

Wye Wales?

The project was set in Wales for three good reasons.

First, Wales offers the ideal scale at which to address river ecosystem services as a distinct European region with sufficient geographical and political autonomy to influence its own river and catchment management.

Second, rivers are a major Welsh feature and important to water supply, heritage and biodiversity conservation.

Third, there is a long tradition of scientific interest and excellence in Welsh freshwater research that underpins the project's exceptional data-richness: large-scale and long-term data are strong enough to allow us to address trends and processes from scales ranging from the Llyn Brianne Experimental Catchments, through to the highly studied Wye system and eventually the whole of Wales.



Take your partners...

DURESS has strong links with stakeholders partners including the Welsh Government, Environment Agency, Countryside Council for Wales, Dŵr Cymru/Welsh Water, Forestry Commission, RSPB, Afonydd Cymru and Public Health Wales.

Team members and partners are already working to deliver evidence and tools needed, for example, to help the water industry implement a whole catchment approach to water quality management; to provide land managers and policy makers with evidence to deliver compliance with the Water Framework Directive, and guide Environmental frameworks; and to place alongside strong river conservation for biodiversity a further justification aimed at delivering human benefits.

"We all need our rivers to be protected now and always for the wildlife they support and the crucial resources they provide"

Want to know more

Email us at duress@cardiff.ac.uk

Visit our website www.nerc-duress.org

or the BESS website www.nerc-bess.net



***Diversity in Upland Rivers for
Ecosystem Service
Sustainability***



DURESS is a £3 million NERC funded project to assess the role of river biodiversity in sustaining key ecosystem services. Led by Cardiff University, this project brings together more than 30 researchers from a range of disciplines and institutions and is supported by 7 actively involved stakeholders.



AN ECOSYSTEM APPROACH



Our most important ecosystems...

The UK's water infrastructure is valued at over £250 billion while the water industry contributes around £10 billion annually to the UK economy. Our 389,000 km of streams and rivers are, therefore, our most important natural asset. Yet, we overlook the value of the catchments that supply our water.

And the web of river life

Even more, we undervalue the processes carried out by the multitude of river organisms that maintain and regulate water quality, for example by processing organic carbon and nutrients. These organisms form an intricate web of life that fuels Atlantic salmon, dippers and kingfishers, yet we know little of how parts of this web fit and function together.

At your service?

We also lack quantification of how river processes provide the key ecosystem services on which we rely: not only clean water, but also the fisheries enjoyed by Britain's 4 million anglers, or river birds, otters and water voles that are such an important part of our freshwater landscapes. DURESS is therefore filling critical gaps in which there is major stakeholder interest.

The big questions

DURESS will use river microbes, invertebrates, fish and river birds at all levels from genes to food webs to test the hypothesis that "Biodiversity is central to the sustainable delivery of upland river ecosystem services under changing land-use and climate". We will investigate, through field experimentation and long term data analysis, the nature of the relationship between biodiversity from gene to food web and quantity, quality and resilience of ecosystem services.