

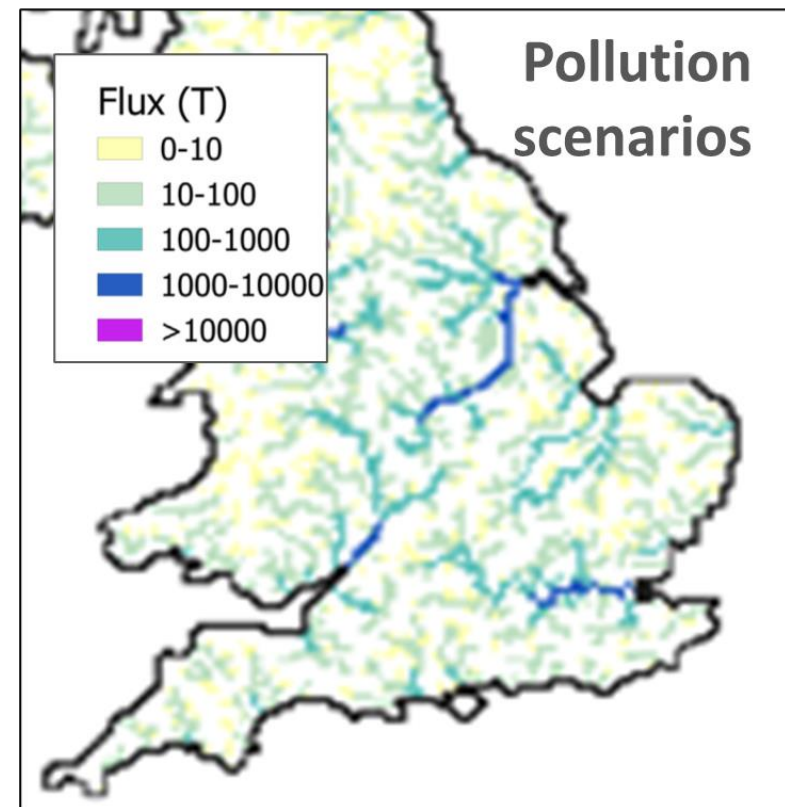
LTLS-FE: Long Term Large Scale Freshwater Ecology

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- **Rothamsted Research:** Andy Whitmore, Alice Milne, Ryan Sharp
- **BGS:** Dan Lapworth, Lei Wang, Barbara Palumbo-Roe, Matt Ascott, Ben Marchant
- **Cardiff University:** Ian Vaughan + PDRA
- **Bowburn Consultancy:** Martyn Kelly

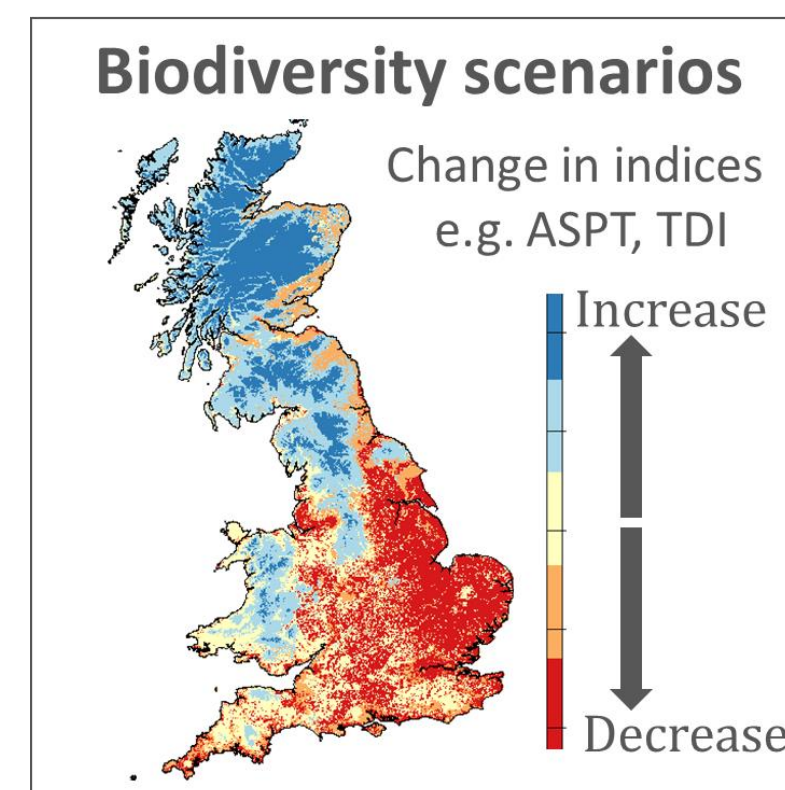


LTLS-FE Team meeting, January 2023

In LTLS-FE we will use a national scale model to estimate future projections of freshwater quality and biodiversity of the UK's rivers



□ We will use newly-available **climate** and **socioeconomic scenarios** to drive an innovative national-scale hydrological model of the potential futures of UK rivers



□ A **key innovation** is linking with freshwater biodiversity models which are based on existing national scale stressor and ecological data

First use of **novel, integrated and coherent** scenarios of alternative UK futures to **generate trends** in chemical inputs to UK freshwaters and UK water management trends



LTLS-FE key outputs

WP1

- **Assessment of dominant pollutants** affecting UK river health
- Projections of **diffuse and point sources of pollutants to rivers**, including from **groundwater**
- Future scenarios of derived spatially-explicit trends in soil and water inputs of pollutants

WP2

- **Spatially-distributed future scenarios of water quality** + assessment against observations and an estimate of uncertainty
- **Predictions of ecological responses**: from occurrences of individual taxa, through biological metrics (e.g. TDI), to wider community structure (e.g. species richness).

WP3

- Analyses and publications to **support decision-making** in policy, planning and regulation
- **Open delivery of model code and datasets** to the wider scientific and stakeholder community
- Interactive **web tool to disseminate scenario results** effectively to a wide audience.

LTLS-FE connections with other projects:

Builds on data and models developed in NERC-funded research:



Model delivery to

Agricultural connection with



Towards sustainable, climate-neutral farming

Keen to build on chemical exposure outcomes from ChemPop Project + ERCITE

We'd like to develop data/model links with other UK NERC Freshwaters projects



Thank you

