

## SUMMARY REPORT

# Pollution in the River Char

Since 2021, two community groups have been working to clean up the River Char: the River Char Community Project (launched by Char Valley Parish Council and working on the upper river) and the River Char Action Group (on the lower river). We monitored the River Char throughout 2024 and published a full report. This is a brief summary of that report. (Read the full report at [www.riverchar.org/2024report](http://www.riverchar.org/2024report)).

## Background

The Environment Agency used to test and monitor the condition of the River Char. But this programme has been very significantly cut back in the last five years. The lack of recent data from the Environment Agency (EA) is one of the reasons that we have begun our own testing regime to monitor the condition of the river.

Our tests have collected data for pollution at five points along the river. They show that significant problems continue and that the river is not safe for children or adults to swim, paddle or play in. But there are good signs of insect, plant and animal life in the river (though they are much depleted compared to 30 years ago) and we believe we can help to regenerate all kinds of river wildlife in the coming years.

Results gathered in 2024 give us a clear basis for undertaking more testing in 2025 and for working to identify the sources of contamination. Then we can take practical steps to stop that pollution at source.

## 1. Historical river monitoring – River Char catchment

The EA separates the River Char catchment into the River Char itself and the Monkton Wyld Stream. EA data is last reported for 2022, when it gave ‘Poor’ status to the **River Char** and ‘Moderate’ status to the **Monkton Wyld Stream** (one grade up). It identified the following ‘Significant Water Management Issues’:

- Poor levels of fish (attributed to **Poor soil management** and **Farm/site infrastructure**).
- High levels of phosphate (attributed to **Poor nutrient management, Farm/site infrastructure** and **Private Sewage Treatment**).
- Poor levels of macrophytes and phytobenthos (plants) – attributed to **Poor nutrient management**, which is associated with agriculture/rural land management.
- High levels of PBDEs (persistent flame retardants).
- High levels of mercury.

## 2. Current (2024) seawater monitoring – Charmouth Beach

The EA conducts tests at Charmouth West Beach. EA tests of the sea water (not the water in the river lagoon) from May to September 2024 showed levels of *E. coli* and intestinal enterococci to be ‘Excellent’. **This confirms that there is a minimal risk to health from swimming there. It is always wise to be cautious during and after very wet weather.**

But the EA does not test the seawater east of the river mouth, which might be affected by effluent from the Long Sea Outfall (LSO)  $\frac{3}{4}$  mile off Charmouth Beach. **As a result, we do not know if it is safe to swim in the sea off Charmouth East Beach (east of the river mouth) and we do not know the effect of the continuous discharge of treated effluent on the marine environment close to the LSO (which is a marine Special Area of Conservation).**

### 3. Monitoring at Charmouth Lagoon

The EA took samples at the river lagoon between 2000-2019. In 2019, 58% of samples of *E. coli* and 26% of samples of enterococci exceeded the EA threshold (i.e. were 'Poor'). We undertook our own tests at Charmouth Lagoon fortnightly from June to December 2024. The results show higher maximum and average readings for *E. coli* in 2024 than in 2019. Mean enterococci levels were also higher in 2024.

**Our tests confirm that it is often unsafe to swim, paddle or play in the lagoon at Charmouth.**

### 4. Length-of-river water monitoring

We have been collecting samples at five sites in the River Char catchment: Stockham Bridge and Becklands Bridge (north and south of Whitchurch Canonorum); just upstream of the Wessex Water Sewage Treatment Works (STW) outside Charmouth; at Manor Farm campsite (on the Monkton Wyld Stream just before it joins the River Char); and at the Lagoon by the footbridge at Charmouth beach.

#### Bacteriology

Looking at *E. coli* and enterococci levels, we see a very similar picture to that at the Lagoon. Figure 1 shows average levels of *E. coli* at all five sites in 2024 with the red dotted line showing the EA "Poor" threshold.

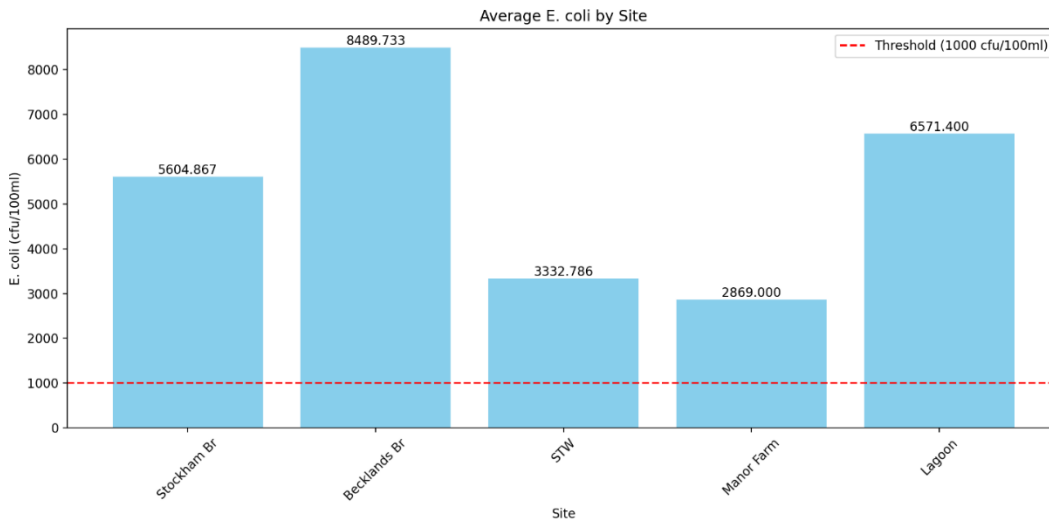
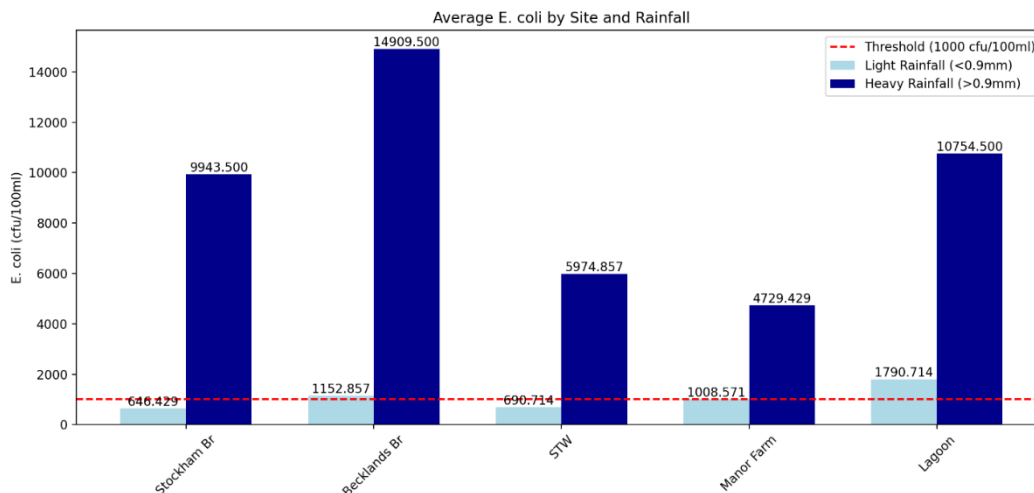


Figure 2 (below) shows the average increase in *E. coli* levels after heavy rainfall at each testing site. The increases could indicate issues with: sewer system overflows, agricultural runoff from livestock areas and septic system failures or leakage. Runoff from roads (farm tracks, lanes and the A35) also significantly increases the risk of flooding during heavy rainfall and it is likely that highway runoff adds to levels of metals and other pollutants in the river.



## Chemicals, metals and other pollutants

During 2024 we also tested for levels of ammonia and Total Phosphorus and Wessex Water tested the samples we collect and supplied data for a range of metals, chemicals and other pollutants.

**Phosphorus:** Average levels **exceeded** threshold levels on 80% of occasions at the upstream sites.

**Ammonia:** Average levels of ammonia by site over the year were well **within** acceptable levels.

**Nitrate:** The highest levels of nitrate (at Stockham Bridge) **exceeded** the recommended threshold.

**Aluminium:** Levels of aluminium regularly **exceeded** threshold levels.

**Iron:** Levels were **close** to accepted thresholds; but at Stockham Bridge they were **double** that level.

**Glyphosate:** Our readings were **relatively low** compared to other reported levels in European rivers.

**Cypermethrin:** Our readings were **below** the range typically detected in surface waters globally.

## 5. Wessex Water Storm Overflow monitoring – River Char

Below is a summary of sewage spills in the last 4 years. Higher counts in 2023 are attributed by Wessex Water to heavy rainfall. Almost all the spills are linked to periods of heavy rain. Spill hours into the River Char are a tiny fraction of those into the neighbouring River Lim. But we would like the number to be reduced. We are in regular contact with Wessex Water, which has made improvements in the last year. Newlands Bridge and the Charmouth Sewage Treatment Plant are scheduled for improvement before 2030.

Overflow ID	Site Name	Storm Discharge Asset Type	2020 spill count	2021 spill count	2022 spill count	2023 spill count
13056C	LONG SEA OUTFALL (from Sewage Treatment Plant)	Storm Overflow	69	65	65	101
13056S	RIVER OUTFALL (from Sewage Treatment Plant)	Settled Storm Overflow	4	2	1	7
16819C	THE STREET, CHARMOUTH (adjacent to Benharh)	Sewer Storm Overflow	5	3	0	0
15699E	NEWLANDS BRIDGE PUMPING STATION	Storm Overflow	12	16	13	19

## 6. Riverfly Monitoring programme (with The Riverfly Partnership)

Riverfly Monitoring is a non-destructive way to analyse river insect populations, helping us to monitor water quality trends, detect local anomalies and understand river health. We now have baseline data against which trends can be monitored. Our counts suggest that numbers of riverfly on the River Char are significantly lower than on the Rivers Lim, Frome and Brit.

## Conclusions

Our results broadly confirm the results of tests carried out by the Environment Agency since 2009 but discontinued in recent years. These present a worrying picture of water quality throughout the catchment.

- Bacterial Contamination:** *E. coli* and enterococci levels frequently exceed safe thresholds at all monitored sites. It is unsafe for people to play or swim in the river due to high bacterial contamination.
- Rainfall:** Heavy rainfall correlates strongly with increased bacterial contamination, suggesting problems with agricultural runoff and/or slurry tanks and problems with domestic and commercial septic tanks and sewage treatment plants upstream. These are significant pollution challenges for our river.
- Phosphorus:** Phosphorus exceeds EU thresholds in over 60% of samples.
- Storm Overflows:** While not the primary source of contamination, Wessex Water's storm overflows contribute to pollution in the lower reaches of the river during heavy rainfall.
- Riverfly Monitoring:** The most important measure of the long-term health of the river is indicated by Riverfly testing for invertebrates. The work in 2024 created a baseline for analysis in years to come.

6. **Who is to blame?** We are *all* implicated:

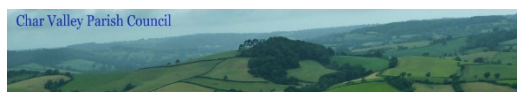
- Some of Wessex Water's Storm Overflows spill into the river in heavy rain.
- Some householders and businesses run rainwater from roofs/drives into the mains sewage system.
- Some householders and businesses in the Char Valley fail to maintain or empty their septic tanks .
- Some farmers spread slurry when it's likely to run into the river, fail to maintain their yards and tanks regularly, fail to observe the regulations on spreading manure.
- Many local garden centres sell, and some gardeners buy and use, toxic pesticides and weedkillers.
- Some tourists and residents put wetwipes, fats, chemicals, medicines and poisons into the drains.
- Some of us buy and wash clothes that release toxic microplastics into the sewage system.
- Some pet owners use environmentally toxic treatments (such as wormers and flea and tick treatments) on their animals. These chemicals kill insects in the river and young songbirds.
- Some of us have elected governments that have under-resourced the Environment Agency.
- Some of us have investments in companies that manufacture products that poison the environment.

## Recommendations and Next Actions

1. **Public Awareness:** We will call for clearer signage about water quality risks on the River Char.
2. **Continued Monitoring:**
  - We will extend our water quality monitoring, including additional Riverfly survey sites.
  - We will seek funding for Sonde meters to provide continuous monitoring of pollution.
  - We will ask Wessex Water to support continued testing during 2025.
  - We will call on the Environment Agency to restart regular water quality monitoring.
  - We will test seawater at Charmouth East Beach to find out if it is safe to swim there.
  - We will increase monitoring of drains, ditches and small tributaries to identify sources of pollution.
  - We will also test the river at high-risk times – during or after heavy rain and after slurry spreading.
3. **Source Investigation:** We will try to identify which specific pollution sources – human, ruminant (cow) or bird (seagull and duck) – are responsible for the bacterial contamination of the river.
4. **Agricultural Practices:** We will continue to strongly support the work of Dorset National Landscape and Dorset Wildlife Trust with local farmers.
5. **Septic tanks:** We will raise awareness about risks from faulty and poorly maintained sewage tanks.
6. **Infrastructure:** We will continue to work with Wessex Water and monitor their progress in improving wastewater treatment and reduce storm overflow events.
7. **Policy:** We will advocate stronger environmental regulations/enforcement at local and national level.
8. **Community Engagement:** We will continue to involve and educate the local community in river stewardship efforts and through the Charmouth Dragon River Festival.
9. **Funding:** We will continue to seek funding and support to cover the costs of our work.

## Acknowledgements

We are indebted to dozens of individuals and organisation who have worked tirelessly to help us. A list appears in the full report. That report, and the work it covers, were made possible and funded by:



**CROWD: Clean Rivers Of West**