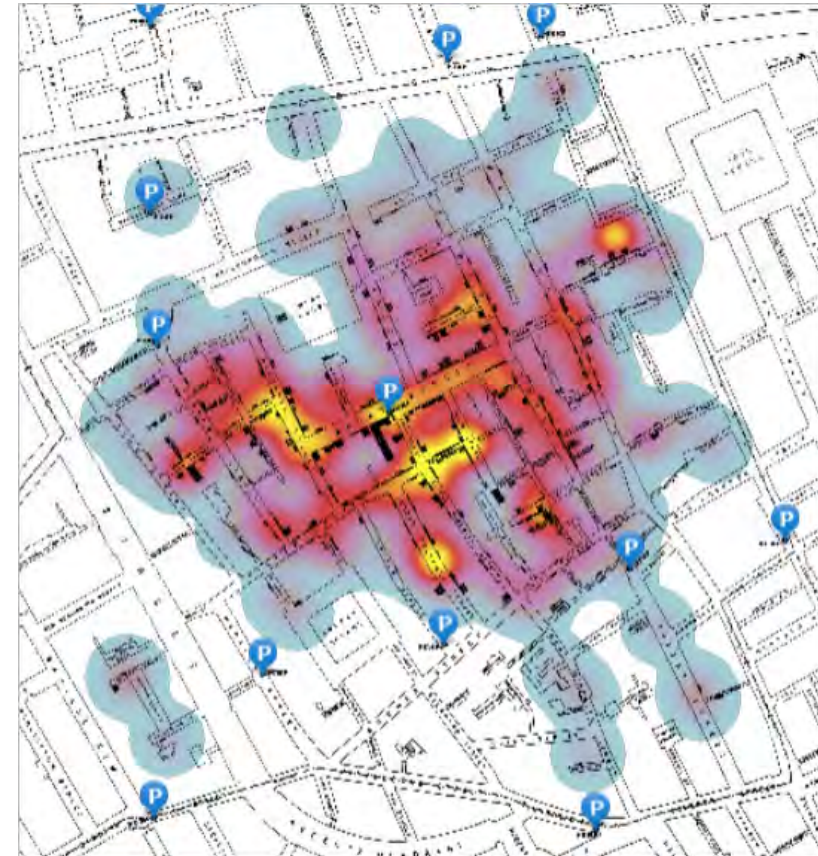


- Knowledge vs Awareness
- Capability vs Capacity
- Data vs Evidence

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Key aims of an epidemiologist

- 1) To describe the **distribution** and **magnitude** of health and disease problems in human populations
- 2) To identify **etiological factors (risk factors)** in the pathogenesis of disease
- 3) To gather data essential to the **targeting, design and implementation** of services for the **prevention, control and treatment** of disease.
- 4) To **monitor and evaluate** the **impact of health interventions** and programmes



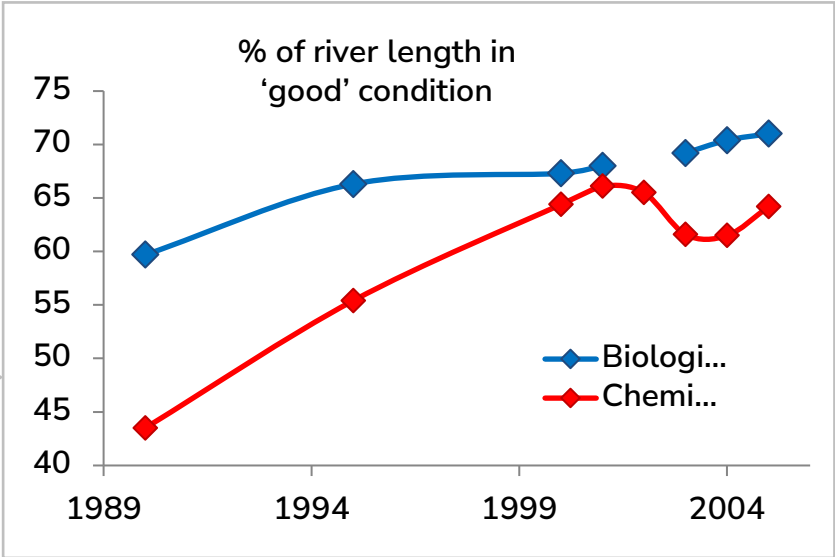
Historical perspectives

The wins and the spin

“The Agency issues State of the Environment Reports on the general state of pollution of the environment in England and Wales and provides yearly monitoring information to the European Commission pursuant to particular Directives.”

For >20 years the EA used GQA method to assess river condition & water quality

GQA was designed to assess the impacts of severe pollution on waterbodies



12 October 2010 Last updated at 17:00

28 Share f t e

River Thames wins international restoration prize

The River Thames has beaten waterways from across the world to win a top environmental prize.

It scooped the International Theiss River Prize, given for achievements in river management and restoration.

The International Riversymposium honoured the Thames for its recovery from a biologically dead river in the 1950s to today's thriving waterway.

It beat finalists the Yellow River, in China, Hattah Lakes, Australia, and the Smirnykh Rivers Partnership.

The Thames is now teeming with fish and has seen returning salmon, otter and sea trout

The numbers of fish are increasing, with 125 different species recorded, including internationally important smelt and shad.

The Environment Agency said since April 2005, 393 habitat enhancement projects have been completed and nearly 70km of river has been restored or enhanced.



About 70km of river has been restored or enhanced

Related Stories

[Thames eel populations fall 98%](#)

[Invading crabs could be exported](#)

[Thames local species under threat](#)

30 August 2011 Last updated at 07:40

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'Most-improved' rivers revealed by Environment Agency

A list of the 10 most-improved rivers in England and Wales has been released by the Environment Agency (EA).

The list includes the River Wandle in London - which was officially declared a sewer in the 1960s - the River Nar in Norfolk and the River Darent in Kent.

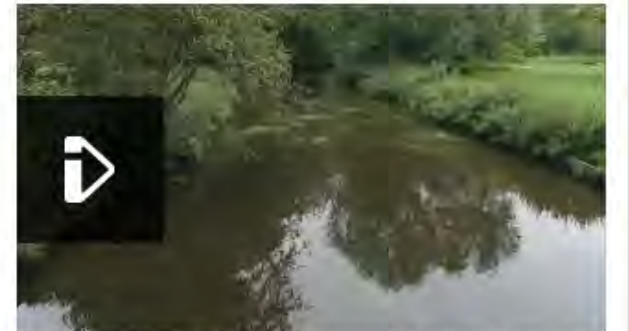
Ian Barker, head of land and water at the agency, said Britain's rivers were "the healthiest for over 20 years".

He said work with farmers, businesses and water companies to reduce pollution and improve water quality had paid off.

River habitats had also benefited from reductions in the volume of water taken by industry and farmers, he said.

'Biologically dead'

The list also includes the River Thames in London, which was declared "biologically dead" in the 1950s, and the River Taff in south Wales, which the EA says once ran black with coal dust but is now a leading site for



The BBC's Laura Yates says one of the top 10 is London's River Wandle, once classed as a sewer



The health (welfare, good, salvation, felicity) of the people should be the supreme law...



Devilish thick!
yes, here I stick!
It makes me Sick!

What torrents of filth come from
that Walbrook Sewer!!

Sewer! why there are 130 such!

Oh! never mind, any nastiness goes down
here in the Borough

What do they drink that!

Prodigious.

"Tell it not in Gath"

Give us Clean water!

Give us pure water!

We shall all have the Cholera

Give us Clean water

Give us clean water

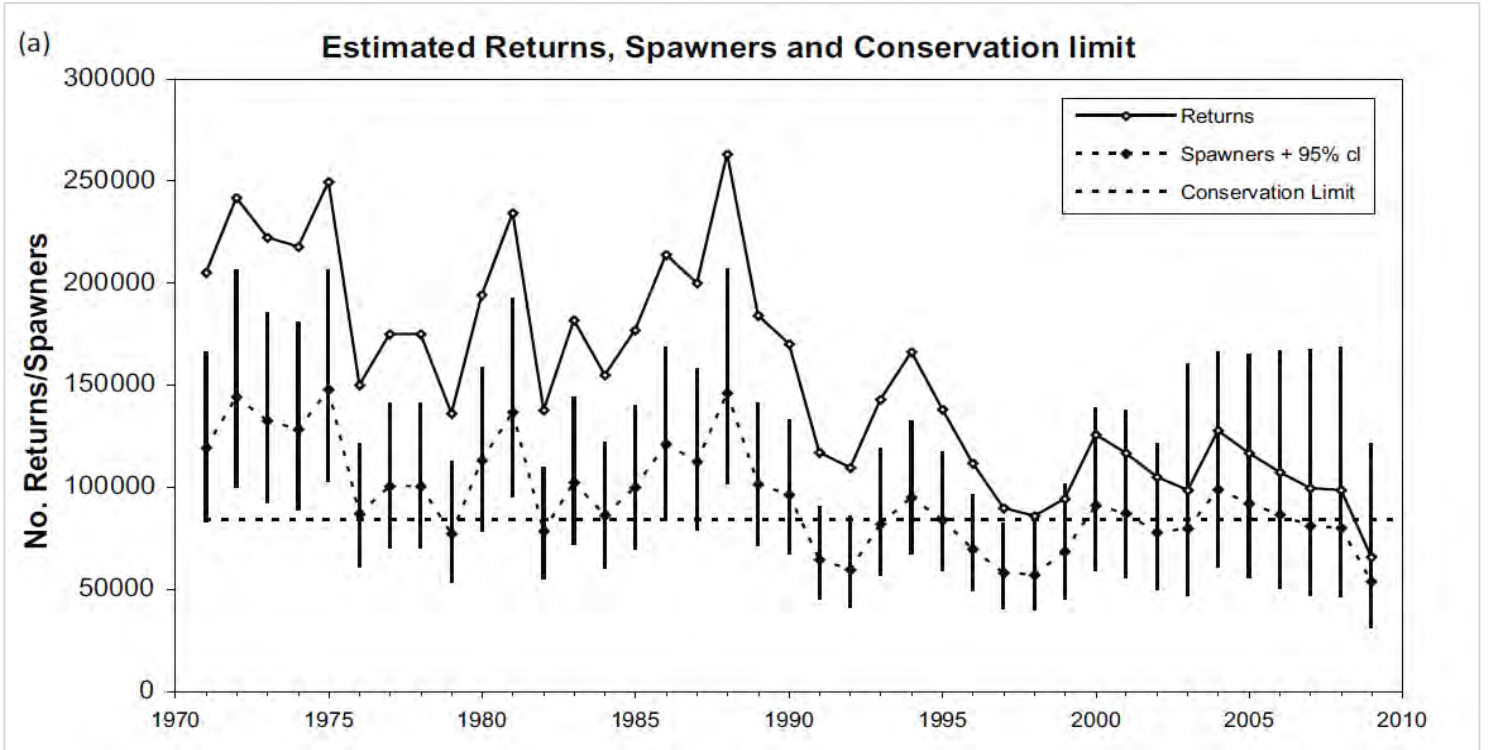
Mark of Cleanliness

Walbrook

Horse Shoe Alley

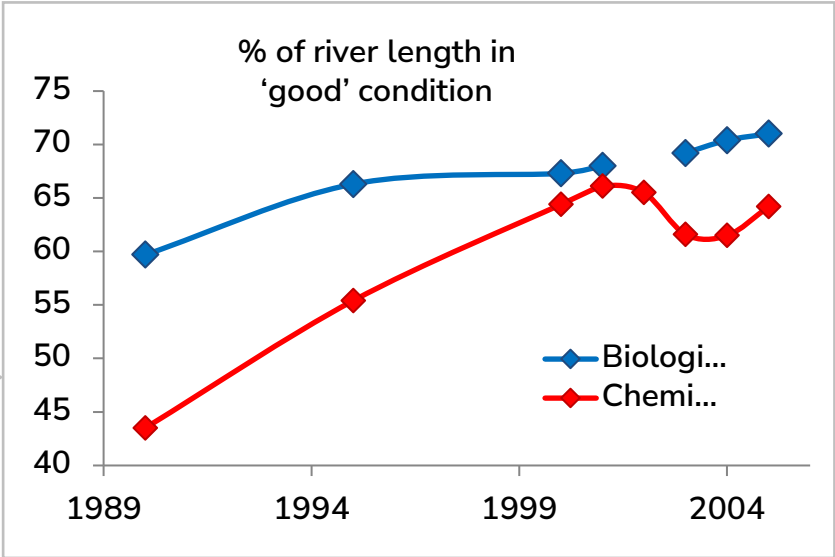
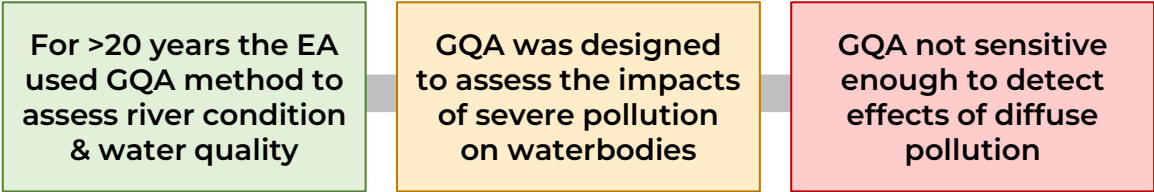
George Cruikshank 1835

Hail long-expected days
That Thames's glory to the stars shall raise: vapo

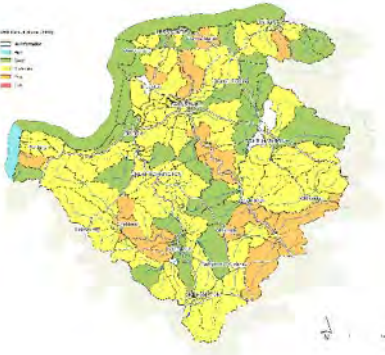
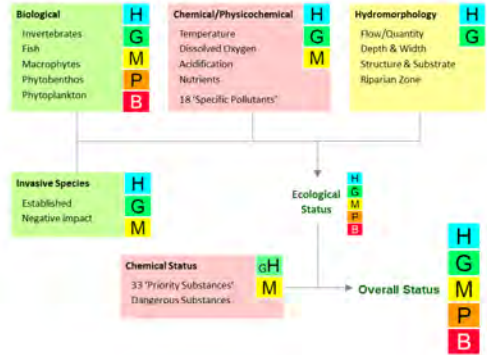


Historical perspectives The wins and the spin

“The Agency issues State of the Environment Reports on the general state of pollution of the environment in England and Wales and provides yearly monitoring information to the European Commission pursuant to particular Directives.”



In response to the challenges set out in the WFD, the UK proceeded to establish itself as a world leader in the science of water quality and waterbody health assessment – UKTAG.



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UK rivers failing new EU standard

By Judith Burns

Science and Environment reporter, BBC News



The Environment Agency plans to revitalise and transform rivers by 2015

Three-quarters of rivers in England and Wales fall below a new European environmental standard, according to a report from the Environment Agency.

But the report also says that water quality has improved for the 19th year in a row, and that wildlife is returning to a number of rivers.

Environmental groups want tougher action as only five of the 6,000 rivers surveyed are classified as pristine.

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The state of the environment: water quality

February 2018

Chair's foreword



Water keeps us alive, drives our economy and sustains wildlife. Having good water quality, managed in a way that makes sure the country is more resilient to flood and drought, is essential.





As the environmental regulator the Environment Agency needs to understand the complex natural and man-made systems that allow people to water crops, wash cars, take showers and drink healthy tap water wherever they live in England. This means close partnership working with water companies, farmers, businesses and environmental organisations.

Over the last 30 years, there has been good progress following more than a century of poorly regulated industrial practices. England has the cleanest bathing waters since records began, serious pollution incidents are steadily declining and rivers that were biologically dead are reviving.

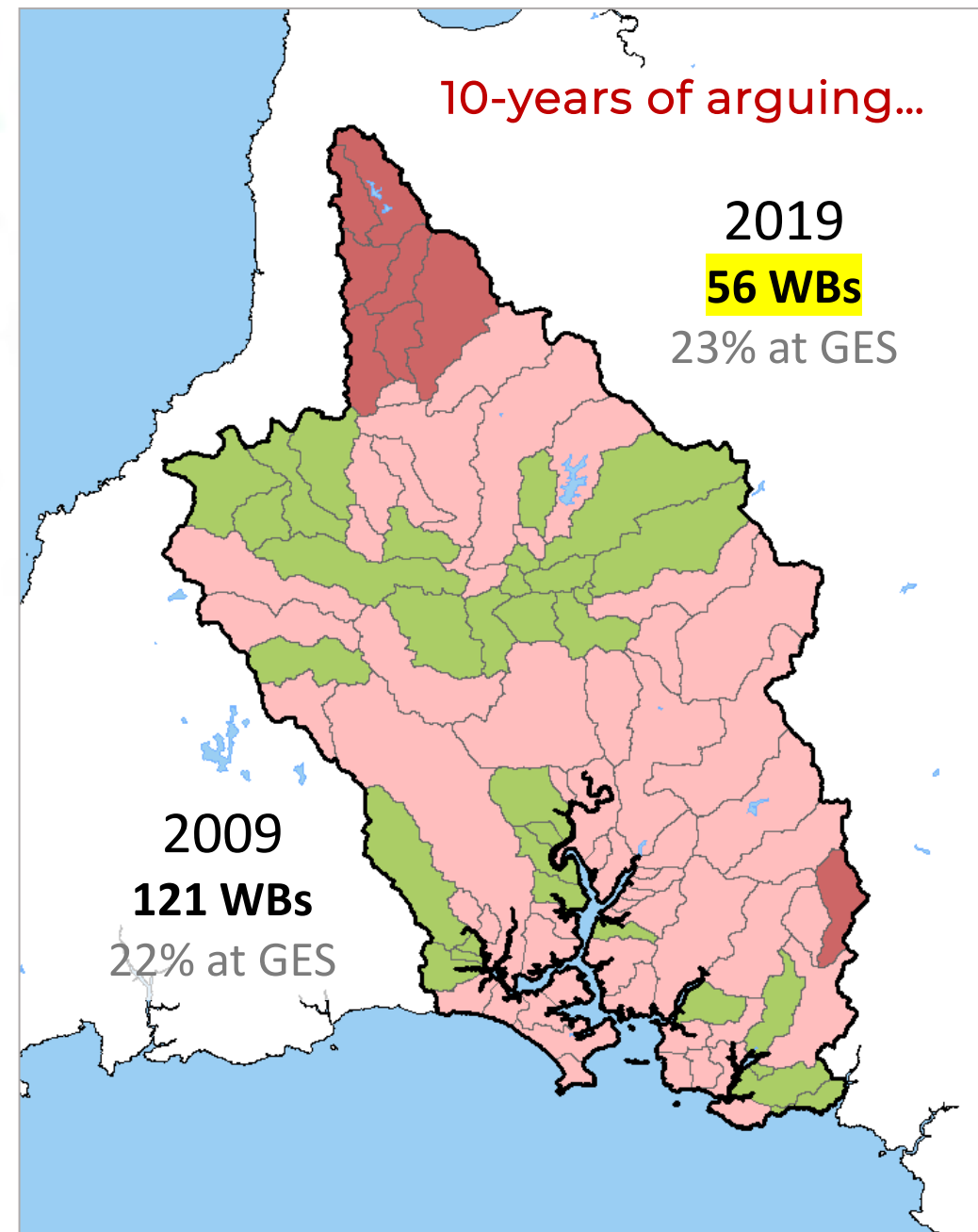
Where we want to be

Work is underway to achieve the environmental objectives set out in our 2015 [river basin management plans](#). There is still work to do to achieve the planned improvements to surface waters by 2021, but projections suggest that we will meet them (table 1).

Good groundwater body status will be reached by 2021 in 75% of bodies for quantitative status and 56% of bodies for chemical status.

Table 1					
Percentage of surface water bodies at good or better ecological status in 2016 and planned improvements by 2021					
Rivers 	2016	2021	Lakes 	2016	2021
	14% (76%)	21%		16% (56%)	19%
Coasts 	2016	2021	Estuaries 	2016	2021
	45% (87%)	53%		20% (77%)	25%

Note: Numbers in brackets show % of individual tests achieving good or better status and may give a better indication of water body condition.

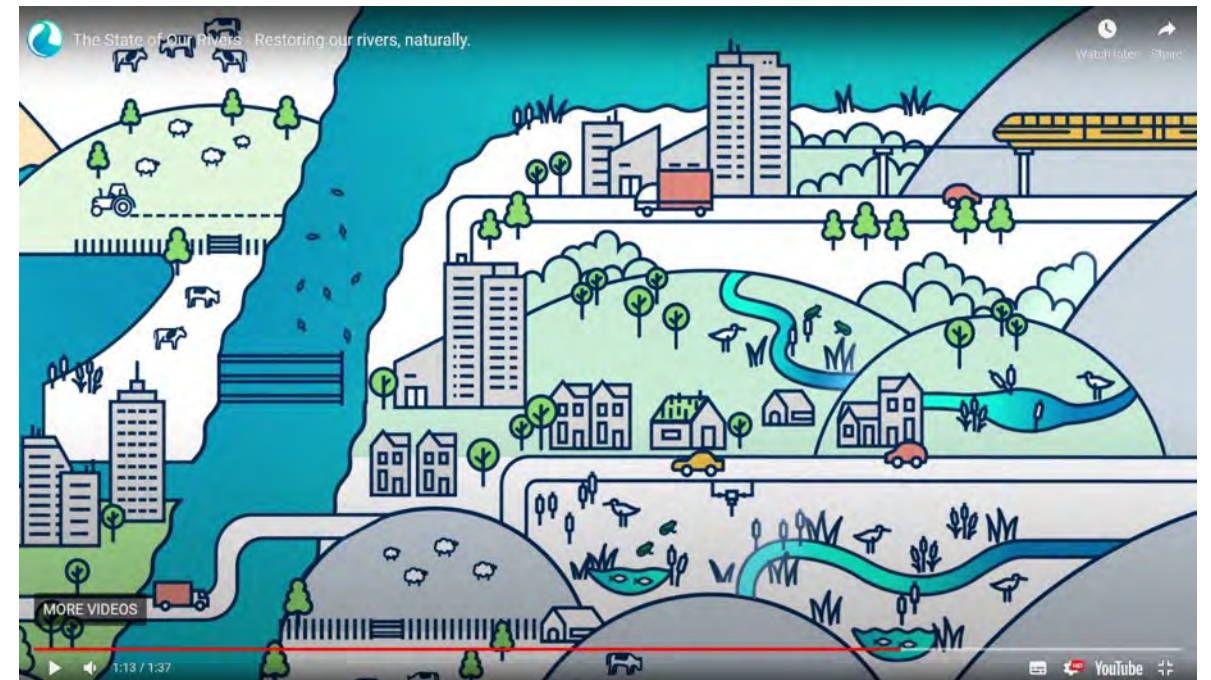
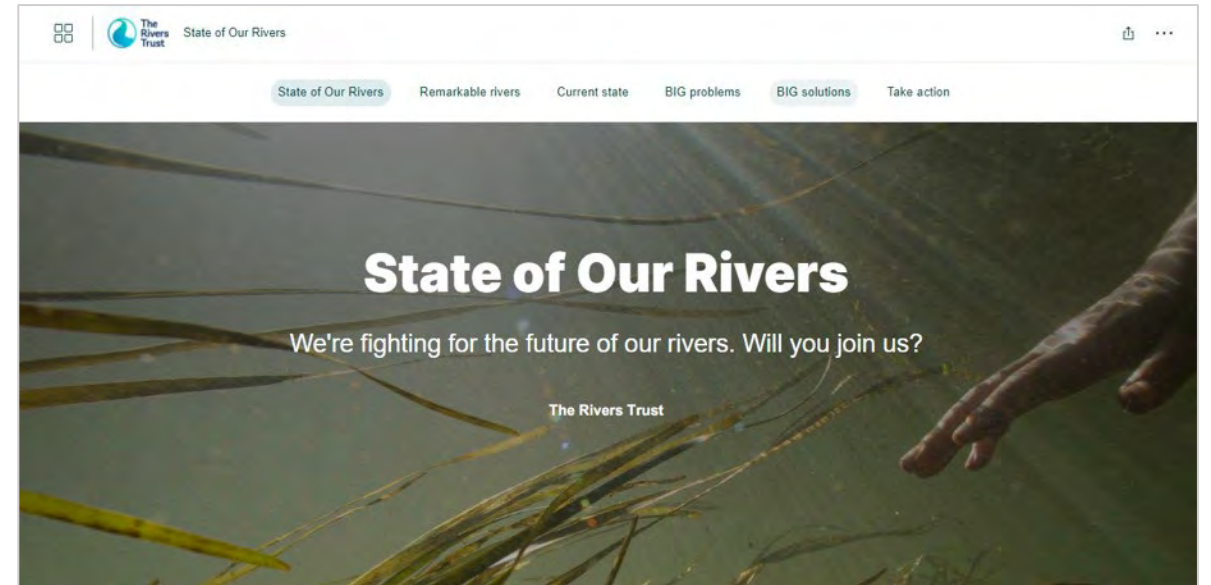
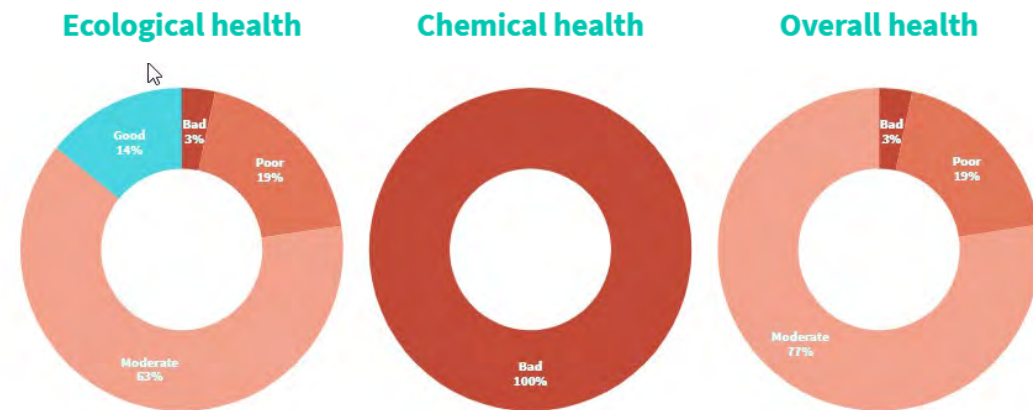


The Rivers Trust State of Our Rivers - 2021

So, how healthy are rivers in England?

Under the Water Framework Directive, a river's ecological health can be classed as High, Good, Moderate, Poor or Bad. In an ideal world, we'd like to see every river achieving *at least* 'Good' status... but this couldn't be further from the truth.

- **14%** of rivers pass good ecological health
- **No** rivers pass good chemical health
- **No** rivers pass good overall health





What does this mean for my local river?

This map shows the range of Ecological health in rivers around England.

Zoom in and find out what's happening on your river.





Watch now

The River Pollution Scandal

Panorama investigates the scandal of our polluted rivers. Reporter Joe Crowley obtains data that reveals how some big water companies have been illegally dumping untreated sewage. He meets local people campaigning for a wholesale clean-up and exposes one company discharging sewage without a permit.

6 months left to watch

🕒 29 minutes

SL



Water UK responds to Panorama report on river pollution

Responding to the Panorama report on river pollution, a Water UK spokesperson said:

“Water companies are passionate about their role as custodians of our natural world, and are investing £5 billion on environmental improvements including £1.1bn on improvements to storm overflows. This includes more monitoring of overflows, investment in wastewater treatment works and using natural alternatives and the latest technology to keep sewage out of rivers and take pressure off wastewater networks.”

RIVERCIDE

IN 60 ACTION-PACKED MINUTES, THE WORLD'S FIRST LIVE INVESTIGATIVE DOCUMENTARY WILL ATTEMPT TO FIND OUT WHO IS POLLUTING OUR RIVERS AND WHY WE'RE NOT STOPPING THEM

PRESENTED BY **GEORGE MONBIOT**, WITH LIVE MUSIC FROM **CHARLOTTE CHURCH**



SWANER FILMS RIVERCIDE live documentary by George Monbiot, with Charlotte Church + B Zep... Watch later Share

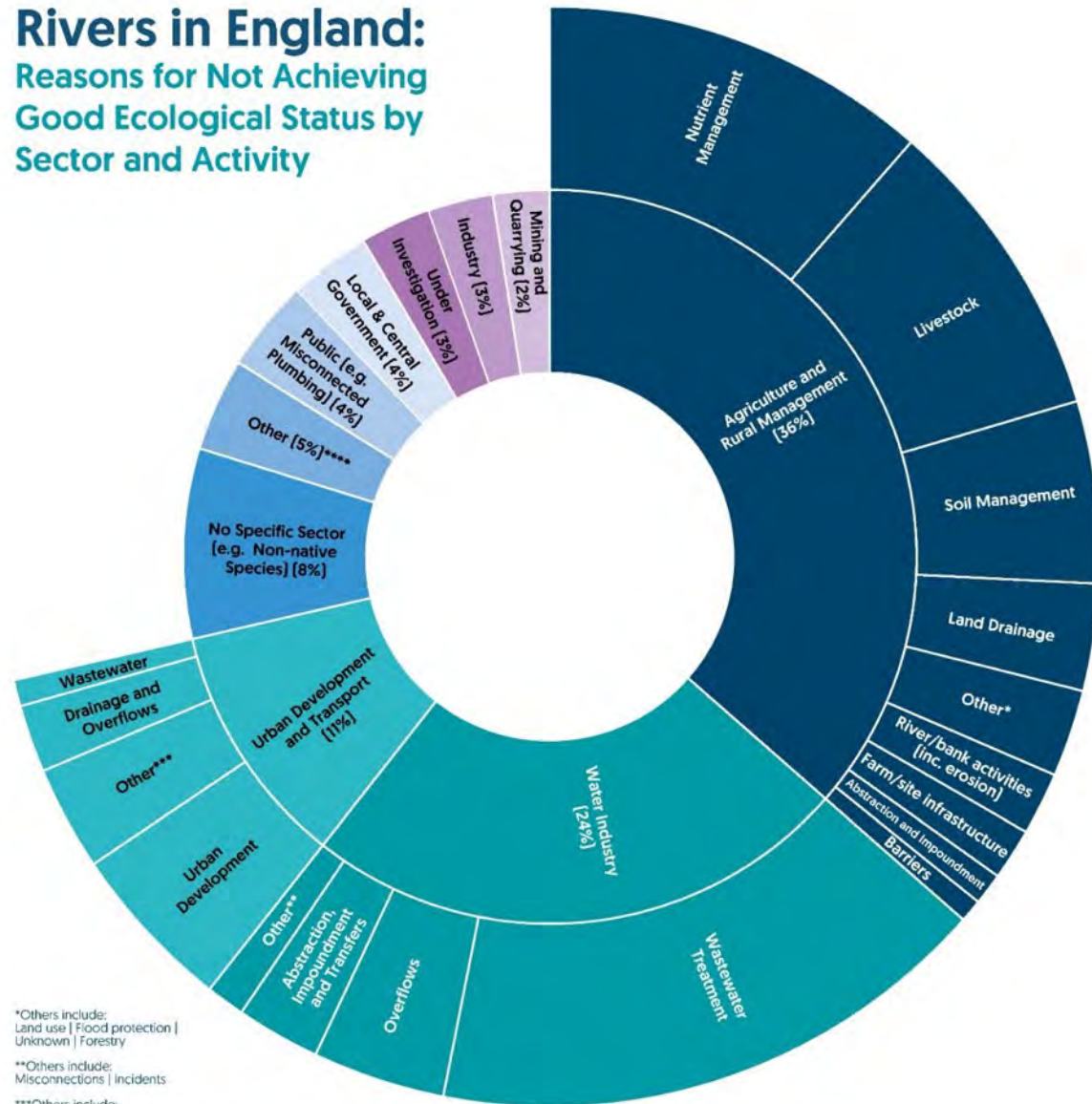
0:00 / 1:17:47 YouTube

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The video player is flanked by two vertical panels showing a dense, colorful network of lines in shades of blue, green, red, and purple, resembling a complex river system or data visualization.

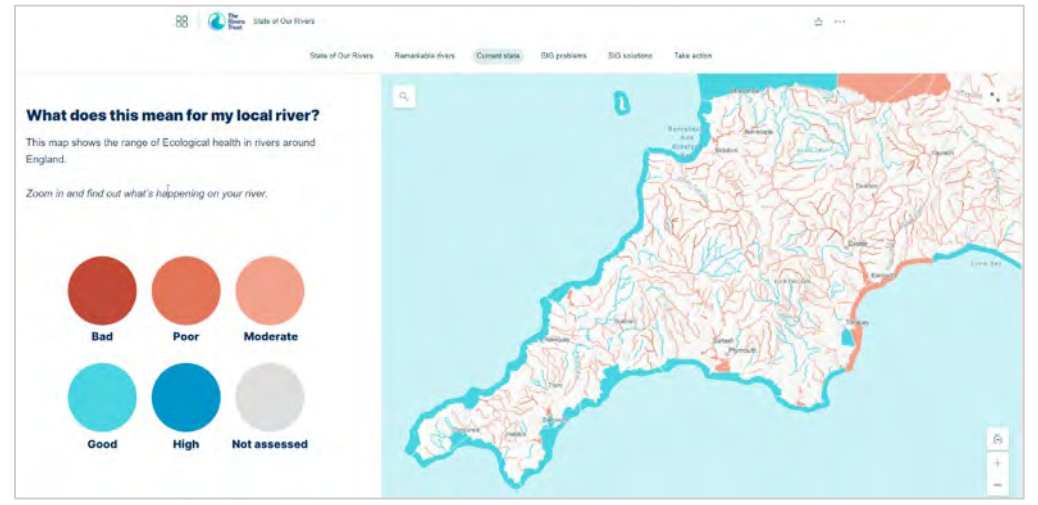


Rivers in England: Reasons for Not Achieving Good Ecological Status by Sector and Activity



*Others include: Land use | Flood protection | Unknown | Forestry
 **Others include: Misconnections | Incidents
 ***Others include: Transport | Flood protection | Contaminated Land/River bed | Barriers | Unknown
 ****Others include: Navigation | Recreation | Waste

5. Source: The Environment Agency
 Catchment Data Explorer, September 2021



This is very useful...to a degree...

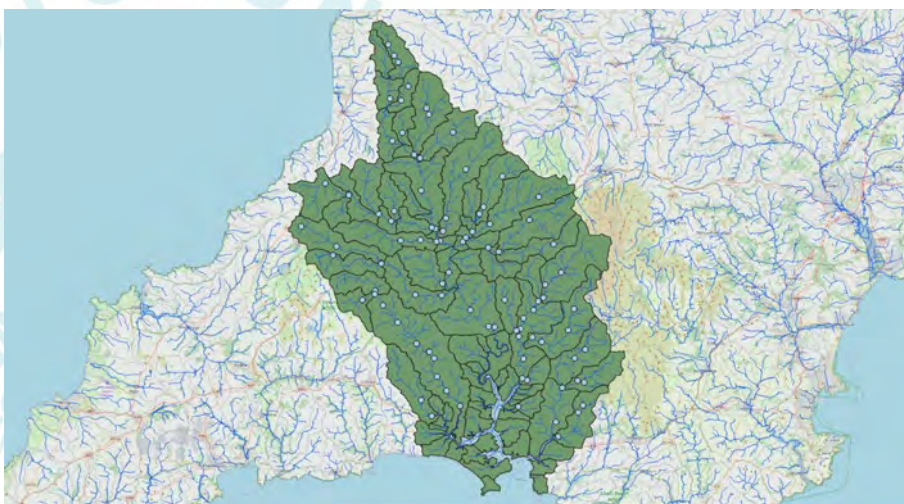
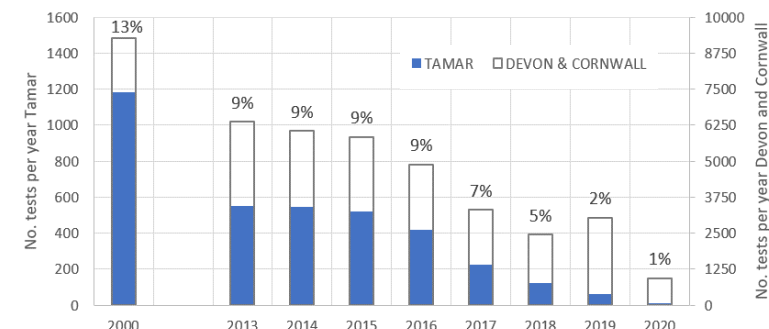
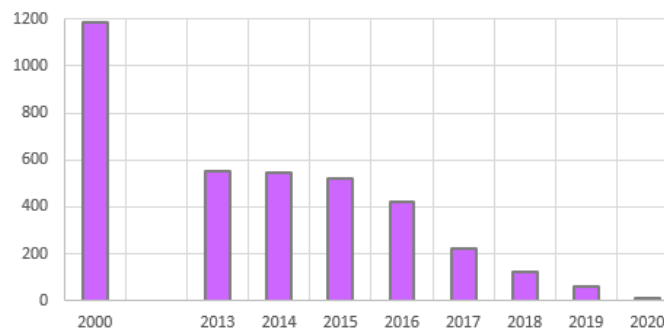
But this information is all based on the same data from the same source...

Is this information good enough to inform the restoration of rivers...?

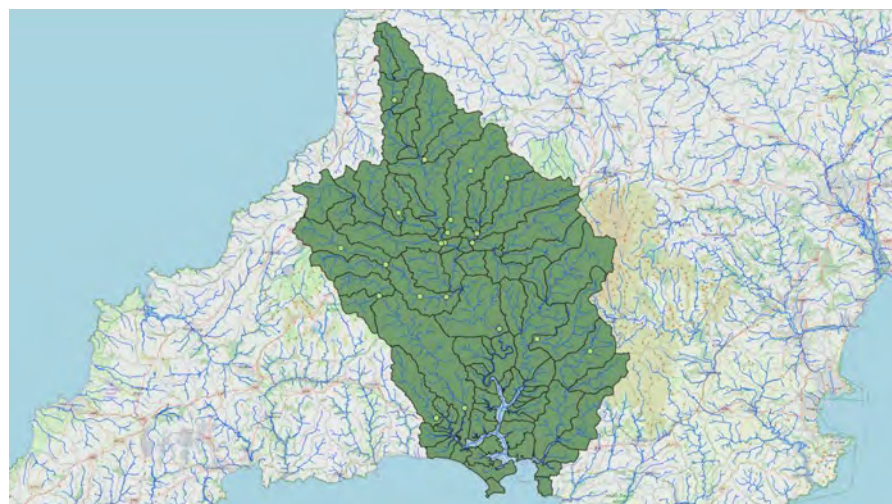
Government-funded monitoring has changed Ignorance isn't bliss...

EA Ortho P tests – Tamar 2000 and 2013 to 2020

Year	EA Ortho P tests	Unique sites	Mean tests/site
2000	1183	100	12
2013	552	81	7
2014	545	79	7
2015	521	79	7
2016	418	70	6
2017	223	69	3
2018	121	21	6
2019	63	21	3
2020	10	4	3



2000: 1,183 Ortho P results from 100 unique locations – average 12 tests per site per year



2019: 63 Ortho P results from 21 unique locations – average 3 tests per site per year

So, what do we do now...?

Key aims of an epidemiologist

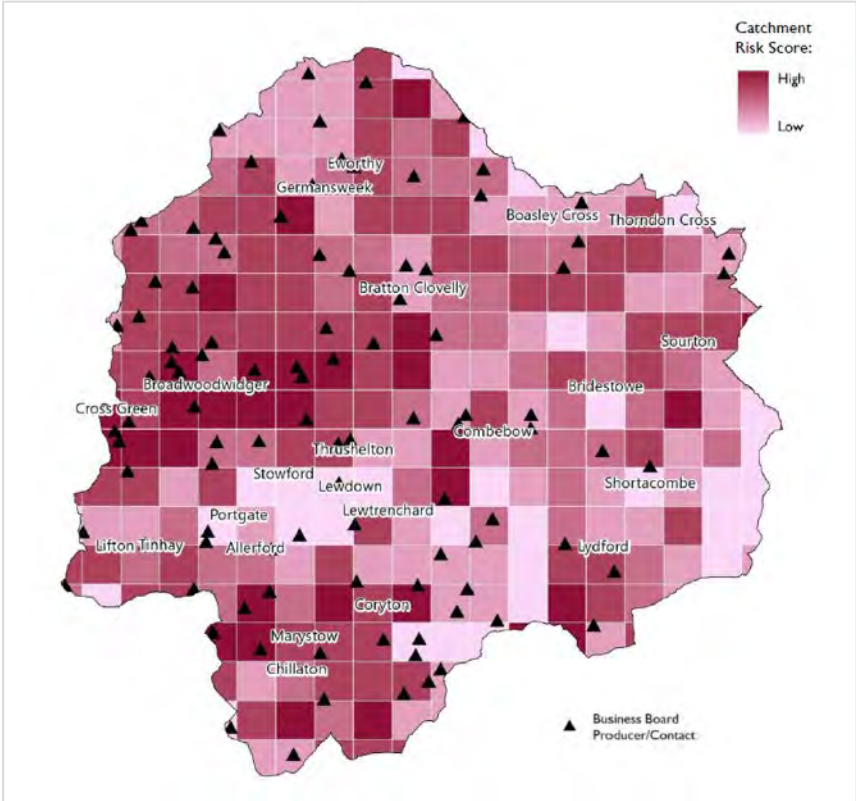
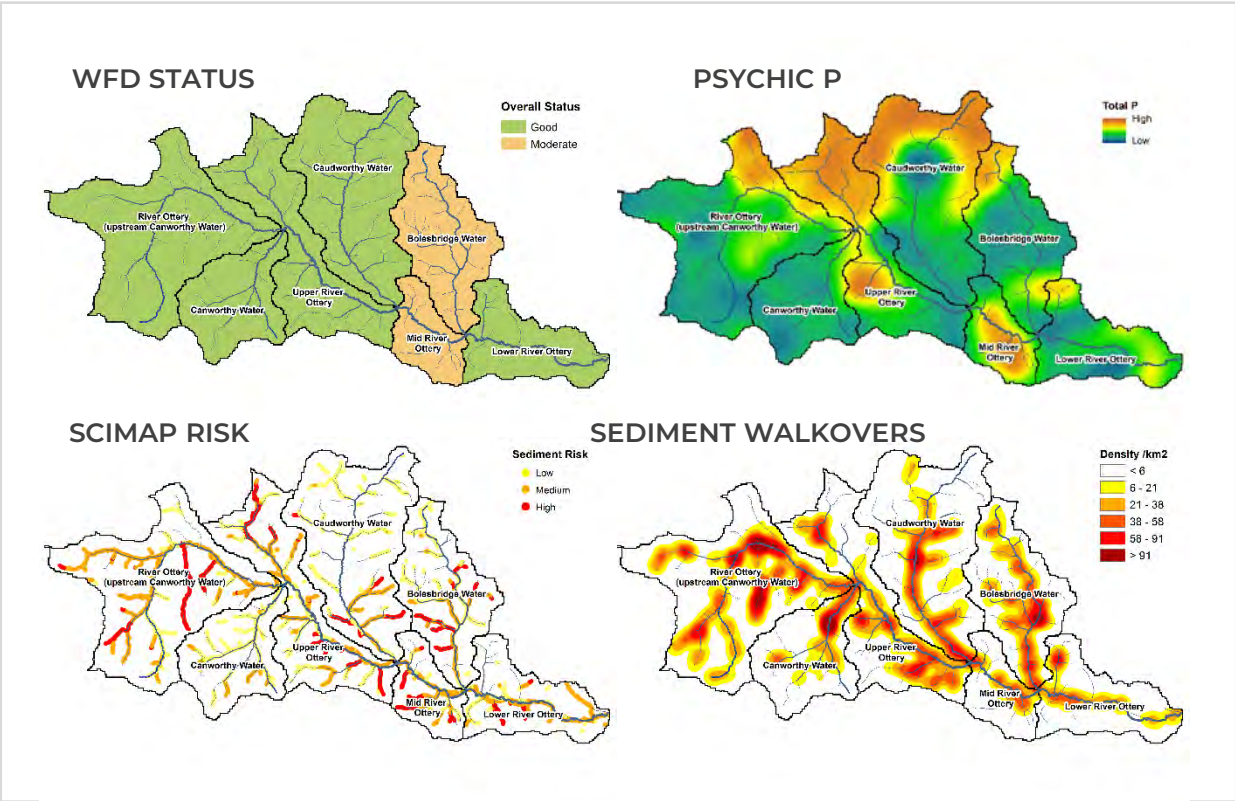
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Environmental assessment capabilities

Targeting action using models

Geospatial modelling, source apportionment, risk assessment, etc...



Environmental assessment capabilities

Targeting action using surveys

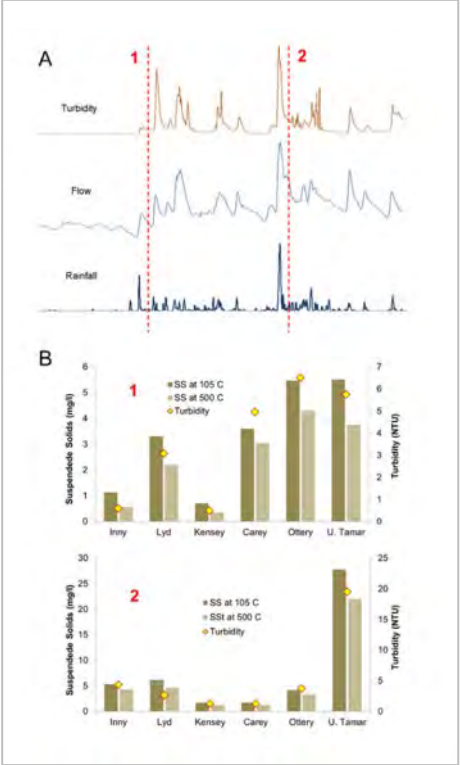
Wet-weather walkover surveys, farm surveys, soil condition assessments, etc



Environmental assessment capabilities

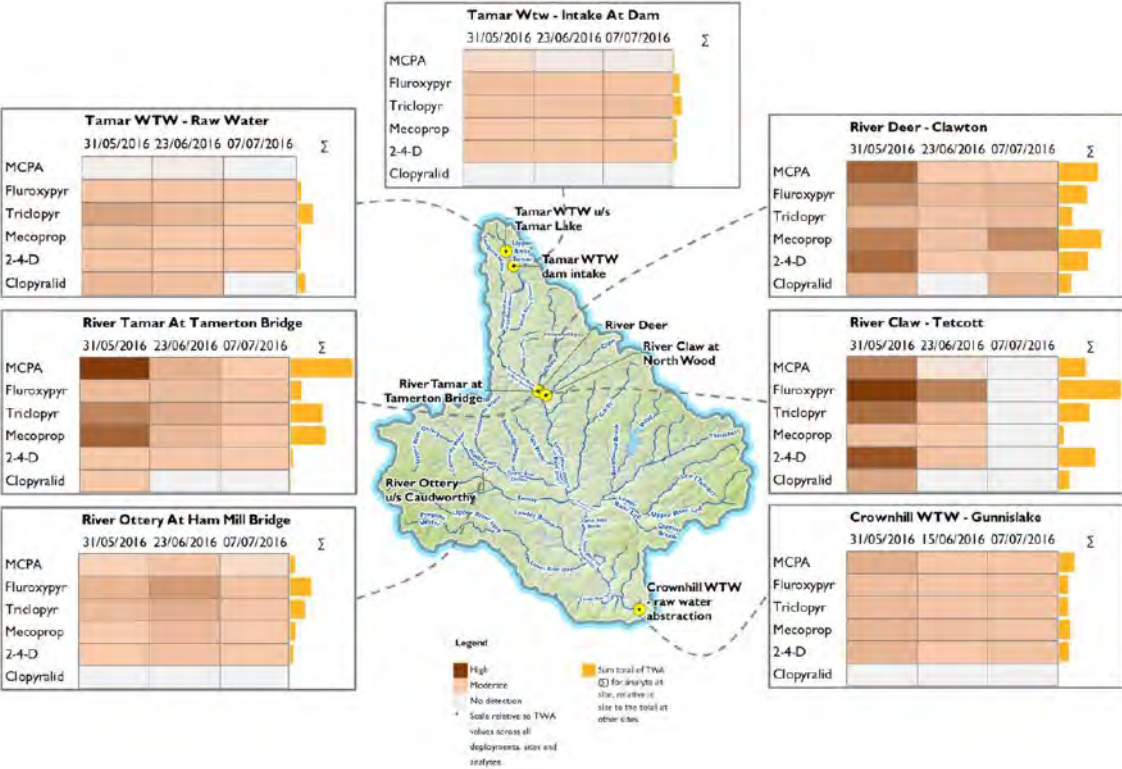
Targeting action using monitoring

WQ spot sampling and in situ monitoring to characterise problems, track sources & detect changes (+/-)



Environmental assessment capabilities Targeting action using passive sampling

Using passive sampling to identify pollutant and trace sources

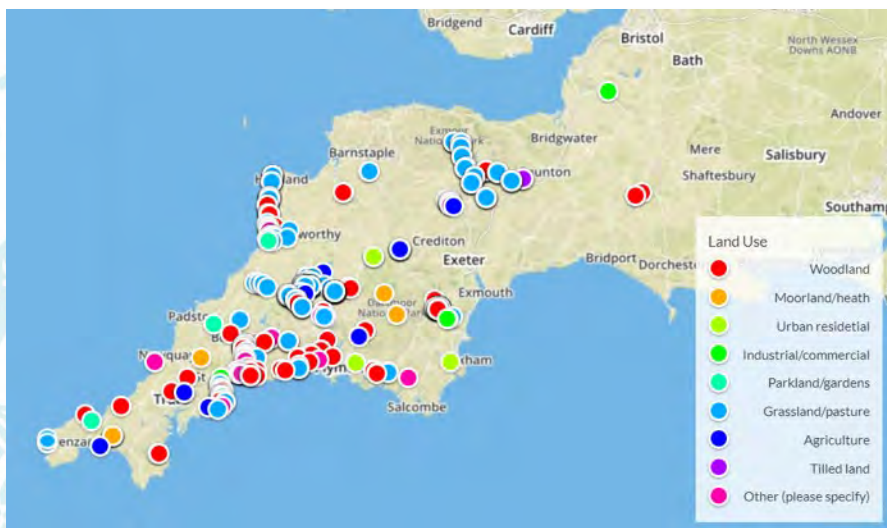


Environmental assessment capabilities

Targeting action using citizen science

Westcountry CSI

Originally piloted on the River Tamar as 'Tamar CSI' ...Westcountry CSI now covers most of the Westcountry (Cornwall, Devon and parts of Somerset and Dorset)...



PLYMOUTH RIVER KEEPERS

Love where you live

We want to work with you to care for nature on your doorstep across areas in north west Plymouth.

Join us as a Plymouth River Keeper and help restore and improve local streams, prevent pollution, improve water quality, and protect wildlife for current and future generations.

Visit wrt.org.uk/project/plymouth-river-keepers/

For more information, please contact Westcountry Rivers Trust
 Phone: 01579 372140
 Email: jenny@wrt.org.uk

Environmental assessment capabilities

Evaluating the impact of our work

Modelling and monitoring (chemical and biological) to assess efficacy and impact of actions

