

## **Citizen science – becoming a river guardian in 2022.**

We are a group of friends who have enjoyed time on the Rivers Wye and Teme with our families over several decades, swimming, canoeing and walking alongside them. Our children are now in their early twenties and are wild swimmers themselves. We find it shocking that our beloved river Wye has declined so much in the last 5 years, seemingly under our very noses and we are concerned that the same may be happening to the River Teme.

We saw an advert in the Hereford Times placed by Herefordshire CPRE (Campaign to Protect Rural England) asking for volunteers to act as citizen scientists to test water in tributaries feeding into the River Wye. This is because, as many readers know, the Wye is facing ecological disaster.

Algal blooms, caused by phosphate pollution, are appearing which deny the river ecosystem light, an essential ingredient for nearly all life on our planet. This lack of light severely depletes all water life including fish and plants and entire ecosystems. Algal bloom then sinks covering rocks and river bottoms including gravel fish breeding grounds with a green slime.

We wanted to sign up straight away and attended training sessions run by Herefordshire CPRE. We met other concerned citizens and were impressed by the professionalism and dedication of the trainers. It was explained to us that the Environment Agency has identified that one of the biggest water course polluters was Phosphate and to a degree Nitrate and help in establishing the sources of this pollution is behind the Citizen Science project, stream by stream, brook by brook, throughout the county.

Part of our training was the nuts and bolts of how to take a water sample and test it for phosphate and nitrate. Another part was to learn more about the problem the Wye is facing and why this has come about. An extensive study by Leeds & Lancaster University has concluded that in Herefordshire approximately 25% of the phosphate pollution comes from Sewage Treatment Plants and the bulk of the remainder comes from agriculture.

It seems likely the main culprit is run-off from fields which have been spread with chicken manure. Chicken manure is five times heavier in phosphate than cattle manure. This comes from the intensive poultry and egg industry which has proliferated in our county, as well as Powys

and Shropshire, in the last decade. We were taken aback to discover that there are now 500 farms with 1420 intensive poultry units containing up to 44 million birds, of which, 20 million chickens are reared in Herefordshire per year. [Source: River Action]

Considerable budget cuts within the Environment Agency and Natural Resources Wales means that these agencies cannot adequately fulfil their regulatory roles and conduct sufficient monitoring and data capture to return our rivers to good health. This is where citizen science comes in, and provides boots on the ground to monitor water quality across the Wye Catchment.

Our trainer told us ‘This is your project and we want to support your efforts to gather data about your local brook, stream or stretch of river. You will be the eyes of your patch and its guardians.’

We were taught how to upload the test data we collect, via a mobile phone app called Epicollect, from where it is available to Cardiff University and the Environment Agency for analysis. The EA now have a policy to integrate our test results into their monitoring network, so they will be actively using our data going forwards to help inform their activities.

### **River guardians**

We all want to do our bit for our planet. We want to protect our streams, brooks and rivers for our children and grandchildren, as well as for all river creatures and plants which depend on clean unpolluted water. Becoming a Citizen Scientist seems a very good way to spend our time in 2022 and beyond. And it’s not just us! Through many groups, there are now over 500 citizen scientists in Herefordshire, testing the water weekly. That’s a lot of people! There’s no doubt that in Herefordshire we’re not going to allow our rivers to die.

### **How you can get involved**

Get to know your local brook. Find out where it goes and where it joins a larger stream or river. Connecting with your local watercourse is very satisfying. Adopt the mantra of – OBSERVE – RECORD – REPORT. If you see anything you consider to be water pollution or anything that you think could be a potential pollution hazard, the Environment Agency and Natural Resources Wales both operate environmental hot lines.

Consider joining a local Citizen Science group who are already monitoring. We have joined Herefordshire CPRE but there are many other groups such as Friends of the Upper Wye or the Wye Salmon Association. While some groups have enough testers at the moment, you can still sign up for their newsletters and get involved in supporting their work. See contacts below.

Write to your MP and ask why it is necessary for citizen scientists to do the work which should be done by the Environment Agency. Ask that the government funds the EA properly so that our beloved River Wye is saved.

CPRE Herefordshire

<https://volunteer.cpre.org.uk/opportunities/19357-citizen-scientist-volunteer-2021-07-01>

Friends of the Upper Wye

[www.fouw.org.uk/citizen-science](http://www.fouw.org.uk/citizen-science)

Wye Salmon Association

[enquiries@wyesalmon.com](mailto:enquiries@wyesalmon.com)

Environment Agency hotline

0800 80 70 60

Natural Resources Wales

0300 065 3000