

RIVER WYE UPDATE

Purpose

To advise members of the latest activities to help restore the River Wye.

FOR INFORMATION

Key Issues

- Herefordshire Council have published the tender for the production of the Wye Catchment Management Plan. The Council has also taken up the secretariat of the Wye Catchment Partnership.
- At the recent Wye Catchment Partnership evidence was presented that the main drivers of algal blooms in the River Wye are Flow rates (water quantity) and water temperature (weather/climate change) with nutrients being lesser drivers, with nitrates more so than phosphates.
- The Wye & Usk Foundation is working with a range of partners and funders to develop Catchment Land & Ecosystem Approach for Resilience (CLEAR) to deliver systematic changes that will restore soils and water flows, reducing floods and helping the rural economy and ecology thrive.
- Herefordshire Rural Hub have been piloting a Wye Nutrient Balance programme with Farm Herefordshire members, helping identify and reduce farm nutrient imports and exports, while feeding into further research, knowledge sharing and business support.
- Trials of Water Crowfoot drone filming along the Wye during August produced some good results, to be developed for a wider survey next year.
- Friends of the River Wye 'Big Ranunculus Watch' generated more than 90 responses since launching in July.
- DEFRA and Welsh Government are refining the £1million research programme for the Wye to be tendered early in 2026.
- 'Forest to Sea - A Vision and Strategic Action Plan for water in the Forest of Dean' is being finalised for public consultation by Severn Vale Catchment Partnership in collaboration with the Wye Valley National Landscape Team
- The Wyescapes – food, nature, water - programme is reaching the final stages of preparation before submitting proposal to DEFRA early in 2026.
- The Diffuse Water Pollution Plan (DWPP) for England and the Welsh Evidence is due to be published shortly, to feed into the review of the Catchment Management Plan.
- In November NRW, Herefordshire Council and the Forest Forum are all hosting conferences on rivers and water quality.

- Possibly the largest legal claim over environmental pollution in the UK has been filed at the High Court challenging three companies over river pollution in the Wye and Usk catchments.

Reasons

Declines in water quality in the Wye are affected by climate change and rural land use. Climatic impacts produce more intense winter rainfall and dryer hotter summers, creating potentially greater variations in high and low flows. High rainfall can lead to soil loss and nutrient enrichment of waterways, whereas low flows and hotter weather lead to increased river temperatures impacting fish, particularly salmon, and supporting algal blooms. For a summary of the issues facing the River Wye and its Catchment see

<https://wyeuskfoundation.org/issues/>.

Implications

The Wye Catchment Partnership (WCP) met on 18th September at Brockhampton Village Hall, with an afternoon site visit at Much Fawley. The morning was chaired by the incoming chair Stephen Ware, with appreciation and thanks extended to James Marsden for his many contributions to the Partnership in his time as chair.

The WCP meeting received a presentation on the Summary of key findings using combined biological monitoring and water data on the River Wye, by; Thom Bellamy, Peter Kille and Rupert Perkins of Cardiff University. The headline of the presentation was *Algal Biomass in the River Wye is Primarily controlled by River Flow and Temperature*. In 2020, an algal bloom along the River Wye raised concerns that phosphorus levels were driving more frequent and severe blooms. Co-funded by the Wye & Usk Foundation (WUF) and Cardiff University, the drivers for algal biomass and productivity along the River Wye were investigated using:-

- a) Biological monitoring – eDNA of bacteria, cyanobacteria and algae
- b) Water chemistry (nutrient fractions including organic P)
- c) Environmental data (flow rate, temperature)

Samples were collected every two weeks from 14 sites along the River Wye between June–Nov in 2022 and 2023 (362 samples in total). Nutrient fractions were measured and eDNA extracted by Cardiff University. The researchers determined the bacterial and algal communities from the eDNA and investigated relationships between algae and nutrients and other variables. They then investigated microbial ecological function as a function of river flow and impacts of nutrient pollution. The main findings have been:-

- Key drivers of algal biomass were river flow rate and temperature: flow regime controlled algal and bacterial community composition; algal biomass only increased with lower flows and higher temperatures.
- Algal biomass showed little link to nutrients; but Nitrogen was more important than Phosphorous.
- Under low flows during summer growth periods, bacteria indicated low levels of phosphorus in the river as a whole.
- Phosphorus in the Upper Wye exceeds Water Framework Directive limits; the Lower Wye is within limits; both nutrients (N & P) show spikes usually outside of the summer growth season.

- Phosphorus fractions are lower than historically, while nitrate is higher but still within regulatory limits.

The key conclusions at this stage are:-

- ❖ Flow rate and temperature are the primary controls requiring management for algal blooms in the River Wye.
- ❖ Phosphorus only causes legislative failures in the Upper Wye with peak values during moderate to high flows. In summer the availability (scarcity) of phosphorus, as a key nutrient for algae, appears insufficient to support further algal growth, even though other conditions like temperature and flow may be favourable.
- ❖ Further phosphorus reductions alone are unlikely to control algal growth.
- ❖ A holistic approach is needed, addressing flow regimes and riparian shading (to cool the river).
- ❖ Nutrient regulation in rivers needs a different approach if it is to contribute to improving river health.

The researchers emphasised the need to monitor the biology of the river rather than just nutrients, and that their conclusion indicate that functional biology and ecosystems are needed rather than just nutrient reductions, to restore the river's health.

The Invitation to Tender for the production of the Wye Catchment Management Plan (CMP) closed on 22nd October, with Herefordshire Council managing the procurement process. The tender advertisement was posted on the Supplying the South West contract portal. The successful contractor will consider wider aspects of catchment health, including climatic change, biodiversity loss, and geomorphology impacts. The Catchment Management Plan follows [Understanding the Wye](#) a participatory systems mapping approach that concluded in July 2024, a summary of the project can be found [here](#). The Wye CMP will be developed and drafted over the winter and should be available for implementation by the Wye Catchment Partnership by next summer.

DEFRA recently updated the Wye Nutrient Management Board on the £1million offered for in the Wye catchment to focus on land based research. The procurement process is underway to define the research criteria and the literature review to ensure there is no duplication of existing evidence. A stakeholder workshop early in the New Year will help develop the co-design of the living-laboratory approach.

The Diffuse Water Pollution Plan (DWPP) for the English part of the Wye Catchment and the Welsh Evidence will be published shortly, having both been through peer review. These documents will provide an update to the current evidence of nutrient pollution in the River Wye Special Area of Conservation (SAC) and evaluate the extent to which measures and mechanisms are likely to achieve the water quality improvements needed to meet conservation objectives. The DWPP will constitute the updated Wye Nutrient Management Plan. This and the Welsh Evidence documents will feed into the review of the Catchment Management Plan. The DWPP is commissioned by the Environment Agency supported by Natural England. The Welsh Evidence has been produced by Ricardo, commissioned by Herefordshire Council with funding from Welsh Government and in consultation with Natural Resources Wales.

The Wye & Usk Foundation, in partnership with two other Rivers Trusts, is developing the vision to deliver systematic change through the Catchment Land & Ecosystem Approach for Resilience (CLEAR) initiative. The project aims to restore the potential of soils in the catchment to ensure clean, cool water flows down our rivers, floods are reduced, summer

flows are stronger, the rural economy and ecology thrives, mitigating rather than exacerbating the effects of climate change. Changing the systems that are intensifying these effects is essential if we are to ensure long term resilience of our catchment's functions and services. Currently no one party can deliver this on its own, but partnership collaboration will enable this to happen. The intention is that through data, evidence and linking existing work, the initiative will create multi-product/multi-seller/multi-buyer catchment markets by converting land-use change and restoring soil infiltration into investable metrics. This would link those impacted by flooding, drought, poor water quality and environmental decline with those who manage the land (who are generating/exacerbating these issues). Investors in flood, nature and climate mitigation along with food and drink producers will be able to act together in supporting system change in land use to increase the resilience of our catchments and the infrastructure within them. For the last 3 years WUF have been working with over 120 farmers in the upper Usk and Monnow catchments researching and testing the methodology for CLEAR. The next step is to approach the market with viable products.

The Wye Nutrient Balance programme is being piloted by the Herefordshire Rural Hub, with funding from the Environment Agency. The programme has provided dedicated advice to farmers and carried out nutrient balances for over 60 farm holdings, covering more than 14,000ha. This has involved a range of farm sizes and enterprises including arable, beef, dairy, poultry and sheep. PLANET's Farmgate tool is used to record data of imports of: fertiliser or manures, Livestock bought on to holding and Feed or bedding. Likewise data of farm exports of: Manures, Livestock sold off the holding, Crops and products are similarly recorded. This provides a 'Balance of Total Nutrient Load' and 'Load per hectare' for the holding. This has produced some interesting and surprising results that are confidential to the individual farmer and advisor. However, the results are being aggregated in to a locally-owned dataset that will inform future REPHOKUS studies.

For example, REPHOKUS currently estimates an average surplus of +6.2kg P/ha, whereas the Pilot average is -14kg P/ha, but the Pilot average identified +99kg N/ha. The Pilot data differs enough that it justifies further investigation.

Herefordshire Rural Hub has also surveyed farmers involved in the Wye Nutrient Balance programme. Five key questions and the prioritised responses are as follows:

- *What barriers prevent you from making improvements to nutrient management?*
'Lack of clear, practical guidance' & 'Difficulty accessing reliable advice' were top, followed by 'Concerns about the impact on productivity' & 'Financial constraints', and then 'Uncertainty about regulations'.
- *What were the most interesting aspects for you?*
Top 2 were 'Being involved in creation of a farmer-led locally owned dataset' and 'Understanding nutrient flows on my farm' with lesser responses on 'Understanding what affects the P levels in my soils' and 'Identifying cost-saving opportunities'.
- *Have you made changes on farm as a result of your nutrient balance?* 35% Yes
- *Will you make changes in future?* 45% Yes
- *Would you repeat the process in 5 years of after management changes to quantify impact?* 100% Yes.

Further business support is available to enable reductions in nutrient load and ensure compliance with regulations. The programme also offers peer to peer skill transfer opportunities through events and Farmer led knowledge exchange groups. Clusters of farmers are also undertaking Total P testing and monitoring of land drain outfalls. The Rural Hub aims to complete at least an additional 100 farm Nutrient Balances this year.

The Wye Valley National Landscape Team has been leading on a collaborative proto-type project to test and establish a robust methodology for drone surveying of the current extent of Water Crowfoot in the Wye Catchment. The project partners include Friends of the River Wye - bringing their Citizen Science knowledge and expertise and the results to date of the 'Big Ranunculus Watch' with more than 90 responses since launching in July; CPRE Herefordshire – with their own drone; Angling Dreams – experienced riverine drone pilot; and Worcester University – with research on mapping of macrophytes including Ranunculus and use of Near Infrared drone photography. Four drone flights were completed in August with some excellent results eg. image below *[Fownhope - August 6th - 15.13pm – Eamon Bourke]*.



During the winter the results will be analysed and a project proposal submitted for funding of a complete river survey next year. The pilot was funded by the Environment Agency Water Environment Improvement Fund (WEIF).

'Forest to Sea - A Vision and Strategic Action Plan for water in the Forest of Dean' is being finalised for public consultation by Severn Vale Catchment Partnership in collaboration with the Wye Valley National Landscape Team and other partners. The document sets out the environmental priorities developed with a wide range of stakeholders through the Severn Vale Catchment Partnership. The Plan seeks to include ambitious and specific objectives to be delivered by 2035 and includes the tributaries of the Wye within the Forest of Dean District. The main Environmental Priorities and Objectives are:-

- Making it easier for fish to migrate, spawn, and thrive in the Forest of Dean
- Making space for wildlife along our rivers and their floodplains
- Working in the wider landscape
- Cleaning up our rivers
- Restoring healthy flows and reducing flood risk
- Monitoring and Data
- Community engagement and partnership

The consultation is expected to run for 8 weeks, including over the Christmas holiday period, hosted by the Severn Vale Catchment Partnership.

The Wyescapes Landscape Recovery programme, covering 49 land holdings across 5,125ha between Leominster and Goodrich, is reaching the final stages of preparation before

submitting the proposal to DEFRA early in 2026. Wyescapes aims to secure 20 year Landscape Recovery funding to

- Improve resilience of farm businesses & food production
- Reduce emissions and nutrient load
- Recover habitats and species
- Restore hydrological and ecological function
- Enhance access and engagement

Once submitted it is hoped that DEFRA may determine the application within about six months. For further information see <https://herefordshireruralhub.co.uk/wyescapes/>.

In November there are 3 conferences on rivers and water quality:

- NRW River Restoration Seminar, entitled “Catchment collaborations: is it working yet?”.
- This year’s theme for the Annual Herefordshire Rivers Conference is ‘Tributaries of the Wye: Arrow, Lugg and Frome.’
- The Forest of Dean Forum theme is still being finalised on rivers and water quality.

Possibly the largest legal claim over environmental pollution in the UK has been filed at the High Court challenging three companies over river pollution in the Wye and Usk catchments. For more information see <https://www.leighday.co.uk/news/news/2025-news/wye-pollution-legal-claim-filed-at-high-court/>

Background

The Wye Valley National Landscape covers about one third of the River Wye in length, the lower reaches, and only about 8% of the Wye Catchment. The River Wye and its tributaries are a Special Quality as identified in the statutory Wye Valley AONB Management Plan. Most of the nutrients and contributing conditions for the algal blooms originate outside and upstream of the National Landscape.

The Wye Valley National Landscape Partnership is committed to doing everything within its powers, purposes and resources to work with all individuals, groups and organisations to improve water quality, reduce excess nutrients and help restore the Wye Catchment, by convening, enabling and delivering on the restoration, conservation and enhancement of the River Wye, which is so central to the outstanding natural beauty of the Wye Valley National Landscape. The Wye Valley National Landscape Team delivers projects and collaborative initiatives including through the Farming in Protected Landscapes (FiPL) programme, Ffermio Bro, Wye Adapt to Climate Change?, the National Grid Landscape Enhancement Initiatives (LEI) projects and the Wyescapes Landscape Recovery scheme. Staff are also actively engaged in the Wye Catchment Partnership and Farm Herefordshire.

The Wye Nutrient Management Board (NMB) is as a cross-border democratically accountable body with a particular focus on nutrient pollution issues within the catchment. It provides the opportunity for public scrutiny of public funds in the catchment. For further details see <https://councillors.herefordshire.gov.uk/mgCommitteeDetails.aspx?ID=1161>

The Wye Catchment Partnership (WCP) is a cross-border stakeholder group with more than 70 members and a catchment wide remit which takes a holistic ecosystem view of all pressures on river catchment health. For further details see <https://wyecatchmentpartnership.org/>.