

# WESTCOUNTRY CSI – DATA & INFORMATION

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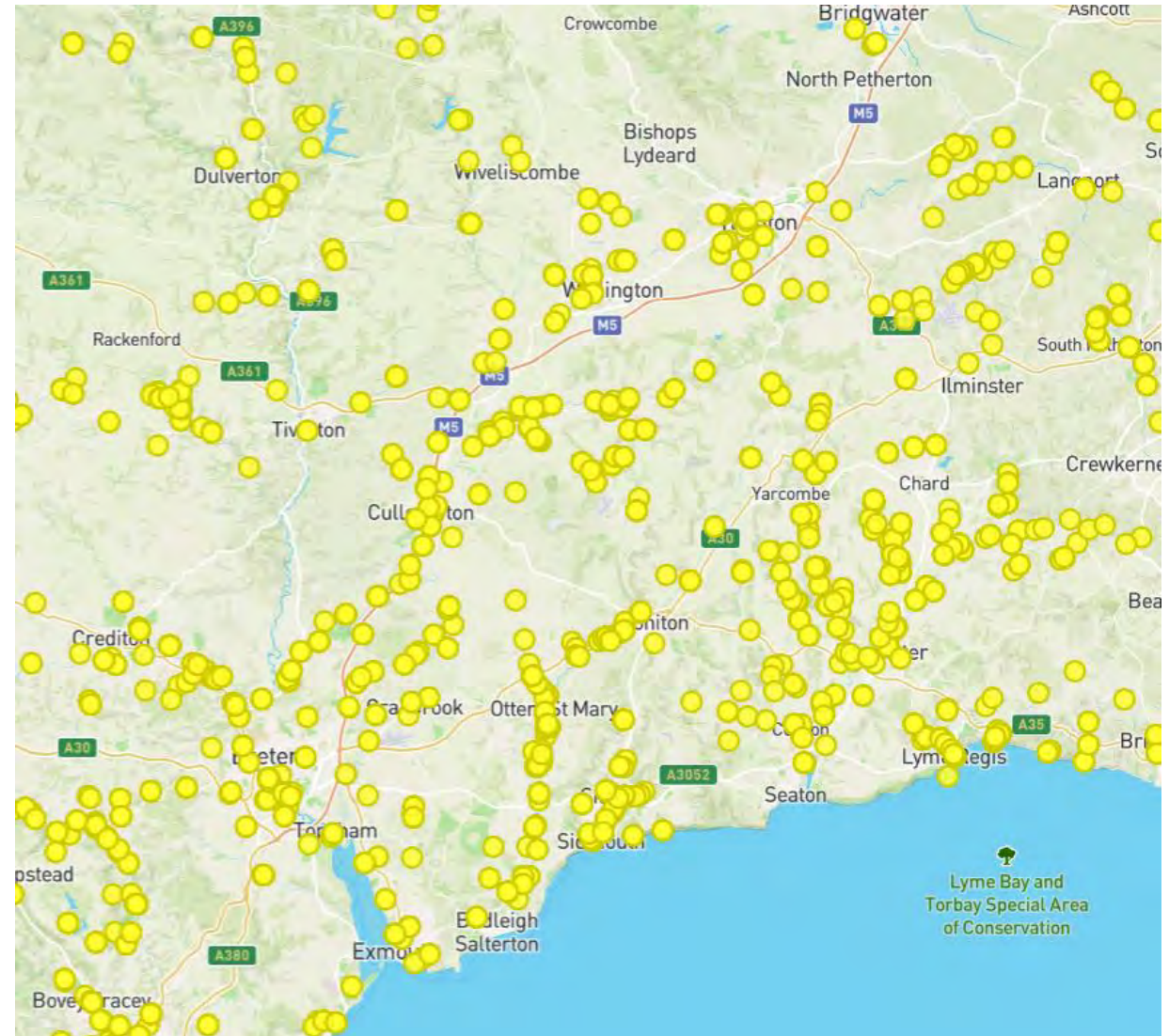


Photo Credit: Gwynnie



## Aims:

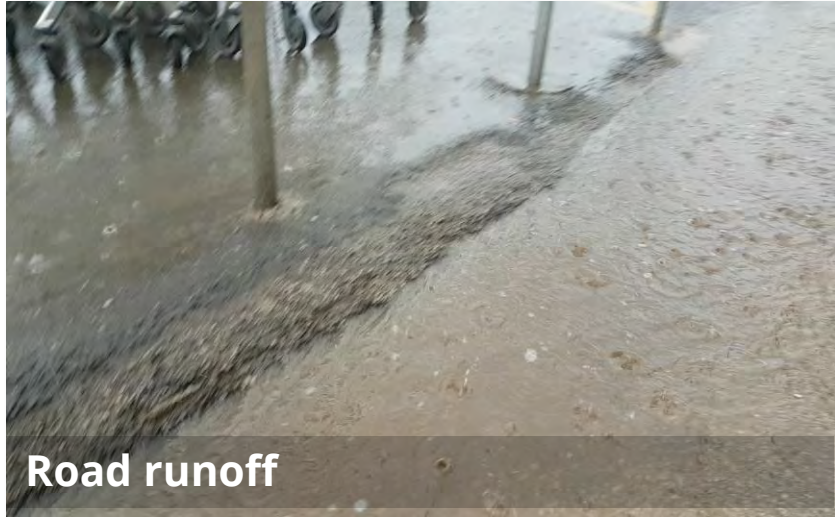
- To educate and engage people with the water environment.
- To produce data that can be used to target work and identify degrading water bodies.
- To spot pollution events which can be dealt with as quickly as possible.
- To create a network of catchment communities that are invested in their local environment.





# URBAN ISSUES

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**Road runoff**



**Sewage discharges / sewer overflows**



**Barriers to fish migration**



**Industrial Discharge**



**Litter and Plastic pollution**



# RURAL ISSUES

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Slurry spreading before heavy rain



Fine sediment from soil erosion



Soil compaction



Macro/micro plastics



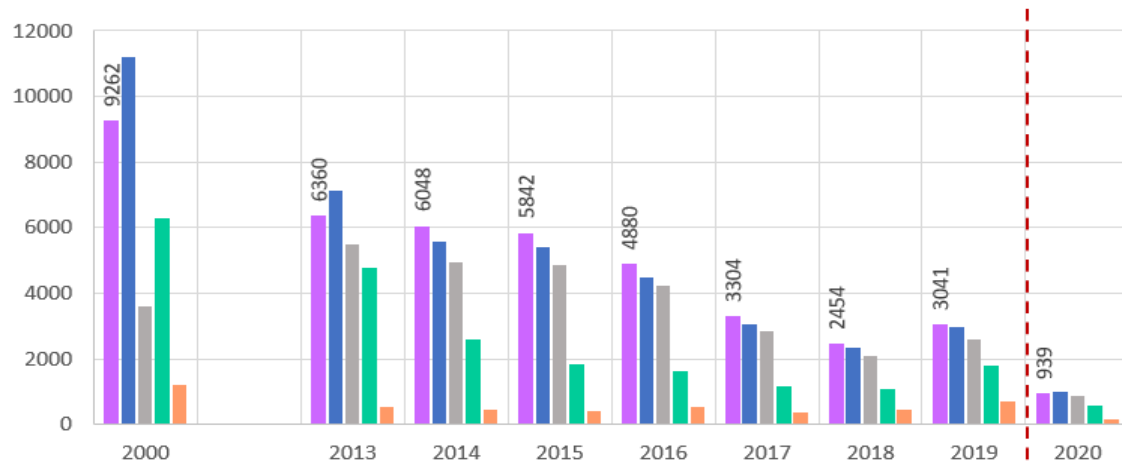
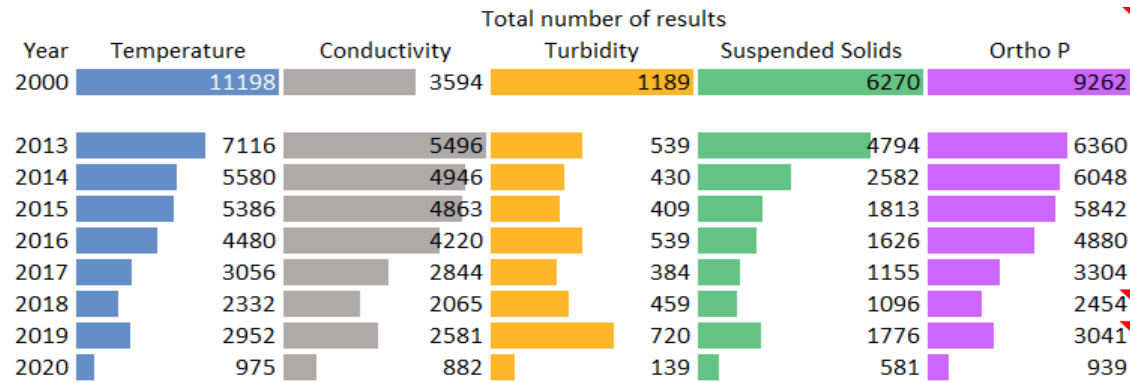
Pesticide application



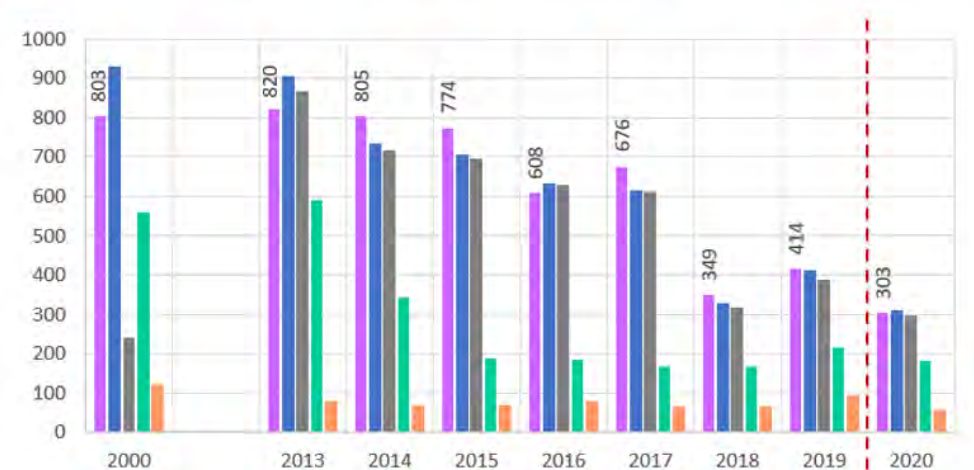
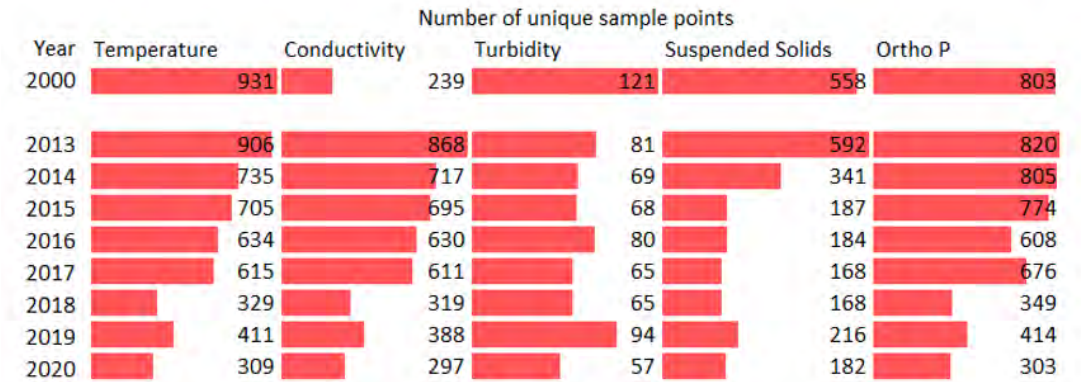
Livestock access to rivers





## Surveys



## Sites



# WHAT IS RECORDED

**Survey Details**

Survey location: \_\_\_\_\_ Grid Reference: \_\_\_\_\_

Name of river/stream: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Observer Name: \_\_\_\_\_


Type of Waterbody (tick one)

River     Stream     Lake     Pond     Estuary/tidal

Other: \_\_\_\_\_

Rain in previous 24 hours (tick one)

None     Light rain/showers     Heavy or prolonged rain

 Please take up to four photos to go with your survey data. One photo should be taken from the same place on each visit and will capture some parts of the waterbody and surroundings.


Other features where photos would be useful are highlighted with the camera icon.

**General Ecosystem Observations**

Dominant land use within ~50m (tick all that apply)


Woodland     Moorland/heath     Urban residential     Industrial/commercial     Parkland/gardens

Grassland/pasture     Agriculture (crops)     Tilled land     Other: \_\_\_\_\_

Dominant bankside vegetation (tick all that apply) 

Trees/shrubs     Grass     None (impermeable surface)     None (bare earth)

Other: \_\_\_\_\_

Problem plant species (tick all that apply) 

Himalayan balsam     Japanese knotweed     Giant hogweed     Skunk cabbage     Curly waterweed

None     Other: \_\_\_\_\_

Wildlife spotted (tick all that apply)

Otter     Mink     Water vole     Kingfisher     Grey Wagtail

Heron     Dragonflies/damselflies     Fish     None     Other: \_\_\_\_\_

If you see any of the following, call the Environment Agency 24-hour incident hotline 0800 80 70 60: Pollution to water or land, damage or danger to the natural environment, dead fish or fish gasping for air, collapse or badly damaged riverbanks.



Total Dissolved Solids (TDS) Meter



Phosphate Strip being inverted in sample



Turbidity Tube



Phosphate Colour Chart



# CARTOGRAPHER

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Jack Middleton

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## Map Preview Available

We're working on a new map interface for Cartographer. Read more about what's coming, and preview this map in the new interface.

## Westcountry CSI

Click an attribute below to select it and colour the map markers.

[View photographs](#)

### Plants and wildlife

[Invasive plants](#)

[Wildlife](#)

[Outfall\(s\)](#)

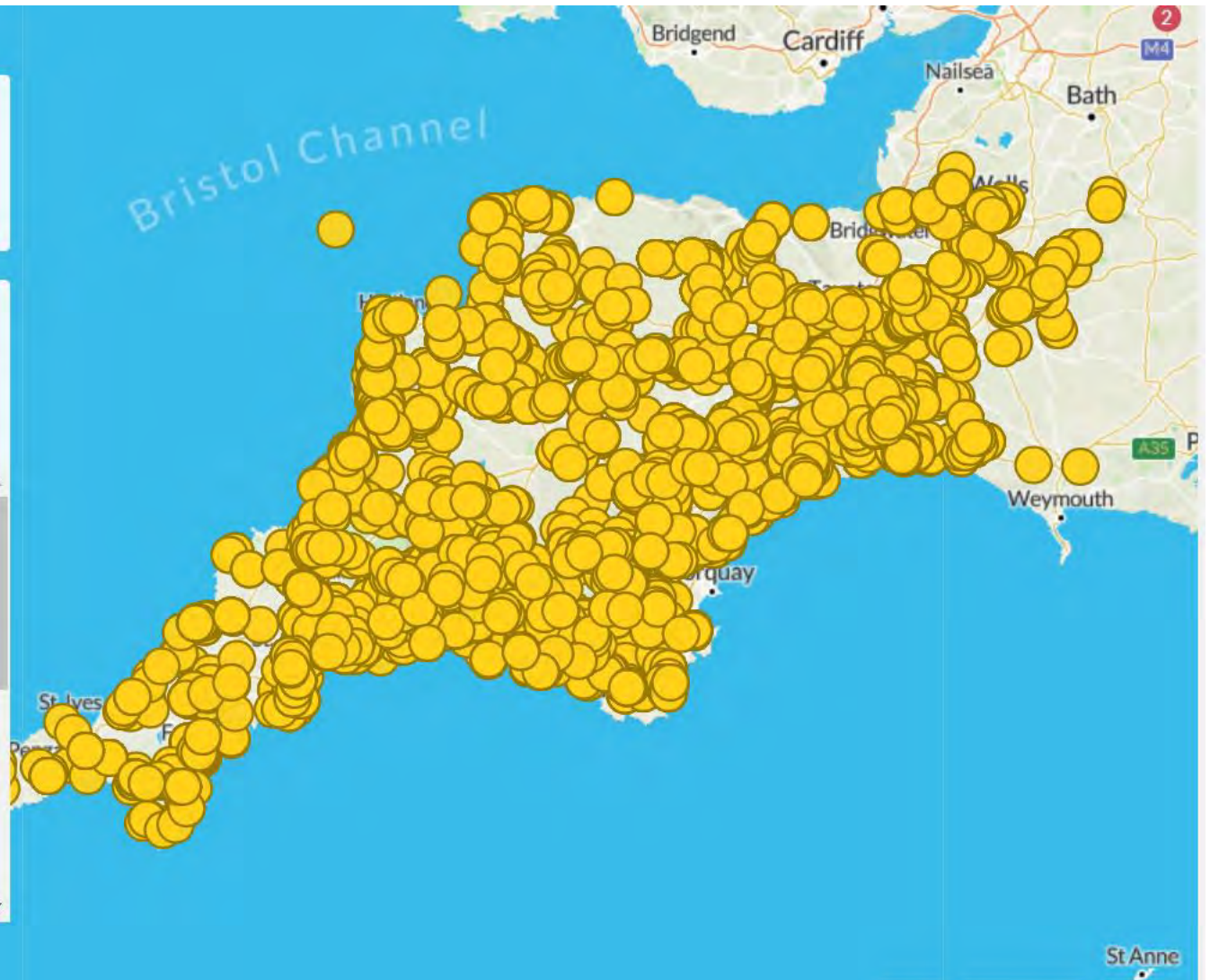
### Pollution

[Visible sources of pollution](#)

[Evidence of recent pollution](#)

### River channel observations

[Temperature](#)





# CSI SCORECARDS



## Westcountry CSI Scorecard 2021 Kit Brook, East Devon



- River Health Scale**
- A** Excellent
  - B** Good
  - C** Fair
  - D** Poor
  - E** Very Poor

The overall score for the catchment is based on a year's data, collected at all sites in the **Kit Brook** waterbody. It is calculated from the observations and water quality results attained during a Westcountry Citizen Science Investigation (CSI) survey. A waterbody has to have at least 12 samples taken over the year for it to qualify for a scorecard.



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**KIT BROOK 2021**  
**64%**  
Overall grade



- DS** Dissolved Solids are measured using a handheld TDS meter. DS increase as a result of natural and anthropogenic inputs of things like chemicals, slurry, sewage or salts into the waterbody.
- SS** Suspended Solids or Turbidity is measured using a turbidity tube. SS increase as a result of increased soil erosion, mine discharge and road runoff. An increase in SS reduces water clarity, making it difficult for aquatic organisms to survive.
- POL** The Pollution score is calculated from the observations of pollution sources and evidence of recent pollution (e.g. litter or oil). These give an indication of the pollution pressures on that watercourse.

- ECO** The Ecology score is calculated from wildlife and problem plants spotted. Wildlife spotted near a river, indicates that the river is supporting a healthy food chain. Problem plants reduce this score as they can cause issues for the biodiversity of the watercourse by shading out other plant species.
- PO<sub>4</sub>** Phosphate (PO<sub>4</sub>) is a vital nutrient for the healthy growth of all organisms and is found in natural and artificial fertilisers, sewage and industrial wastes. Natural levels are very low and thus any measurable phosphate observed is likely due to anthropogenic influences such as misconnections, farm runoff or industrial discharge. PO<sub>4</sub> is measured using strips which turn the sample blue in the presence of phosphate.

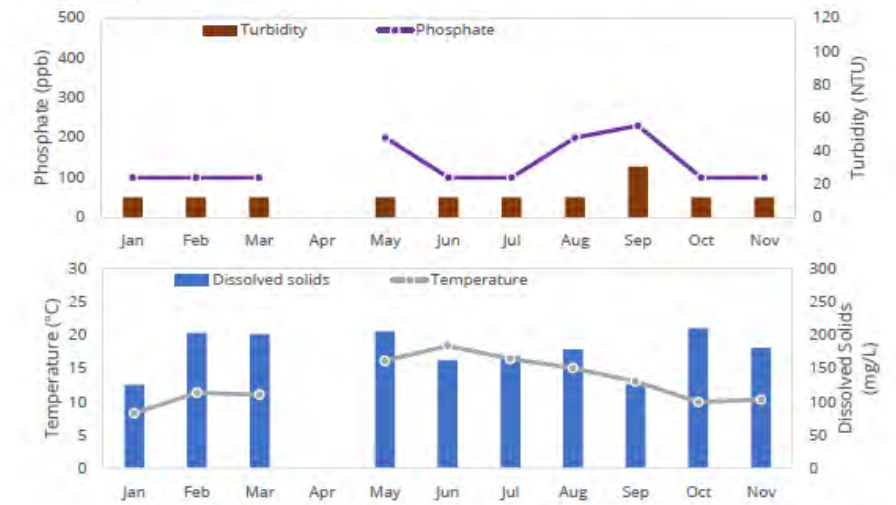
### Catchment Summary

The Kit Brook waterbody is located in East Devon with its main centre of population being Chardstock. There are seven sample points and seven active samplers in this waterbody, with 33 Westcountry CSI surveys taken in total during 2021.

The predominant land use within 50m of these sites is woodland or grassland or pasture with some areas of parkland/gardens and agriculture. The majority bankside ecosystem is trees or shrubs with some areas of grass and bare earth.

There were sightings of the problem plant, Himalayan balsam (3). Dragonflies and damselflies (4) were spotted as well as one sighting of fish and multiple sightings of insects and birds. There are multiple pollution pressures on this waterbody coming from cattle and stock (11), collapsed river banks (8), road runoff (7) and active outfalls (9). Soil (5) and farm runoff (1) were also observed. Foam (6) is seen multiple times in the river as well as an unpleasant odour (2) and oily sheen (1).

### Water Quality Test Results



### How to Use This Scorecard

The Westcountry CSI scorecards are produced to visualise the data collected by the volunteers across the Westcountry and to give an idea of the health of our rivers and streams. Due to the nature of the scheme, there are gaps in the data, and it should be noted that none of the sample points were sampled 12 times. Numbers in brackets in the catchment summary indicate the number of sightings of each species observed throughout the year.

### Become a Westcountry Citizen Science Investigator!

Join Westcountry CSI and help to monitor a river or stream in your local area. To find out more and get in touch, visit our website: [wrt.org.uk/project/become-a-citizen-scientist/](http://wrt.org.uk/project/become-a-citizen-scientist/) or email us at [csi@wrt.org.uk](mailto:csi@wrt.org.uk).

### About Westcountry Rivers Trust

The Westcountry Rivers Trust is an environmental charity (Charity no. 1135007, Company no. 06545646) established in 1995 to secure the preservation, protection, development and improvement of the rivers, streams, watercourses and water impoundments in the Westcountry and to advance the education of the public in the management of water.

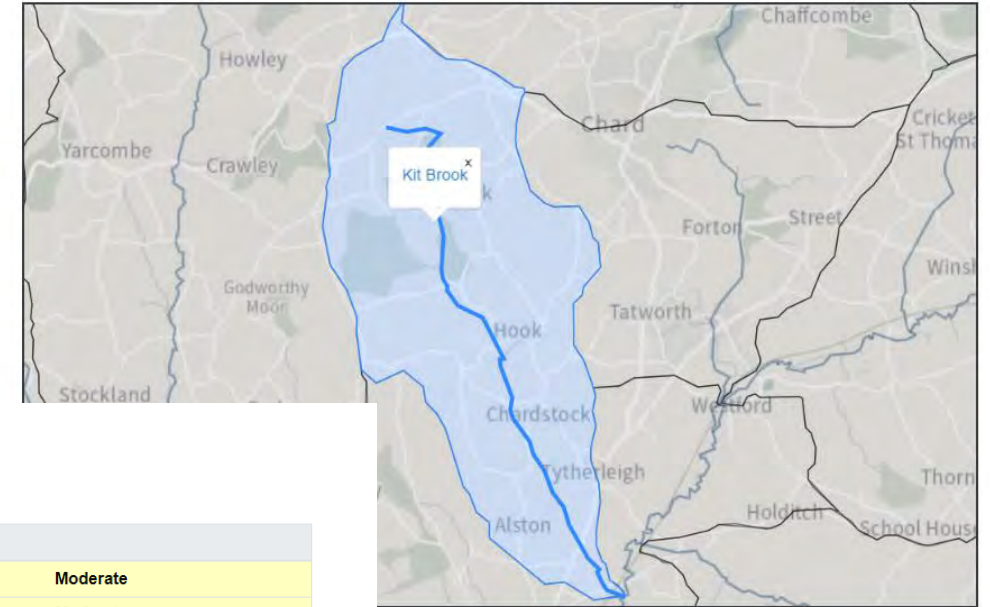


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# CATCHMENT DATA EXPLORER

## Kit Brook Water Body Moderate ecological status



### Classifications

Time period:

Classification Item	2019
<b>Ecological</b>	<b>Moderate</b>
<b>Biological quality elements</b>	<b>Moderate</b>
Fish	Moderate
Invertebrates	High
Macrophytes and Phytobenthos Combined	Moderate
Macrophytes Sub Element	Moderate
<b>Physico-chemical quality elements</b>	<b>Good</b>
Ammonia (Phys-Chem)	High
Dissolved oxygen	High
Phosphate	Good
Temperature	High
pH	High



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<https://environment.data.gov.uk/catchment-planning/WaterBody/GB108045014830>



# Thank You

## Any Questions?

[csi@wrt.org.uk](mailto:csi@wrt.org.uk)

<https://wrt.org.uk/westcountry-csi/>



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