# UK Freshwater Quality Research Programme

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University of Leeds

## Objectives:

- Strengthen our understanding of the sources & behaviour of pollutants within river systems
- Increase knowledge & understanding of how pollutants are changing or accumulating within the environment and the impacts of those changes
- Help to reduce the pollutant loading to river systems
- Inform policy in connection with regulations for e.g. local agricultural practices, wastewater organisations, industries, and domestic use
- Inform improvements to the ecological status of UK rivers
- Inform better adaptation and mitigation of risks which will improve essential ecosystems services

# Five projects plus co-ordination team

- **QUANTUM: Quantifying the combined nutrient enrichment, pathogenic, and ecotoxicological impacts of livestock farming on UK rivers** – Penny Johnes, Bristol, Lancaster, Exeter, Bangor & Bath

- **PACIFIC: PAthways of Chemicals Into Freshwaters and their ecological ImpaCts** – Daniel Read, CEH, Bath, Oxford & EA

- **LTLS-FE: Long-Term, Large-Scale Freshwater Ecosystems: analysis and future scenarios of long-term and large-scale freshwater quality and impacts** – Vicky Bell and Steve Lofts, CEH, Rothamsted, BGS & Cardiff

- **MOT4Rivers: Monitoring, modelling and mitigating pollution impacts in a changing world: science and tools for tomorrow's rivers** – Andrew Tyler, Stirling, Glasgow, Hutton, CEH.

- **ECOMIX: Assessing and managing the impacts of mixtures of chemicals on UK freshwater biodiversity in a changing world** – Alistair Boxall, York, Sheffield & Durham

# Programme Introductory Video


https://tinyurl.com/FWQ-F2F-Video

# The programme champion team

**Professor Pippa Chapman**
Programme Champion

**Farhana Naz**
Project support officer

**Professor Joseph Holden**
Programme Champion

**Ann Marie Boyle**
Administration Support

**Finn Barlow-Duncan**
Engagement officer

**Cath Seal**
Communications Officer

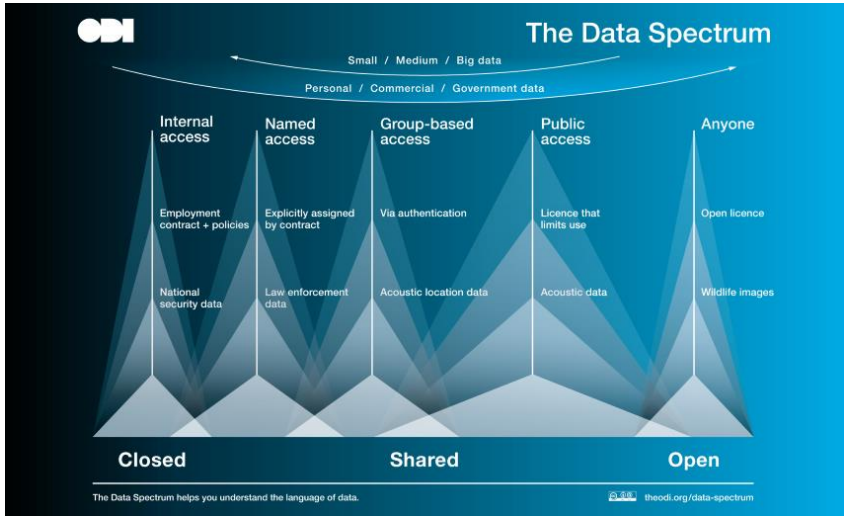
# Example programme-wide activities

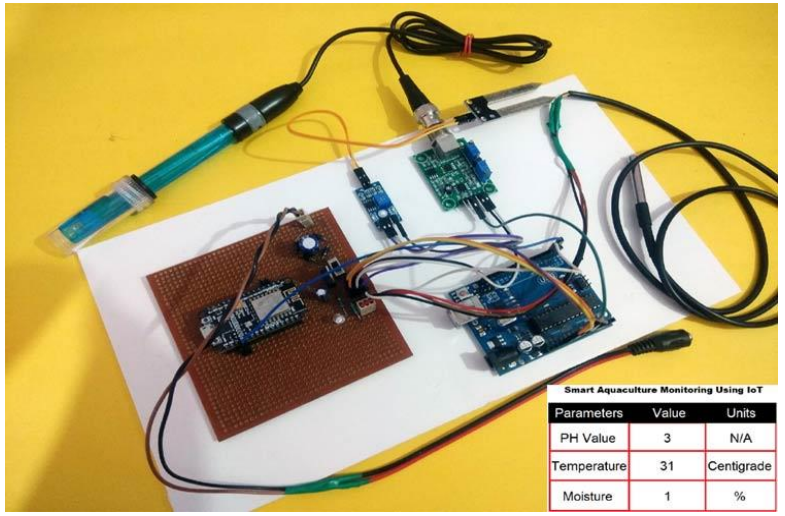
- Online seminar series – monthly – kicks off in September
- Mid-point conference, autumn 2024
- Newsletters and social media
- End of programme conference
- Water Quality Hacks
- Water  Quality Challenge events – roadmap for tackling future key research challenges
- Early Career Researcher networking events

**If you want to join our mailing list to join events and keep updated with the programme please email freshwater@leeds.ac.uk**

# Water quality hacks

- Tools and technology to monitor water quality
- Explore open data, AI, smart sensors
- Connect disciplines & accelerate technology solutions
- Connect to water sector opportunities



# Water quality challenge events

- Focussed workshops on emerging issues
- Users & researchers
- Co-develop pathways or solutions
- Outputs guide future collaborations & funding - roadmap

# Programme legacy

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1. Step-change understanding of FWQ processes, interactions and risks including resilience to land management and climate change

2. Strengthened understanding of how the policy and practice community can adapt to FWQ pressures including synthesis of findings to provide policy and practice communities with accessible information

3. Expanded community of interacting researchers, businesses, practitioners and policy makers for UK FWQ including an early career researcher FWQ network

4. Roadmap to address future FWQ research challenges

| Code | KPI | Performance score | | |
|---|---|---|---|---|
| | Scores | 1 | 2 | 3 |
| **Step-change science understanding** | | | | |
| 1.1 | Number of peer-reviewed publications | 10 | 30 | 50 |
| 1.2 | Global agenda-setting programme-wide output (across project teams or via Champion team) (e.g. commentary in the journal Nature Water) | 1 | 2 | 3 |
| **Information for policy and practice** | | | | |
| 2.1 | Number of policy briefs | 5 | 10 | 15 |
| 2.2 | Number of policy engagements (consultation responses, direct discussions with policy colleagues) | 5 | 10 | 15 |
| 2.3 | Compiled examples of environmental, social and economic benefits | 5 | 10 | 15 |
| 2.4 | Social media impressions (e.g. Twitter, YouTube etc) | 1000 | 250K | 500K |
| 2.5 | High profile media coverage (e.g. TV / newspaper articles / magazine articles). Number of different outputs | 5 | 10 | 20 |
| **Expanded interacting community** | | | | |
| 3.1 | Number of organisations engaged in programme activities/events | 50 | 100 | 200 |
| 3.2 | Number of private sector interactions with | 10 | 30 | 50 |
| 3.3 | Number of international engagements | 5 | 10 | 20 |
| 3.4 | Number of early career researcher network events | 1 | 3 | 5 |
| 3.5 | Number of newsletter subscribers | 100 | 500 | 1000 |
| 3.6 | Number of tangible connections to other funding programmes (inc. non-UKRI) | 1 | 3 | 5 |
| **Future research challenge roadmap** | | | | |
| 4.1 | Number of future-facing programme hackathons/workshops | 1 | 3 | 5 |
| 4.2 | Value of new research funding applied for (any funding source), building on programme activities | £100k | £1M | £5M |

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# Ultimately the programme seek to use science evidence to inform improvements to UK freshwater quality

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https://water.leeds.ac.uk/fwq-programme

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