

# Dyfi Catchment and Woodland Research Platform

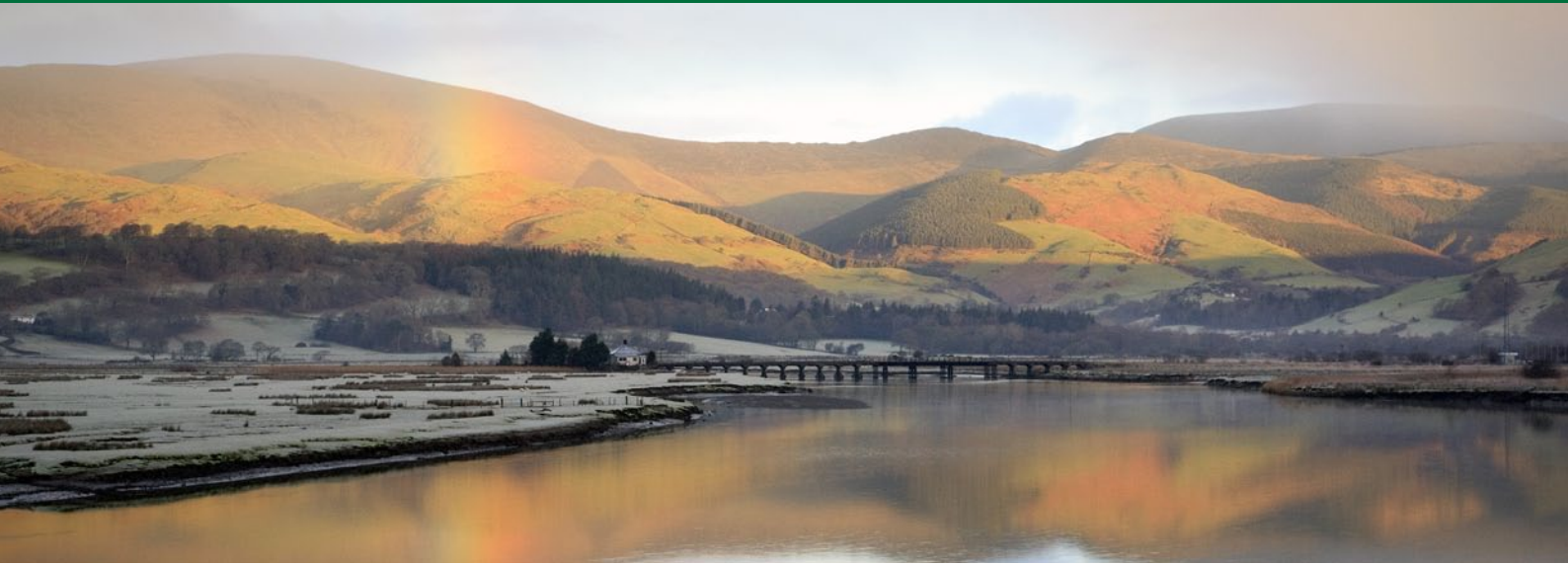


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The Dyfi Catchment and Woodland Research Platform is a collaborative initiative that focuses on the study of multi-functional landscapes at the catchment scale. It provides an integrated research and monitoring programme, enabling study of the relative roles of biodiversity, geology, hydrology, geomorphology, soils, vegetation, climate and human activities.

Landscape-scale integrated research and monitoring initiatives are increasingly being used nationally and internationally. This reflects the increasing importance of environmental and socio-economic information for understanding and managing multi-functional landscapes. This approach is now being developed in a Welsh context, with particular reference to the Dyfi catchment through a number of research strands, including designation as the Welsh Pilot Virtual Observatory site, funded by the Natural Environment Research Council (NERC).

The Dyfi catchment comprises a wide range of habitat types: from blanket bogs in the mountains, through woodland and farmland, down to coastal salt marshes, mud flats and sand dunes. Each habitat type provides a unique range of 'ecosystem services'. For example:

- farmlands and woodlands deliver 'provisioning' services such as food and timber;
- blanket bogs provide 'regulating' services such as carbon sequestration and flood alleviation;
- sand dunes provide 'cultural' services of recreation and tourism.

The Dyfi Catchment and Woodland Research Platform is data-rich. Both existing and new data will be used for research and to provide evidence to support the Welsh Government, the Environment Agency, the Forestry Commission and the Countryside Council for Wales (CCW). This will be especially useful in relation to the new single environmental body currently being developed in Wales.

Locally, the Research Platform will interact with the Dyfi user community and other stakeholders, especially through Dyfi Biosphere and EcoDyfi, and provide them with tailored information. Further afield, it will link with and be of relevance to other catchment-scale studies in the UK and abroad.

*"Wales' natural resources – our air, land, water and wildlife – are critical to our quality of life. They provide food, water, energy, timber and a wide range of economic benefits. They are also the foundation of our stunning Welsh landscapes and coast, and a backdrop for our recreational activities. I welcome the establishment of the Dyfi Catchment and Woodland Research Platform and am sure it will make an important contribution to the Welsh Government's aspirations to manage the environment in a more joined-up way, as set out in Sustaining a Living Wales."*

John Griffiths AM, Minister for the Environment and Sustainable Development, Welsh Government



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## Current contributors to the initiative

### IGES

Aberystwyth University's Institute of Geography and Earth Sciences (IGES) has a long history of research in the Dyfi catchment (funded by the Welsh Government, CCW, Environment Agency Wales, Higher Education Funding Council for Wales (HEFCW), local authorities and industry). This continues under existing NERC-funded research programmes (led by Professor Mark Macklin and Dr Paul Brewer) investigating tidally-influenced rivers and developing a virtual observatory as part of NERC's Environmental Virtual Observatory research programme. Professor Chris Thomas (IBERS) and Professor Macklin are currently leading NERC-funded research integrating ecology and hydrology in Africa, an approach they intend to apply to the Dyfi area, along with further initiatives using Earth Observation technology provided by Professor Richard Lucas.

### Forest Research

Forest Research is the research agency of the Forestry Commission. The creation of the Dyfi Research Platform gives the scientists at Forest Research a valuable opportunity to consolidate scientific understanding and develop new knowledge in a well-characterised wooded catchment in Wales. Through its Aberystwyth Unit, led by Professor Hugh Evans, Forest Research looks forward to working with scientists from other research providers and the university sector in collaborative and, increasingly, multi-disciplinary projects of direct relevance to policy makers, planners and land managers. The Dyfi Platform supports a variety of current research programmes, including work on forest climate change adaptation strategies, managing forest carbon and greenhouse gas balances, land use and ecosystem services, integrated forest monitoring, societal benefits and governance of trees, woods and forests, and alternative management approaches.

### Forestry Commission Wales

Woodlands managed by Forestry Commission Wales (Coed y Mynydd Forest District) represent an important component of the project area, extending to 6000 ha out of a total area of 24000 ha in the Dyfi catchment. Through participation in the Dyfi research platform, Forestry Commission Wales will work towards evaluating the long-term influences of woodlands in the landscape and how forest operations and changing management practices affect a range of social, environmental and economic outcomes. The findings will be applicable across Wales in public and privately owned woodlands. Much of the forest planning and subsequent operations carried out by foresters in Wales are the result of forest managers building on accurate and applied research. Integration with research in the Dyfi will help Forestry Commission Wales, and the wider forestry sector, to make operational choices that consider natural resources in a manner that delivers maximum benefits to people without compromising future choices and natural systems within and beyond the forest boundary.

### IBERS

Aberystwyth University's Institute of Biological Environmental and Rural Sciences (IBERS) has a strong interest in the Dyfi area. Recent research by Dr Mike Christie has demonstrated the economic and social values of ecosystem services delivered by habitats protected by the UK Biodiversity Action Plans and Sites of Special Scientific Interest. The Dyfi catchment provides a unique opportunity to extend this work by exploring: (i) how the mosaic of habitats within the Dyfi catchment combines to contribute to the delivery of important services; and (ii) how policy might be applied at a landscape scale to maximise ecosystem service delivery and benefits.