

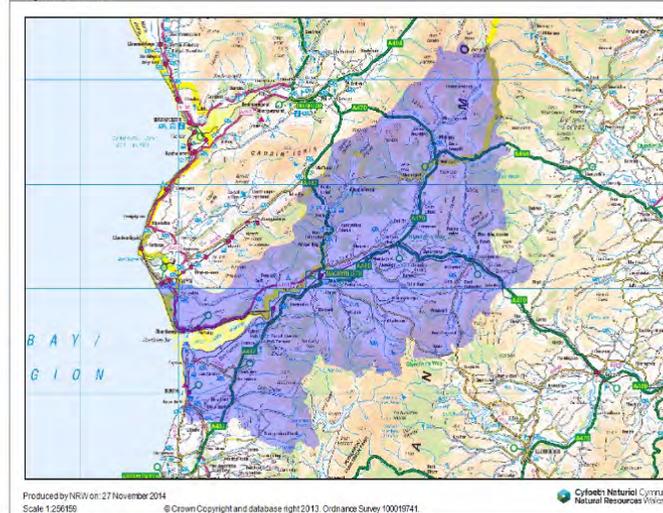
Dyfi catchment



1 Pilot Catchment Boundaries

-  Dyfi
-  Rhondda
-  Tawe

Dyfi Catchment





- Outstanding natural beauty - UNESCO Biosphere & falls within the boundaries of the Snowdonia National Park.
- High conservation value— SAC Peatland & Woodland) , SPA (Esturine) , SSSI
- Main industries' – agriculture , forestry & tourism.
- Important Salmon & Seatrout fisheries
- Renewable energy
- Falls within the Ceredigion, Gwynedd and Powys LA areas.

Invasive species



Pollution



Man-made barriers to fish migration



Legacy of Lead Mining



A child is sitting on a hospital bed, wearing a dark green t-shirt and camouflage-patterned pants. The child is holding a white plate of carrot sticks on their lap and is eating one. The background shows a hospital room with a bookshelf and a white pillow.

Low rates of physical activity in children aged 4-15.

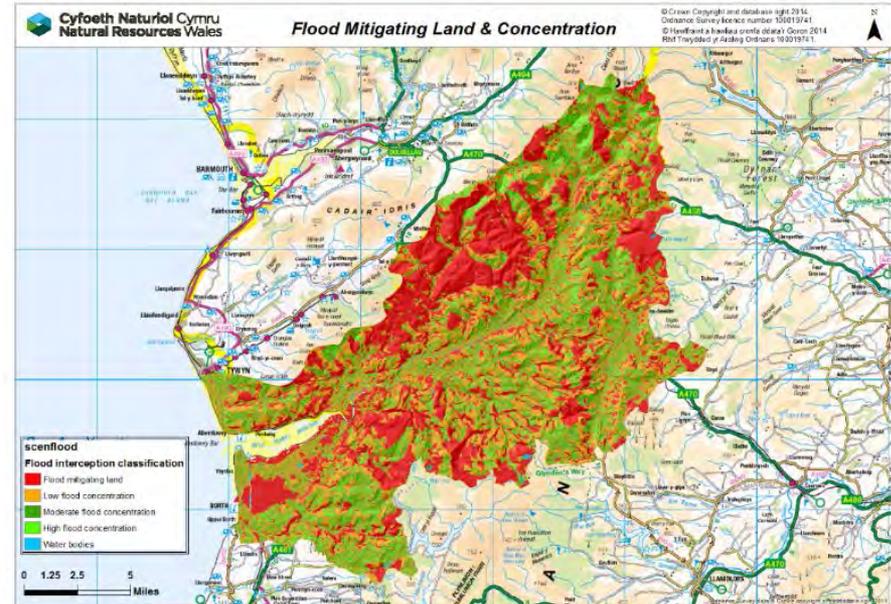
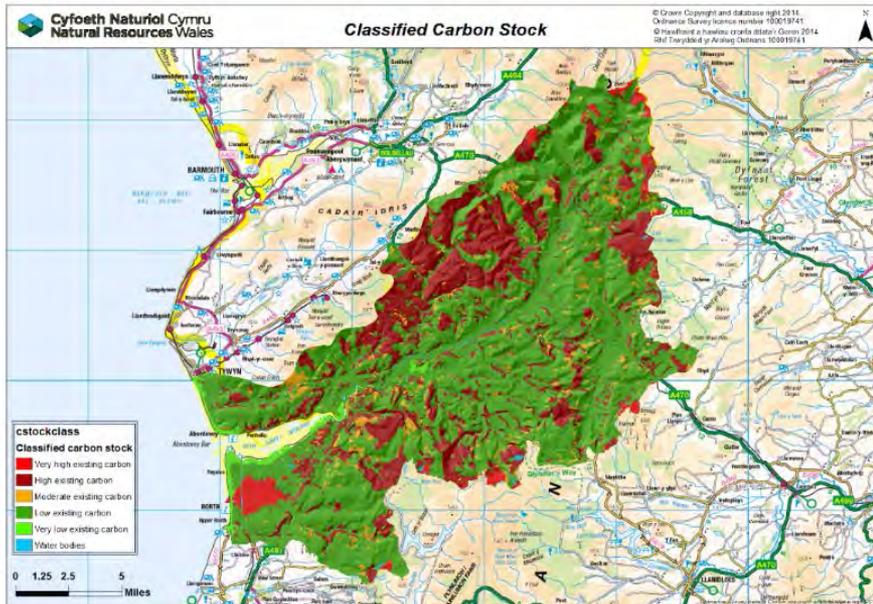
Machynlleth - health deprivation in comparison to other rural LSOAs (among the 20% most deprived rural Wales.)

Evidence gathering – catchment level

LUCI explores the capability of a landscape to provide a variety of ecosystem services, such as agricultural production, erosion control, carbon sequestration

Map 5 Shows areas with the most carbon locked –up in soil and vegetation. The Peatland National Nature Reserve – Cors Fochno, and the forested area appear to have the highest concentrations.

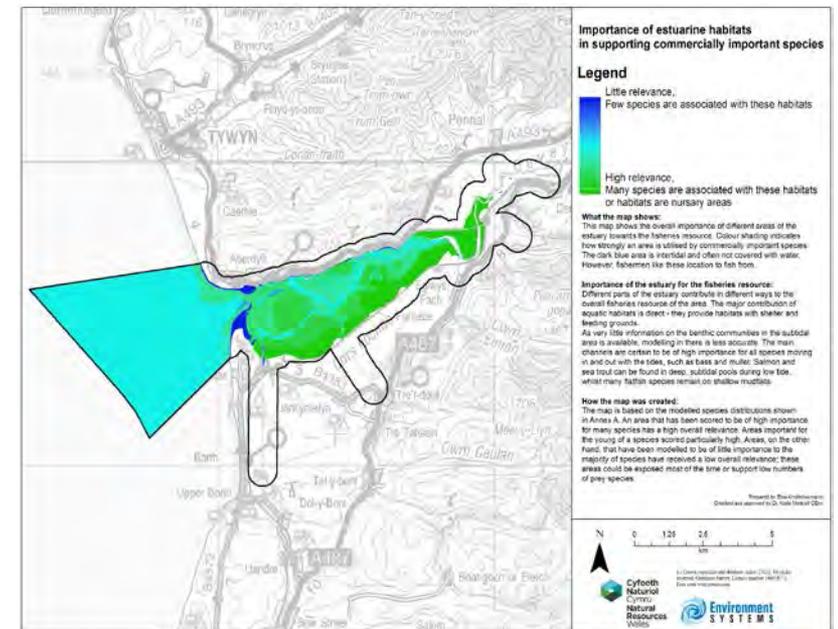
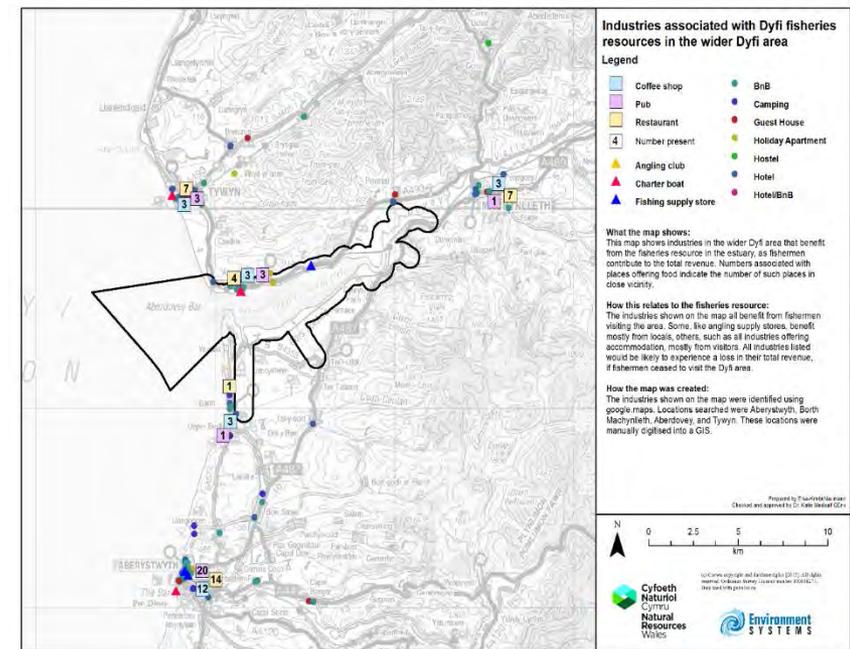
Map 6 Shows the potential of land to store flood-water (due to its soils, geology and aspect/ slope and vegetation cover)



ES related to the fisheries resource of the estuary

Main Outcomes

- A better understanding of fishers perceptions and concerns. We were informed by both recreational & commercial fishermen that the fisheries resource of the estuary is important, both culturally and economically.
- A better understanding of risk factors (e.g. erosion risk, intensified by the prospect of climate change and current land-use/ infrastructure preventing landward movement of the saltmarsh)
- A better understanding of the relative importance of habitat to the fisheries - Peatland/Salt marshes/ and deciduous woodlands. Saltmarsh particularly important for the water purification, food provision and nursery function they provide.



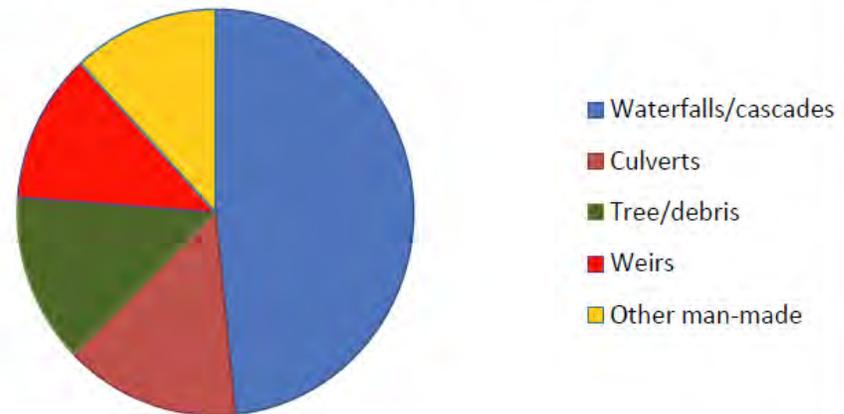
Mapping barriers to fish migration

Main Outcomes:

- Comprehensive knowledge of the extent & type of fish barriers in the Dyfi. Over 120 barriers to fish migration recorded across the catchment, 44 of these were total barriers to fish migration.
- An action plan for barrier removal



Type of Obstruction to Migration



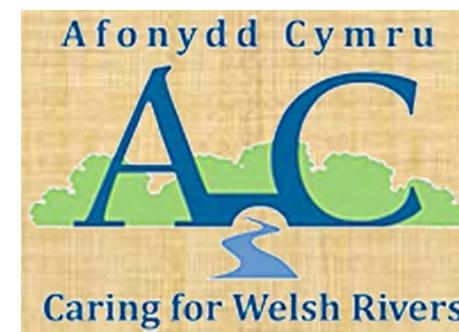
Removal of a fish barrier on the Afon Nant Gwydol Summary

Main outcomes

- The new bridge allows the river to flow freely and the fish to spawn up to 6km further upstream.
- Good working relations established with partners- Montgomeryshire Wildlife Trust identified the location, co-ordinated the project with NRW. TillHill forestry and the local landowner supported this project.
- Useful demonstration/ inspiration site.

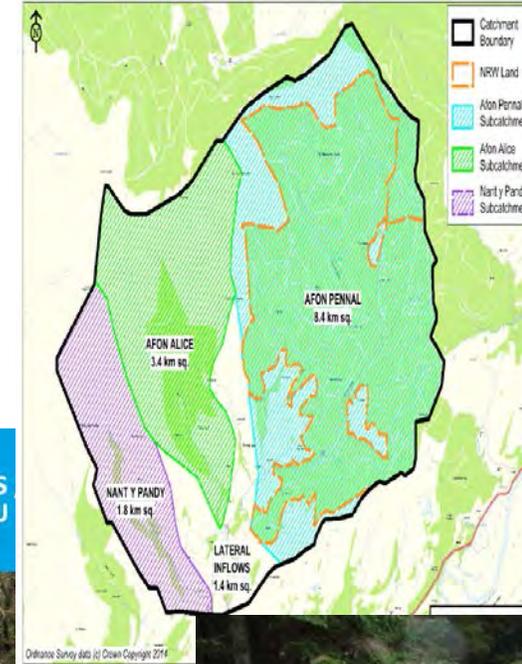


Principle	How the projects met the 7 principles of SMNR
Collaboration and Engagement	This suite of projects saw a number of organisations working together. Information was gathered from local angling enthusiasts and experts.
Evidence	Evidence is at the core of the projects. The Mapping barriers and Marine and Intertidal ecosystem services sort to gather evidence to support further decision making, while the work carried out on the Nant Gwydol tributary acted upon evidence to increase spawning ground.
Long Term	Knowledge has been gathered and collated that will support the work of NRW and partners into the future. The barrier removal will open up 6km of spawning ground for the future.
Scale	The work here is of varying scales, each appropriate for differing reasons. The barrier map is catchment wide, while the Marine and Intertidal project focused on the estuary while the removal of a barrier was site based.
Multiple Benefits	The projects have added to our knowledge base, supported local business and third sector organisations, opened up spawning grounds and made connections & built relationships with users.
Building Resilience	All of these projects contribute to the resilience of the environment, by helping salmon to spawn we are allowing them to thrive in a heavily adapted environment. We now have the knowledge needed to make informed decisions about future work on fish barrier removal and how we make the estuary more resilient and support the fisheries resource.
Adaptive Management	All of these projects saw changes through out the process of carrying them out. Each project was guided by groups of NRW staff and partners as well as individuals with local knowledge.



Identifying sites for NFM in an upland catchment

Figure 1.2 - Plan of sub-catchments and NRW owned land



NATURAL RESOURCES WALES
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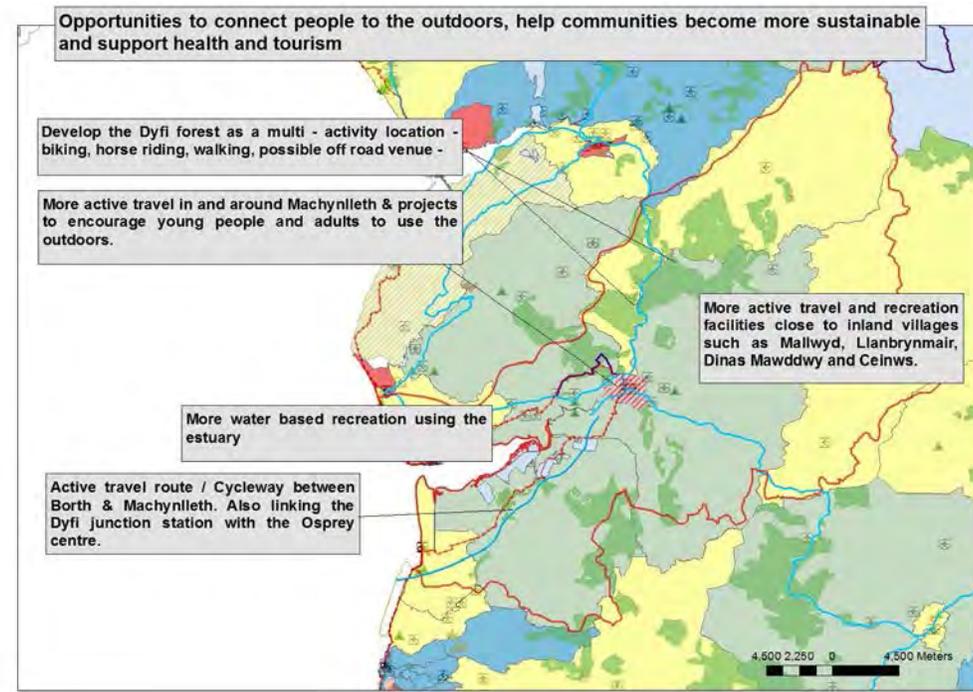
AFON PENNAL
UPLAND CATCHMENT MANAGEMENT FEASIBILITY – FIRST ISSUE

12 JANUARY 2015



Aims & Opportunity Maps

- Improving opportunities for people to connect with the outdoors
- Helping land based businesses become more resilient
- Improving the water environment



Forest Research

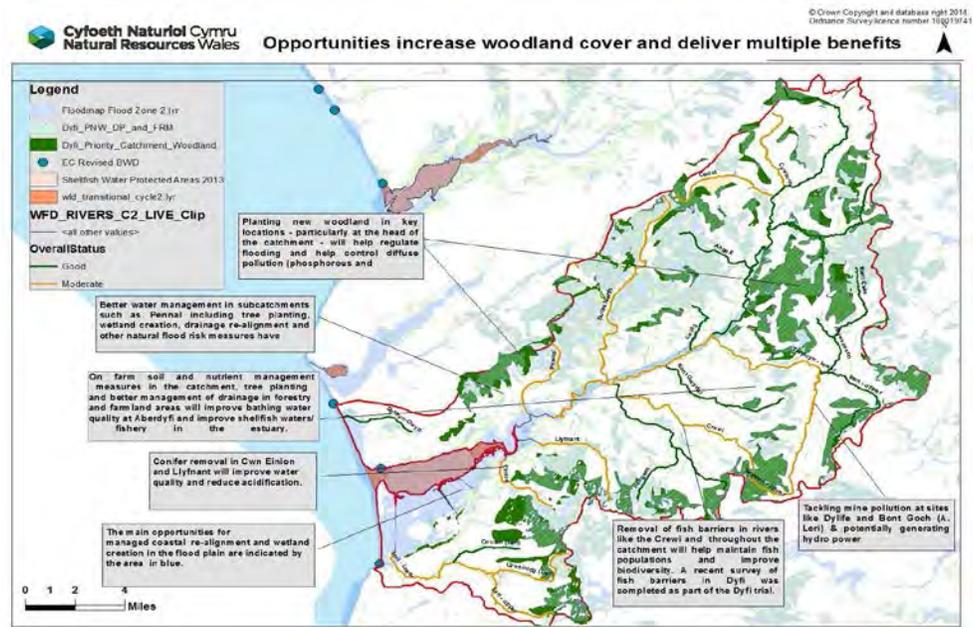
Opportunity mapping for woodland creation to reduce flood risk in Wales' Integrated Natural Resource Management Pilot Catchments (Rhondda, Tawe and Dyfi)

MAPS SECTION

Huw Thomas,
Tom Nisbet and
Samantha Broadmeadow

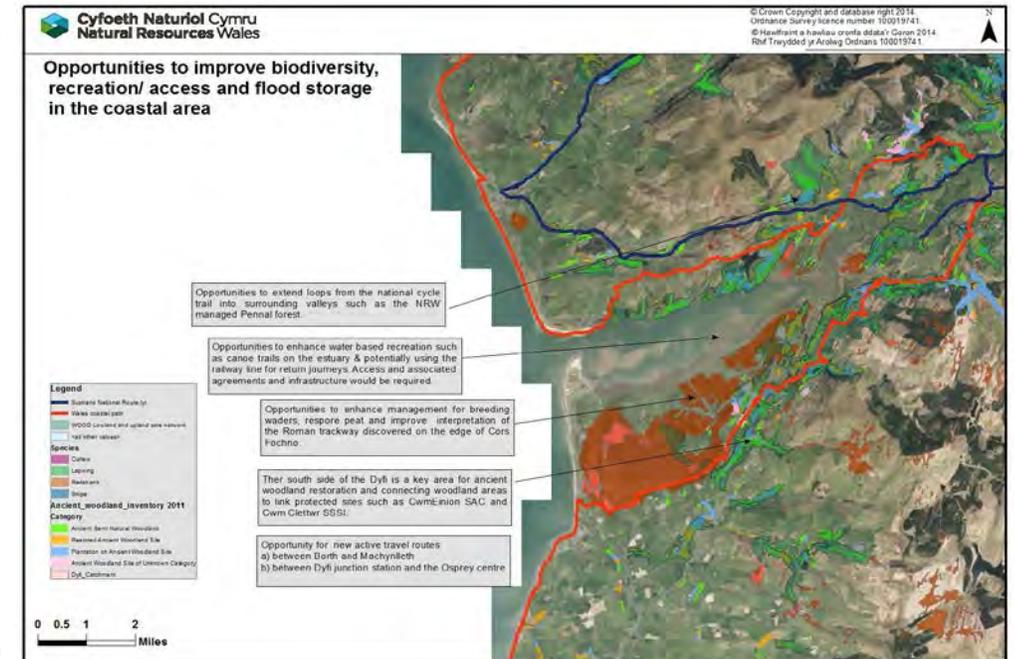
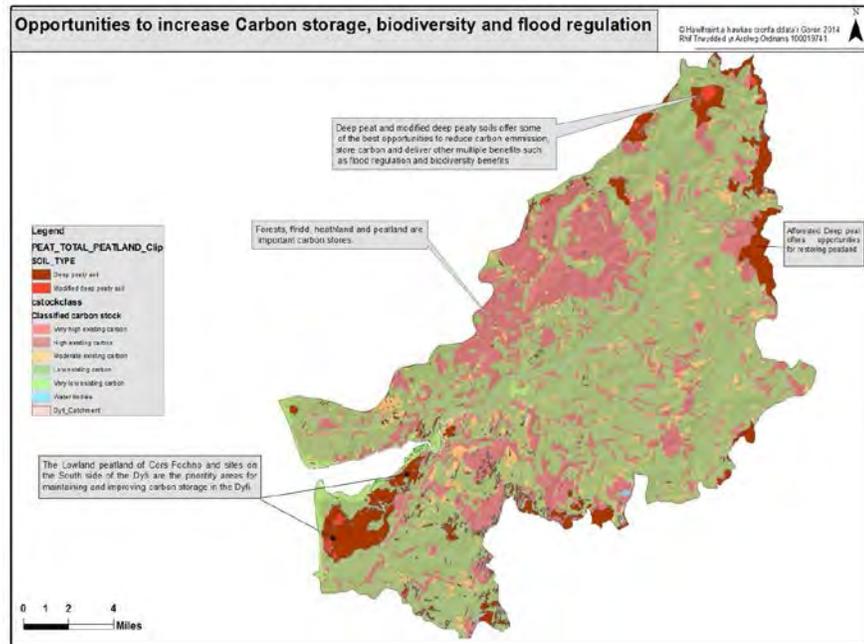
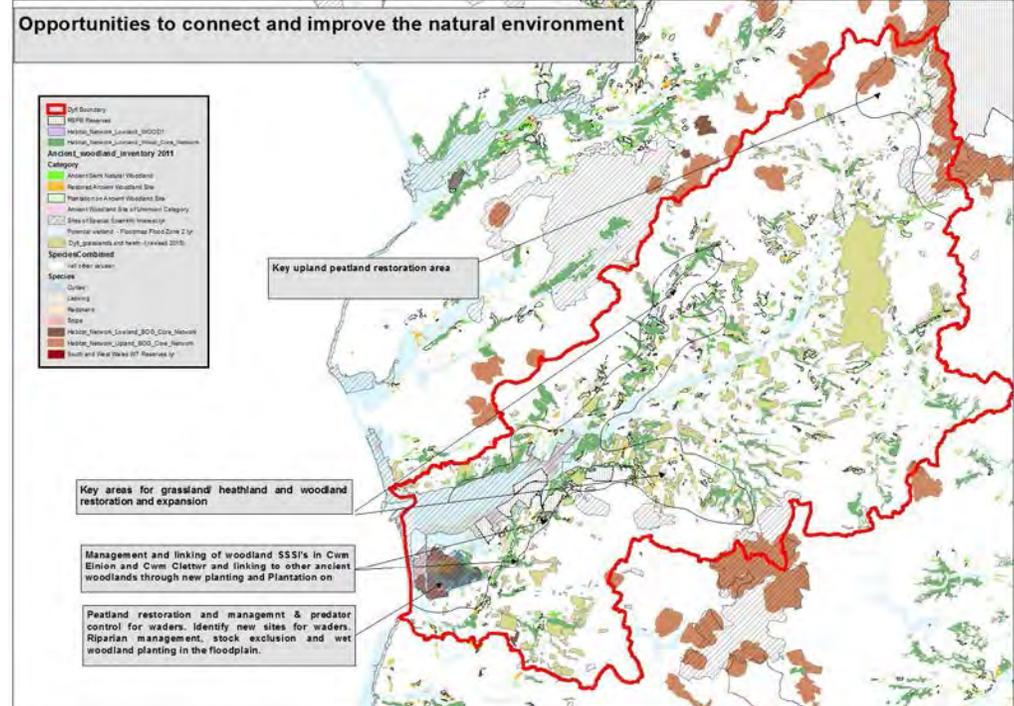
Forest Research
[March 2014]

The Research Agency of the
Forestry Commission



Aims & Opportunity Maps

- Connecting & improving the natural environment
- Helping communities become more sustainable
- Building capacity to implement the vision



Rhondda Trial



Christian Servini and Becky Davies