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Catchment Management for Water Quality Science-Policy-Practice Forum

What is the problem?

A major challenge facing the UK today is how to balance competing demands on the water environment. Cross cutting policy areas such as those relating to land and food, energy, health, climate change and biodiversity all have impacts on, or could potentially benefit from, catchment management for water quality.

The ambitious objectives set by the Water Framework Directive to protect and improve the water environment will only be met by a sound understanding of the complex biogeochemical and hydrological processes driving water quality problems, and their solutions. While the wealth of modelling tools and environmental datasets available for the UK are key to achieve water policy objectives, there is too little integration between them to appropriately address complex questions.

Modelling frameworks for catchment management need to give outputs at both a national and a local scale, be able to account for variations in land use, climate or geology and the effect of variables such as climate change, uptake of mitigation measures and socio-economic factors such as changes in food markets. Outputs need to be useable and understandable.

What is the project doing?

This project aims to improve the access to and integration between data and models that help address the key questions in catchment management for water quality and wider ecosystem services. This integration will allow for more complex issues across many policy areas to be understood and addressed and as a result a more holistic view to inform both policy development and the impacts of policies on the water and wider environment.

To achieve this, the project will bring together and test datasets and models relevant to these challenges. Outputs will be made freely available through a web-based platform for use by the research, policy and implementation community.

How can you get involved?

Identifying what these challenges are is a key first step for the project. We want to establish a forum of scientists, policy makers and practitioners to identify and co-construct the key questions in catchment management for water quality in the UK. This will be established in June 2014 and will run for three years via discussion groups and a series of workshops. Involvement will give you an opportunity to discuss these issues with key scientific experts and other industry leaders to help with policy development, implementation and the achievement of objectives. Putting user needs up front and sharing data and models will help ensure the best use of science to help achieve the goals of UK water policy now and into the future.

From the project funders;

As a key member of the UK's catchment management community we would like to invite you to participate in the forum and be part of this important project to identify the main questions for catchment science to help us achieve water policy and wider environmental goals.





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Centre for Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL



The James Hutton Institute



Further details

What kinds of questions can be addressed?

The focus of this project is on the needs of policy makers and practitioners involved in the development and implementation of water policy in the UK, and on the wider ecosystem services related to this. Broad areas could include measures to help achieve WFD objectives, Natural Flood Management in relation to water quality, and Ecosystem Services within a water and WFD context. Specific questions, for example, could be *“What is the uncertainty in catchment scale predictions of water quality and how does that impact potential ecological status?”* or *“What would be the benefits of different diffuse pollution source control options within a test catchment on water quality objectives and wider ecosystem services?”*

What models and datasets could this application include?

There are many models in existence all of which tackle different aspects of catchment science. Which models really answer your questions and what more could be achieved by linking them? The consortium has contributed some key datasets and models as a starting point to explore these questions. These include catchment water quality models (e.g. INCA, NIRAMS), source apportionment models (e.g. SAGIS), in-stream ecological models (e.g. QUESTOR, Kennet), decision support tools for diffuse pollution (FARMSCOPER) and ecosystem services (LUCI). The project will explore the benefits of integrating these or other models to deliver answers to complex environmental problems. To ensure the use of all relevant models there is potential to add to the current suite via the Science-Policy-Practice Forum and a Community Funding Pot^[1] where a need to access additional models, tools and datasets is identified by the needs of the forum members.

How will this work in practice?

The forum will take the shape of a series of workshops over the next three years, supported by smaller meetings and one to one discussions. The initial workshop in June 2014 will introduce the project, the benefits and discuss potential catchment management questions to be addressed by the project. This will be followed by two more focused workshops to further define the requirements and assess against the modelling capability. A final workshop will be held to disseminate the outcomes and provide training.

What about the long term?

It is intended that the project will establish a Legacy Forum for the future, where scientists, policy makers and practitioners across the UK can come together to network and discuss future challenges thereby helping to steer future research effort in this area.

How to get in touch

A website will be launched in June and in the meantime please contact catchmentforwater@gmail.com

^[1] To be administered via the project's Modelling Community Fund. How to apply will be described via the forum and on the website.