

The Centre for Ecology & Hydrology's Thames Initiative Monitoring Programme

The Thames Initiative provides a large-scale platform to research water quality and ecosystem processes, at the river reach to catchment scale. It will help with the long-term sustainable management of water resources and ecosystem services for one of the UK's foremost river basins, which houses one fifth of the UK population, including the nation's capital. The River Thames basin is facing growing pressures due to rapid population growth, intensive agriculture, climate change and increasing water demand. This monitoring programme investigates the changes in water chemistry and ecology in the River Thames and its major tributaries during a time of rapid water quality improvements due to EU Water Framework Directive implementation.

Monitoring programme

In February 2009, the Thames Initiative monitoring programme was launched, to study the water quality of most of the major tributaries from the Cotswolds to Windsor (including the River Thame at Wheatley), as well as multiple sites along the River Thames itself. The Thames Initiative also includes ecological monitoring of the algal communities at each study site, providing a platform for truly integrated research for lowland aquatic environments. This monitoring programme provides a research platform to support a wide range of cross-disciplinary science both within CEH and externally. It currently supports studies ranging from nutrient pollution modelling, assessment of new analyser technologies, pharmaceutical and pesticide pollutants, antibiotic resistance, nanoparticles and microplastics.

The key elements of the long term monitoring programme include:

- Full chemical analysis each week, including phosphorus, nitrogen, carbon, silicon, pH, alkalinity, suspended sediment and chlorophyll.
- Hourly phosphorus and nitrogen data at two study sites in the lower Thames at Maidenhead and Windsor, using auto-samplers / analysers
- Algal community monitoring, using a new CEH technique (flow cytometry)
- Most monitoring sites located near Environment Agency flow gauging stations.

Involvement of the River Thame Conservation Trust

Due to funding cuts in April 2018, the Thames Initiative had to reduce its number of study sites, and re-focus on the lower Thames. The River Thame monitoring site was under threat of closure, until local members of the Thame Conservation Trust volunteered to carry out the weekly monitoring at Wheatley. They take samples every Monday morning, and carry out sample preparation and water filtering. They then post the samples to the CEH laboratories in Wallingford, where they are analysed alongside the other Thames Initiative samples. The water quality data is then freely available to use by the RTCT, and CEH staff are happy to help with the interpretation if required.

For further information:

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