

Yorkshire Integrated Catchment Solutions Programme



A partnership model to bring researchers and decision-makers together for positive societal and environmental impacts



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www.icasp.org.uk

 @YorkshireiCASP

Natural
Environment
Research Council

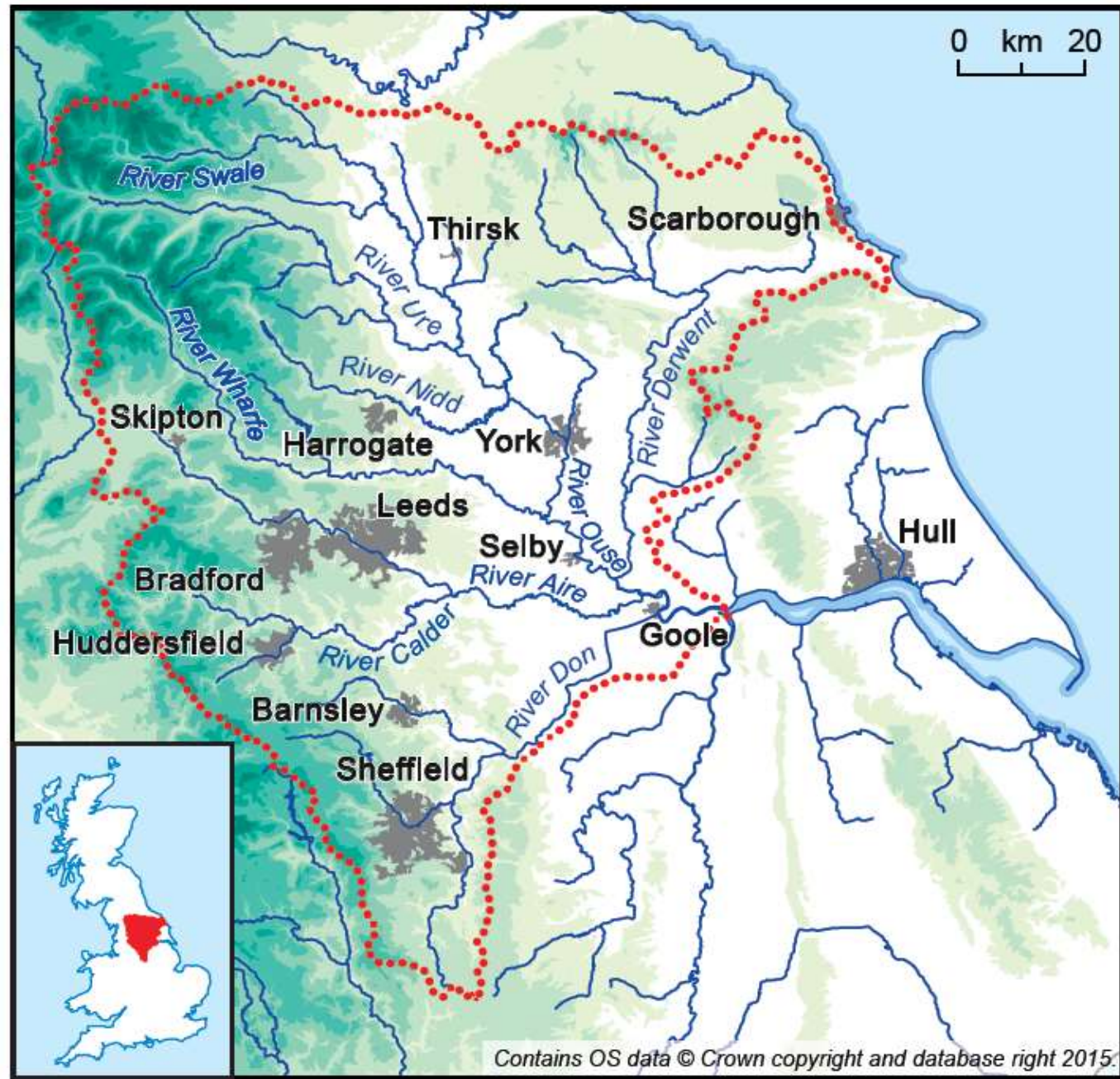


iCASP - original aims

Generate transformative impacts >£250M to regional economy, + non-economic impacts

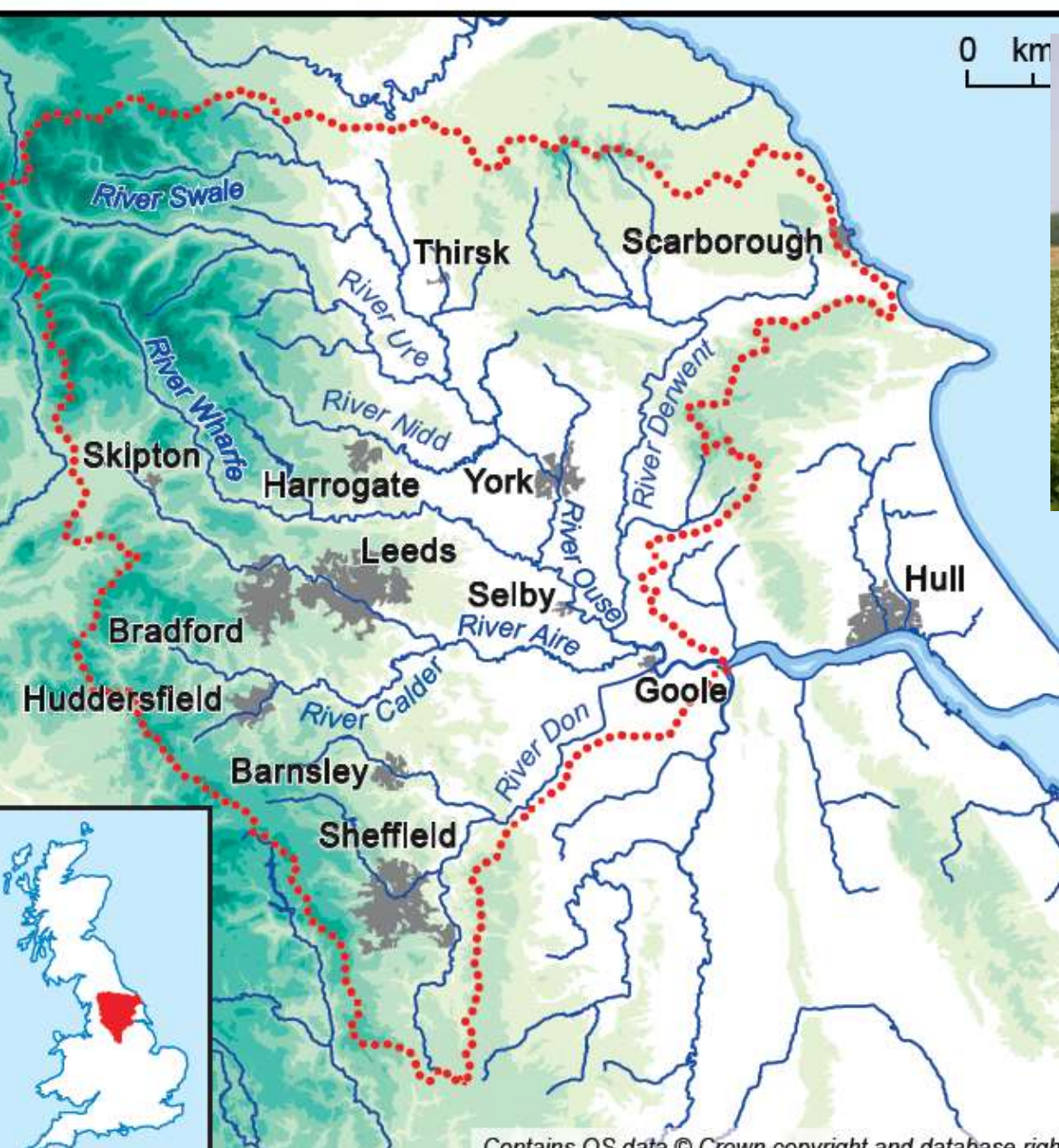
1. Promote **climate resilience** in cities
2. **Mitigate drought & flood risk**
3. Support delivery of **flood forecasts** to meet local challenges of rapid response catchments
4. Improve **water quality** & ecological status
5. **Enhance carbon sequestration** in soils & woodlands
6. Improve **communications** between environmental researchers & stakeholders, building a strong regional network











Project design



- All projects co-designed between academics and non-academic stakeholders
- Projects must be clear about societal, environmental or economic impact aims
- Projects are provisionally approved by the Executive Management Group of academics
- Strategic workshops to design a project
- Projects evaluated and approved/rejected by the Governance Group of stakeholders

Governance Group – partnership board which approves projects for funding



Yorkshire
Wildlife Trust



ARUP

Peatland Programme

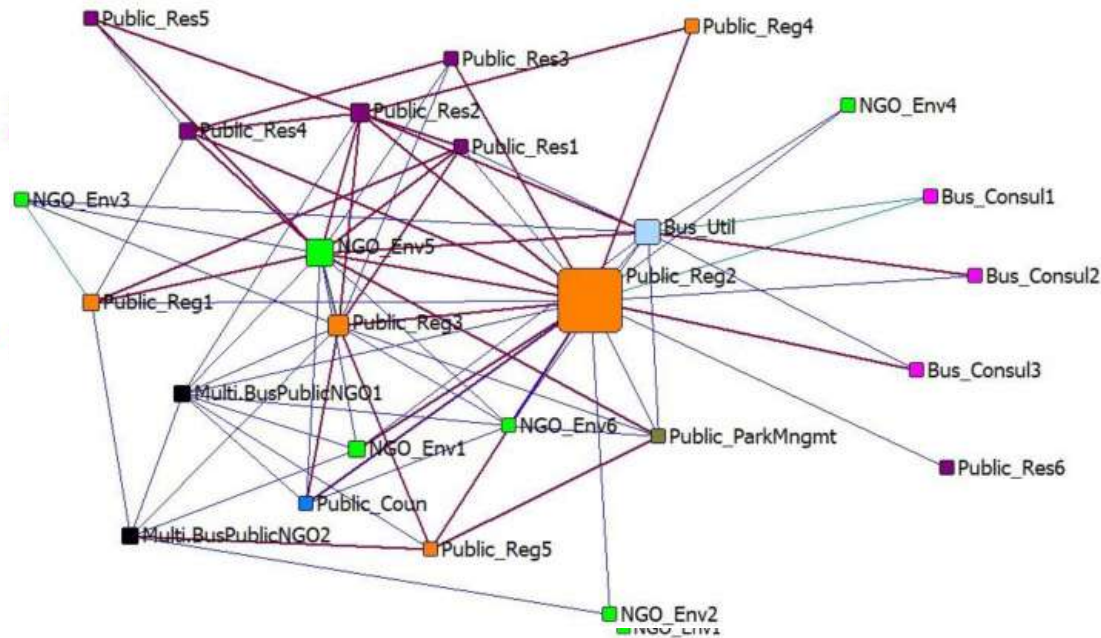


NATURAL ENGLAND



Social network analysis

- For iCASP, organisations occupying central positions facilitate transfer of science and influence the level of impact.
- Effectiveness highly dependent on knowledge brokers (public regulatory bodies critical), connecting agents with others.
- Impact often occurs in unintended ways.



- Higher number of reported impacts compared to intended ones
- Use of science leads to impact, but reach & significance are broader than expected.
- Legacy depends on continuous learning among actors, contributing to increased social capital, mutual understanding, cooperation in decision making, and design of solutions

iCASP Key Success Measures (KSM) Overview

February 2017 - August 2023


48 projects delivered, 20 projects in progress, 10 projects in development
1



51 partners worked with directly
2



315 organisations attending iCASP events
3



24 working groups/expert panels, 154 presentations/news/blogs
4



1 community of practice, 139 workshops
5



£249m of regional funding and business case supported, Secured £ 5.3m of cash funding, £1.2m of in-kind support directly for iCASP
6



51 journal publications/reports, 17 secondment
7



24 policy consultations, 46 rapid advice to policy-makers
8



47 brochures/factsheets, 17 user guides/ models/ databases developed
9

KSM 1:
value creation

KSM 2:
science-user engagement

KSM 3:
policy formation & implementation

KSM 4:
practical benefits

Example projects: Natural flood management Community of Practice

- Upskill practitioners
- Avoid duplication of effort
- Facilitate sharing of ideas and evidence
- Co-ordinate funding bids
- Now self-sustaining



Example projects

Upper Rother

- Produced 10 reports for landowner engagement
- Partners have used project recommendations to prioritise soil health improvements to deliver flood mitigation
- Reports are being used to strengthen funding bids



Monitoring sediment and water quality on the River Skell

14th MARCH 2023 by KIRK




Silt sampling in the River Skell at Fountains Abbey and Studley Royal

Example projects

INMY Farm: Soil Testing

features.york.ac.uk/inmy-farm--soil-testing/index.html

S SHORTHAND 

Soil Testing VESS & Earthworms pH Soil Organic Matter Nutrient Analysis Summary Table Policy and payments Science of Soil Testing

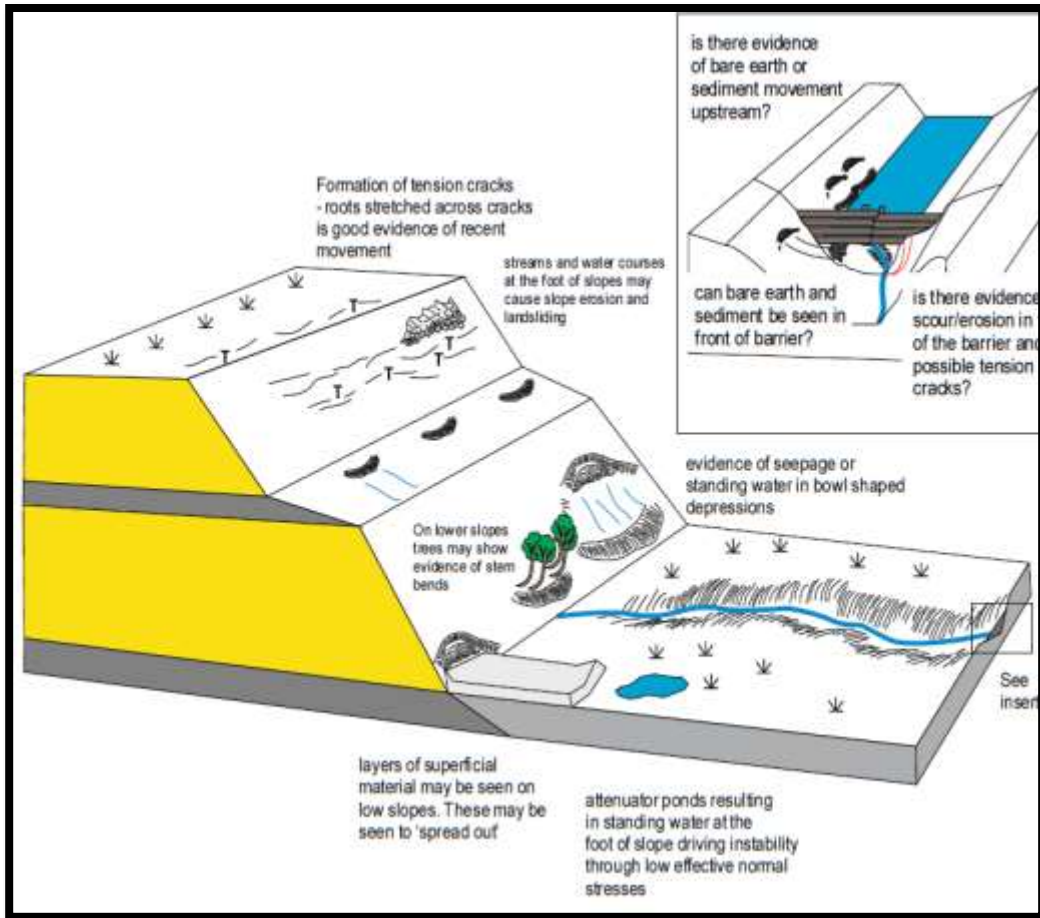
INMY Farm: Soil Testing

Integrated Nutrient Management in Yorkshire

Example created by Jean McKendree
Content provided by Jenni Dungait, Soil Health Expert and Angus Gowthorpe, Approach Farm
Comments? Email to kevin.hicks@york.ac.uk

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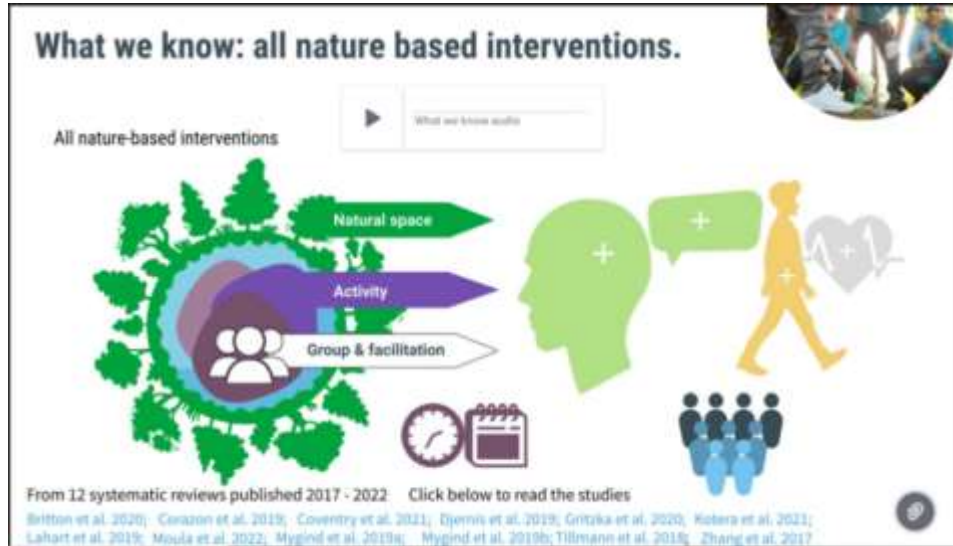
Example Projects



Natural flood management and landslides

- Produced a user guide for NFM engineers and volunteers to assess signs of slope instability caused by NFM
- Conceptual models developed to assess potential of NFM schemes to generate slope instability
- Used by Calderdale Metropolitan Borough Council as part of their flood action plan

Example Projects



Green Blue Spaces and Health

- Produced Natural Capital metrics evidence review – utilised by Natural England
- An interactive resource that evaluates nature-based interventions for health and well being
- Findings embedded in 'Making Every Contact Count' public sector training

Example projects



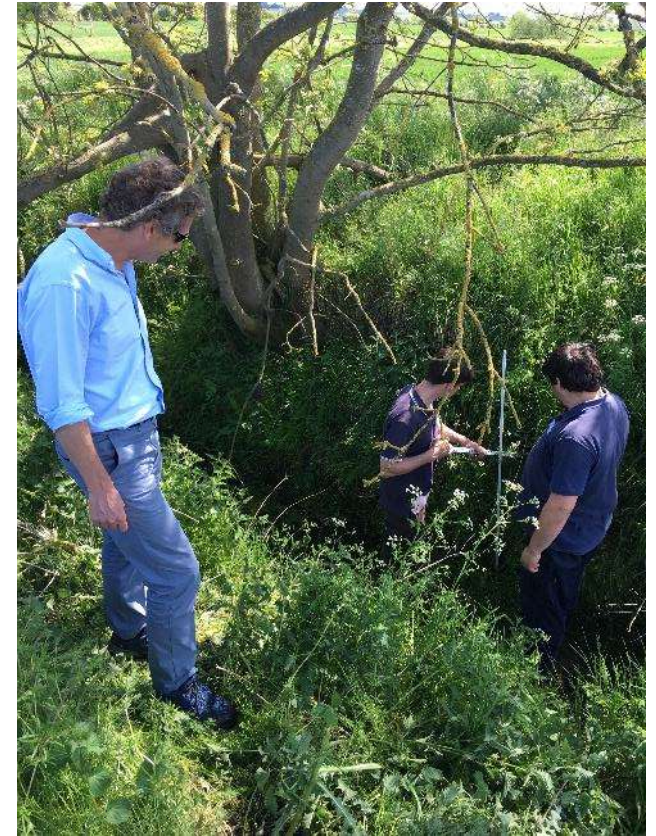
Invasive Non Native Species Training Tool

- Collaborating with the GB Non Native Species Secretariat to host the tool online
- Tool will be used by all government employed field workers

Example projects

River habitats and machine learning

- Combining Sentinel-2 satellite imagery and historic Rivers Trust surveys to predict habitat quality
- Model outputs to inform biodiversity net gain management strategy and identify locations for interventions
- Outputs will be shared via an app or data layer as a resource for citizen science engagement
- Final product could perform a full survey of UK rivers every 5 days



Quotes from partners on specific projects

The iCASP project directly helped me to do my job

This is a really useful document and will prove very powerful in our advocacy work

iCASP significantly strengthened these bids

It will be a great tool to providing the most cost effective capital works...the outputs will be invaluable for our future work and will help us be more effective and more efficient

Quotes from partners on specific projects

iCASP allowed ideas to flourish and served as a micro-lab to scale the work up

The model is a great tool, and would enable cost effective planning, which in turn would increase the areas able to be restored to a set funding budget

Through iCASP we can explore issues and questions that would not have been explored otherwise. It gives opportunities to discuss issues in-depth

The understanding of the model will facilitate more targeted evidence gathering and help evidence decision making

Quotes from partners on iCASP overall

“we can't not have iCASP, we need iCASP. No one else can do what they do, and it's needed in the region”

“reputation of trust and independence of iCASP has been well earned and is well known”

“increased the sum knowledge in the region and developed a different way of working”

“iCASP has certainly influenced wider political establishments It's an impossible thing to measure but this has been powerful over the 5 years of iCASP, a real achievement”.

“iCASP allows organisations involved with catchment management the time to pause, think and fix issues”

Future Direction

iCASP seeks to drive transformational environmental and social benefits in Yorkshire, and influence £1bn of investment by 2030

- Continue to drive partnership working and embed innovation and cutting-edge environmental science
- Shape interdisciplinary approaches that benefit innovation around water, soils, climate, nature recovery and landscapes.
- Advocate for Yorkshire to receive national and international funding investment in world-leading catchment solutions.
- Through partnerships, enhance the value of investments in catchment solutions.

UK Freshwater Quality Research Programme

Objectives:

- Strengthen understanding of sources & behaviour of river pollutants
- Increase knowledge & understanding of how pollutants are changing within the environment and their impacts
- Inform policy
- Inform improvements to ecological status
- Inform better adaptation and mitigation of risks

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

Five projects in the Programme

- **QUANTUM:** Quantifying the combined nutrient enrichment, pathogenic, and ecotoxicological impacts of livestock farming on UK rivers
- **PACIFIC:** PAtHways of Chemicals Into Freshwaters and their ecological ImpaCts
- **LTLS-FE:** Long-Term, Large-Scale Freshwater Ecosystems: analysis and future scenarios of long-term and large-scale freshwater quality and impacts
- **MOT4Rivers:** Monitoring, modelling and mitigating pollution impacts in a changing world: science and tools for tomorrow's rivers
- **ECOMIX:** Assessing and managing the impacts of mixtures of chemicals on UK freshwater biodiversity in a changing world

Champions team planned activities

- Monthly online seminar series
- Newsletters and social media
- Conference, winter 2024/25
- Output capture and impact enhancement workshops
- End of programme conference
- WaterQualityHacks
- Early Career Researcher (ECR) networking events
- Water Quality Challenge events – roadmaps for tackling research challenges

Monthly Seminars

- Presentations from the projects, academics, NGOs, regulators and others involved in the FWQ sector
- Opportunity to discuss findings and make connections
- Join mailing list to learn about future seminars -
<http://tinyurl.com/FWQChampsML>

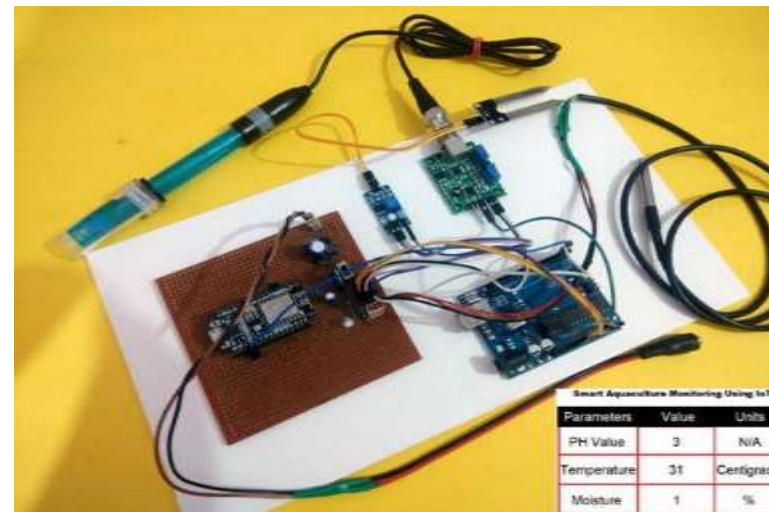
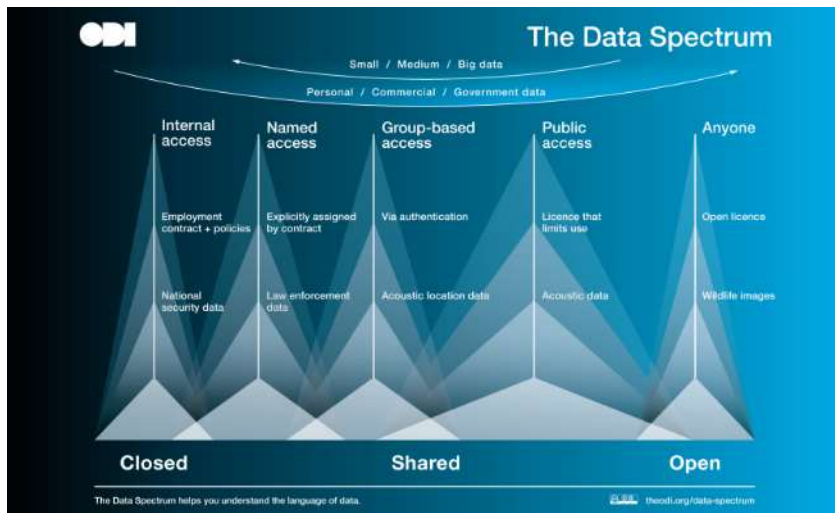
Previous webinars can be viewed here:

<http://tinyurl.com/FWQWebinars>



Interdisciplinary 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



- Programme of networking & development events (leadership, skills sharing, problem solving)
- Support collaboration/synthesis between ECRs & projects
- Impact placements



Water quality challenge events

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



We want to ensure the programme leads to...

- Strong interdisciplinary freshwater quality community of practice
- Programme outputs shape policy & freshwater quality
- International export
- Freshwater systems that deliver multiple benefits + more resilient to climate & land management change





Natural
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Research Council

FWQ Champions Contacts



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