



Catchment Restoration Fund (CRF) Project Briefing Note

The Pow Beck Improvement Project

The Pow Beck is a tributary of the river Caldew which confluences with the Eden in the city of Carlisle. Pow Beck itself is one of a small number of lowland rivers in the Eden Catchment that are characterised by intensive lowland livestock farming. As such the catchment comes under pressure from diffuse agricultural pollution associated with intensive dairy farming and associated arable cropping. The main issues on the Pow Beck are that of nutrient enrichment from Nitrogen and Phosphorus (both soluble and sediment bound) coming from a combination of point sources from farm yards and from untimely and over applications of slurries and artificial fertiliser to grassland areas.

In addition to the issues of diffuse pollution, there has also been significant habitat loss through general land ‘improvement’, river straightening and increased grazing pressure leading to the loss of natural buffers and habitat features such as small scale riparian woodlands, small farm ponds and wetlands.

Key facts	
River Basin District	Solway Tweed
Catchments	Eden
Outcomes	Improved water and habitat quality
Start Date	July 2012
End Date	March 2015
Budget	£376,000
Project Partners	Environment Agency, Eden Demonstration Test Catchment , National Farmers Union, Catchment Sensitive Farming

The Pow Beck is a host sub-catchment for the Eden DTC project, Eden DTC is part of the Defra Funded Demonstration Test Catchment (DTC) project which has been tasked to carry out research into diffuse agricultural pollution and its impact on ecological function. Eden DTC has installed a number of telemetered water quality and weather monitoring stations which will be providing baseline data and helping to identify improvements in water and habitat quality as a result of the Pow CRF project.

Description of Works

Work on the Pow Beck will revolve around mitigation of diffuse agricultural pollution, more specifically nutrient and sediment loss from the farming system. The first phase of the project will be based around engaging the farming community on the Pow Beck and providing a range of workshops that inform them about diffuse pollution and the work that can be done to address it through the project.

The next phase of the work will be to adopt the **Source, Pathway, Receptor** model of dealing with diffuse pollution. This will be done by working closely with individual farmers and identifying source issues around the farm yard and dealing with them through both the Pow Beck project and the Catchment Sensitive Farming Initiative. We will carryout individual infrastructure analysis of each farm in the catchment and provide a plan for dealing with potential issues around the farm yard and some turn key capital funding to make things happen, these visits will be done in close consultation with the farmer, the local CSF officer and local EA staff.

We will use modelling tools such as SCIMAP to identify high risk areas for sediment loss in the catchment to target soil management works that can resolve pathway issues. The project will provide advice and financial assistance to purchase some soil management equipment to be used solely in the Pow catchment.

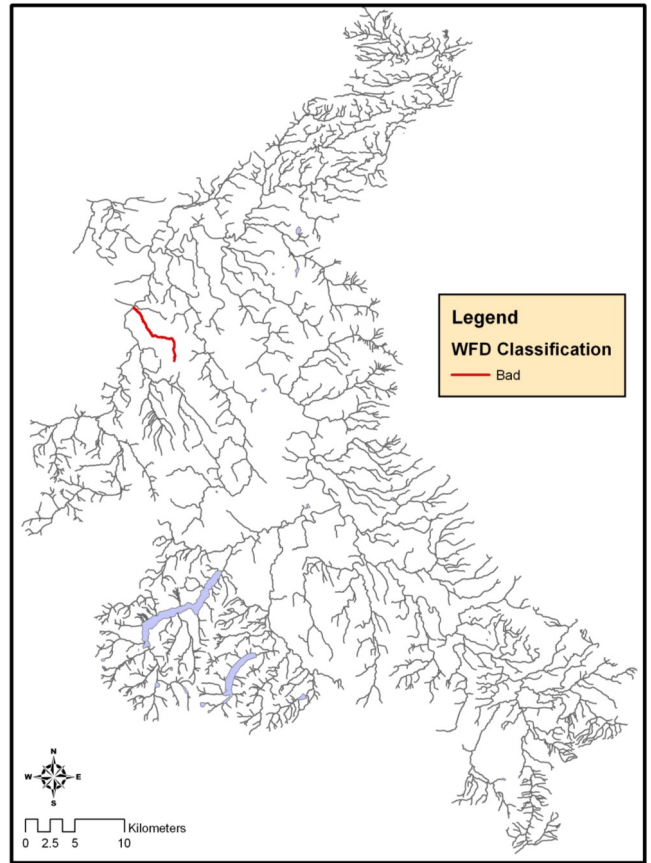
Finally, with the use of local knowledge and a catchment walkover we will identify areas of poor habitat that can be improved to increase robustness of riparian habitat as a method of dealing with receptor based issues.

What will success look like?

The Pow project will be successful if we engage the majority of farmers and landowners in the catchment, therefore a key indicator of success will be contact with the farming community. We envisage that as a result of this project the farming community will better understand the water quality issues and the need to improve water quality in the Pow catchment and be comfortable with how this can be achieved.

The Pow project will have fostered a better understanding amongst farmers of the importance of good soil husbandry and how this can be both beneficial for the environment and also the farm business.

We hope to have instigated 14 improvement projects on farms to reduce diffuse pollution sources on farms and we also aim to improve the riparian habitat by carrying out 5000 metres of riverside fencing and planting 3000 trees.



About the team
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