



# Understanding the Wye catchment: project update

March 2024

The Wye Catchment Partnership (WCP) is taking a collaborative approach to the development of a new catchment plan. The catchment faces difficult challenges in the shared ambition to restore the health of the river and its designation as a Special Area of Conservation. The WCP is understanding the interconnected challenges through a systems approach to reflect the perspectives of all stakeholders across the catchment.

The system map brings together everyone's perspective and shows how the different components are connected. It is a live document that can be updated. The map is been used to inform the approach to numerical modelling within the catchment.

Instead of focussing on individual components, systems thinking encourages exploration of how all the components interact and influence one another across the catchment system. This builds a shared understanding of the whole system and helps to identify the best value, long term solutions to drive the desired change.

By co-developing the map, individuals and organisations are better able to understand the wider challenges facing the river. The system map has been used to inform development of the catchment plan, to identify a range of interventions needed, and how the impact of any changes can be measured.

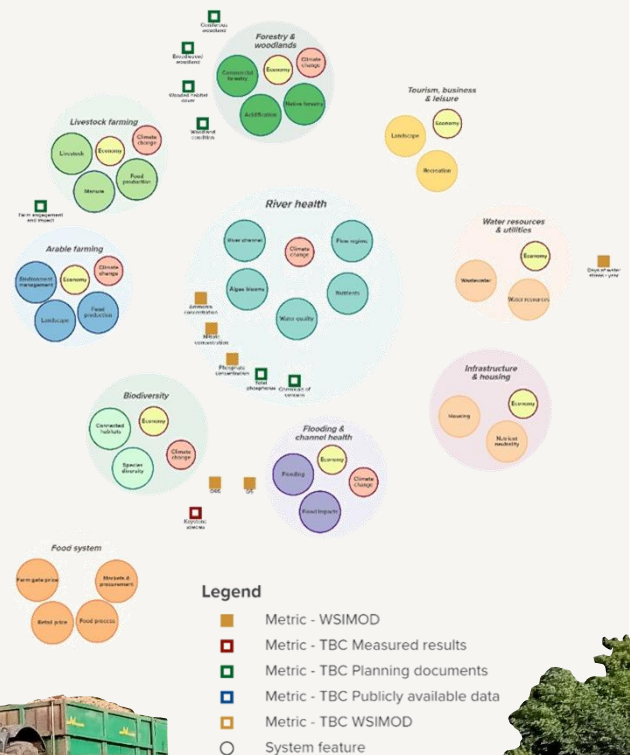


Photo credit: Brendan Bromwich



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The numerical modelling is being undertaken using the Water Systems Integrated Model (WSIMOD) developed by Imperial College London. WSIMOD assesses high level relationships and trade-offs across water quality, flood management and water resources.

The Wye catchment numerical model was set up by Imperial College London and Mott MacDonald will be completing an analysis of options with guidance from the WCP who are preparing the catchment plan. Scenarios for climate change and growth have been included. The aim is to identify the options that could have the most beneficial impact.

An example is 'slowing the flow' of water in the upper catchment improves water quality, reduces flood risk and high flows that can have a negative impact on plant species, such as the Water Crowfoot (*Ranunculus*), lower down the river.

The steps involved with the collaborative analysis and modelling are shown below.

1	System mapping	Focus groups and workshops with the catchment partnership helped to create a shared understanding across catchment partners.
2	Identification of high-level options	Review of the system maps and options to be assessed in the numerical modelling.
3	Baseline and scenario modelling	The WSIMOD model baseline developed by Imperial College London was used. Catchment Partnership were consulted on the future development and climate scenarios used in the modelling.
4	Option modelling	Individual options were run in the model to assess their potential impact (the work is currently at this stage).
5	Option combination modelling	Having reviewed the option modelling, the Wye Catchment Partnership will advise on option combinations for a second round of modelling. This shows how options can work together.