



SOUTH WEST PEAK
LANDSCAPE AT A CROSSROADS



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SOUTH WEST PEAK LANDSCAPE PARTNERSHIP

FINAL PROJECT REPORT

Name of Project	Slowing the Flow
Delivery Partner	Cheshire Wildlife Trust
Name of Person Completing Report	Ashley Deane & Ralph Connolly
Start Date of Project	April 2017
End Date of Project	December 2021
Date of Report	December 2021



Aims and Objectives of the Project

The Slowing the Flow project aimed to apply an ecosystems approach to catchment management to achieve multiple benefits for people and wildlife in the South West Peak. By developing and implementing natural flood management to 'slow the flow' the project aimed to: reduce flood risk for communities at risk of flooding; improve water quality; conserve, create and restore habitats; enhance biodiversity; capture carbon and reduce sediment input into watercourses. Working with landowners, land managers, conservation and regulatory authorities, local communities and water companies, we planned, deployed and evaluated a variety of natural flood management interventions. Depending on the site these had potential to include: woody debris dams, floodplain

and riparian woodland planting, moorland gripping, field scale soil management, construction of scrapes or ponds, floodplain reconnection and river restoration

Natural Flood Management (NFM) has the potential to offer significant cost effective flood benefits in many catchments. It also delivers a range of other environment benefits by promoting naturally functioning landscapes. Communities downstream of where work takes place should benefit from increased flood resilience. There are also other benefits to people including the opportunity to explore alternative income streams for landowners in the light of uncertainty surrounding agri-environment payments.

Project Delivery

Initial preparation focused on opportunity mapping, drawing on existing landowner connections and identifying strategic areas in which to carry out interventions. Ground truthing was carried out to assess site suitability and landowners engaged with to explain the benefits of interventions. Once the requisite site checks and consents had been completed, interventions were carried out by a combination of staff, skilled contractors and volunteers. Monitoring of selected interventions has been carried out, including photo monitoring of water level changes in-channel.

Staff resource

Delivery was through a full-time Project Officer employed by Cheshire Wildlife Trust (CWT) with support from colleagues within CWT (e.g line management/ finance) and SWPLP partner organisations, notably the Farm Link Workers employed by the Peak District National Park Authority (PDNPA) for the purposes of facilitating landowner engagement in the SWPLP projects.

Budget resource

The initial planned project budget for Slowing the Flow was £345,000 (figures including VAT) and was subdivided as follows, showing planned and actual costs incurred against each budget heading:

NLHF budget heading	Example items	Intended cost	Actual cost
Purchase price of items or property	Pick up truck for project officer	£6,310	£8,463
Repair and conservation work	Contractor costs for WWNP measures in line with project description	£41,410.00	£42,158
Equipment and materials (capital)	water monitoring data loggers	£10,100.00	£10,096
Other costs (capital)	laptop, mobile phone	£1,590.00	£1,589
New staff costs	1 FT officer @ £25k/yr + NI + pension + management cost (1 day /month	£153,625	£138,433
Training for staff	Macroinvertebrate ID. Woodland/Forestry courses or upland agriculture	£2,500	£3,432
Training for volunteers		£2,000	£3,388

Travel for staff	Fuel costs for pick-up truck	£8,785	£6,956
Travel and expenses for volunteers		£10,000	£5,169
Equipment and materials (activity)	Biosecurity, PPE, welfare kit, clothes, tools for officer and volunteers	£4,040	£4,418
Other costs (activity)	vehicle tax, MOT, insurance and, maintenance	£5,025	£4,827
Professional fees relating to any of the above (activity)	Macroinvert analysis and other evidence gathering for WWNP measures	£8,685	£10,440
Recruitment		£505	£479
Publicity and promotion	Project promotion leaflet + end of project publication	£2,525	£3,159
Full cost recovery		£80,900	£73,610
Contingency		£5,000	0
TOTAL		£345,000	£316,618

In addition, the project received non-cash contributions of £29,556 and volunteer time valued at £41,200.

Overall the project came in slightly under budget, mainly due to a fallow period between the original project officer moving on to another position and a new project officer being appointed, when no-one was in post. Budget adjustments were made in discussion with the LPS Manager and NLHF investment officer.

Partnership working – team involvement, steering group etc

The project was led by Cheshire Wildlife Trust with financial support from the National Lottery Heritage Fund and the Environment Agency. There was a steering group composed of Cheshire Wildlife Trust, Environment Agency, Staffordshire Wildlife Trust, Peak District National Park Authority, Forestry Commission, Natural England, Manchester Metropolitan University, United Utilities and Severn Trent Water. The Farm Link Workers, employed by the PDNPA provided essential landowner liaison support.

Volunteers

Volunteers were a key part of the project delivery, with both existing CWT and newly recruited volunteers being utilised, including the creation of a new Slowing the Flow practical group which delivered much of the smaller watercourse in-channel work such as leaky dam creation, channel stuffing as well as tree planting. With appropriate training, volunteers have also carried out self-lead tasks such as site walkovers and monitoring.

Consultants and contractors

Initial opportunities mapping was delivered by JBA consulting working to a brief produced by the Environment Agency in our development phase. This provided a range of modelled opportunities provided as GIS layers which the project officer was then able to start ground truthing during the delivery phase.

Hydrological and digital terrain modelling was used to inform site-specific works in two locations. Much of the capital work has been carried out by a range of trusted, local contractors benefiting from contacts built up across the partner organisations. The project also made use of consultant expertise in some of the specialised monitoring outputs e.g, electro-fishing monitoring of watercourses within the project area.

The project took part in a NERC-funded academic study led by Lancaster University into Quantifiable NFM – more information on this research can be found on their website here: [NERC Q-NFM at Lancaster University](#)

What Has (and has not) Been Achieved

Outputs

	Intended Output	Delivered Output
1	5-30ha habitat created	9 ha of new woodland and riparian buffer strips created
2	5-30ha habitat restored	48 ha restored (e.g. by woodland management to produce timber for leaky dams)
3	5 km of new or improved riparian zone habitats	8.8km created/improved
4	20 evidenced NFM projects across the SWP	28 projects completed in 19 locations
5	5 communities @ risk better protected from flooding	Bosley, Congleton, Macclesfield, Leek, Ashbourne
6	Water quality improved in 10 watercourses	12 watercourses enhanced in 8 catchments as shown on the map in Appendix 1
7	100 unique/individual volunteers engaged	112 volunteers engaged
8	4 annual events	10 events delivered
9	6 local communities engaged	5 communities engaged
10	20 management plans created	1 Natural Flood Management handbook produced
11	1 long term academic study	1 study on the effects of introducing large woody debris on macroinvertebrate biodiversity published
12	10 student projects	13 student projects completed
13	1 Project celebration document	1 project report and guidance handbook created
14	10 videos produced	5 videos produced on social media

Key Outputs

The most important outputs centred on the successful creation and restoration of habitat through natural flood management interventions. The project was responsible for creating or restoring over

50ha of good wildlife habitat whilst at the same time reducing the impacts of flooding. Achievements at scale like this have been one of the most important outputs of the project.

Engaging with over 100 volunteers has created a keen supporter base of trained and informed people to facilitate further work in the area who have also served to disseminate information about the project and its aims through their own friends and family.



Outcomes

	Intended Outcome	Delivered Outcome
1	Reducing flood risk for communities at risk of flooding	<p>The farming community has been the primary focus of this project. We have worked to improve the understanding of NFM and demonstrated to landowners how it can be incorporated into the farm system.</p> <p>In total, we have actively engaged with c.40 individual farm holdings, of which, by the time the project is concluded, around 50%, will have had capital works undertaken on their land.</p> <p>Additionally, the interventions installed have contributed to reducing flood risk to downstream communities, which extends beyond the boundaries of the project area. Suites of woody debris and dams have served to reduce flow at peak times whilst maintaining low flow at other times, whilst riverine fencing and tree planting have increased landscape ‘roughness’ reducing the rate at which rainwater enters the channel and flows downstream.</p>

2	Improving water quality	In addition to the biodiversity benefits, the work of this project has helped deliver improvements to soil management and water quality, through the exclusion of livestock from river banks and creating buffer zones to hold more water back on the land and allow for greater filtration.
3	Conserving, creating and restoring habitats	<p>Aquatic habitat – Through the installation of large woody debris to 8km of headwater streams, and other in-channel modification work, this project has helped increase the diversity within river habitats throughout the South West Peak. This has specifically created new habitat for a range of benthic invertebrates and provided valuable fish spawning habitat.</p> <p>Woodland habitat – The creation of upland oak woodland, has provided habitat for a number of priority woodland bird species including warblers, pied flycatchers and redstart. Additionally, 1.2km of new hedgerows has helped link existing woodland, improving habitat connectivity.</p> <p>Wetland habitat – The installation of water penning structures, such as those at Gib Tor, is providing wetland habitat for priority wading bird species including Curlew & Snipe.</p>
4	Enhancing biodiversity	See above. The NFM measures have also served to create suitable conditions to allow for the reintroduction of the endangered White Clawed Crayfish onto tributaries within the project area as well as providing cover for young fish and other aquatic fauna to develop in. The riverine buffer zones will regenerate naturally over time without grazing pressure allowing biodiversity to re-establish.
5	Capturing carbon	Moorland rewetting has served to encourage active peat formation, storing away carbon in a process which if maintained by sympathetic management will have long-lasting benefits. Tree planting will also serve a similar purpose in storing carbon as the woodland develops to maturity.
6	Reducing sediment input into watercourse	Tree planting and riverine fencing have reduced soil erosion by stabilising banks and reducing livestock poaching. The various in channel dams/ woody debris features will accrete sediment overtime, reducing the amount washing downstream.

Key Outcomes

Engagement with landowners who have had interventions carried out on their land through the project has developed relationships that will last beyond its duration and will provide warm leads for

any further habitat creation projects within the South West Peak. The Project funding has allowed inroads to be made into farming communities and to facilitate wildlife beneficial work on agricultural land which would not otherwise have been considered e.g. livestock exclusion fencing to create buffer zones along watercourses.

This project has contributed significantly to the natural heritage of the South West Peak District. Working with private landowners, we have installed a range of interventions which have both helped improve the condition of existing habitats and created new habitats, all adding to the natural heritage of the area and countering the effects of intensified agriculture.

To date, this project has engaged in excess of 100 individual volunteers, in the practical delivery of both habitat management/ restoration and surveying and monitoring techniques. All volunteers have received either formal or 'on-the-job' training in the work they have been involved with, equipping them with new skills and a better appreciation for the natural world, which will outlive this project.

Additionally, through the delivery of a number of events, the project has engaged local communities throughout the SWP, in the role NFM has to play in flood management. Additionally, the interventions installed have contributed to reducing flood risk to downstream communities, which extends beyond the boundaries of the project area.

The farming community has been the primary focus of this project. We have worked to improve the understanding of NFM and demonstrated to landowners how it can be incorporated into the farm system. In total, we have actively engaged with c.40 individual farm holdings, of which, 50%, have had capital works undertaken on their land.

The project has helped develop strong relationships with landowners, water companies and local residents. Some landowners keen to engage with the project over multiple successive interventions for example the river re-meandering, in channel woody debris, buffer fencing and hedgerow planting carried out at High Ash farm which the landowner is keen to exhibit as a case study site for others. Other landowners have expressed their interest in further collaboration after the end of the project. A good working relationship with United Utilities has been built upon and enabled further slowing the flow works to be carried out around Macclesfield forest.

Rob Hudson, Woodland Officer at United Utilities explains how at Wildmoorbank:

"The habitat has improved greatly since the work has been complete. In a rapid space of time we've seen physical differences to the watercourse and the way the stream responds in high flow. In partnership with Cheshire Wildlife Trust we have installed a trail cam in this woodland to observe how the stream now responds to high flows. We've been really impressed how the flow slows down dramatically behind each jam. This in turn has meant that lots of fine silts have dropped out onto the banks instead of flowing down into the reservoir."

What Made The Difference

Existing landowner relations, gathered through Cheshire Wildlife Trust's Facilitation Fund scheme, provided a number of 'easy wins' for this project, in terms of amenable landowners, open to the installation of NFM interventions.

Challenges

This biggest challenge for this project has been the time it takes to develop and execute interventions on the ground. Inevitably, when delivering work within a protected landscape, and in collaboration with multiple partners, who all have their own processes to satisfy, it can take time to reach decisions. This has been partly addressed through a consultation procedure, put in place by the PDNPA and regular dialogue between the project officer and programme manager.

Case Studies

Nine site case studies have been produced and are provided as separate documents.

Legacy

Skills/knowledge/experience

A pool of skilled volunteers have now been trained up and available to support further conservation work, throughout the South West Peak, in the future. A range of contractors have also been trained in the principles and implementation of NFM providing a skilled local workforce for future related schemes. Staff involved in the project have also improved their understanding of Natural Flood Management and carrying out work in the Peak District

Habitat/species improvements

Considerable areas of new woodland/ hedgerow have been created which will reach maturity and peak value for wildlife long after the end of the project. In-channel NFM work such as leaky dam creation and woody debris has provided the habitat conditions to support reintroductions of White Clawed Crayfish onto Ark sites, where they will be able to expand without risk of contact with invasive non-native crayfish species

Capital Works

The features including dams, attenuation features, woody debris and riverine fencing will last long beyond the duration of the project providing benefits for wildlife as well as case studies for best practise in delivering this kind of work. Each landowner has signed a management agreement which commits them to maintain these interventions for a period of five years.

Data

Species monitoring will be continued after the end of the project as much as is possible without legacy funding to gather data as to the effects of the habitat work carried out and to inform future related work.

Equipment

Data loggers and trail cameras will allow for continued monitoring of the effects of the capital works into the future.

Connections/collaboration

Improved engagement with the farming community and smaller landowners throughout the SWP. Collaboration and network forming with neighbouring wildlife trusts and PDNPA.

Educational Resources/Other Resources

A NFM handbook has been created, based on an existing document produced by Yorkshire Dales National Park, outlining the potential NFM interventions along with indicative costings and case studies to make any future related schemes more comprehensible to landowners.

Individual case study sheets have also been created to demonstrate the different NFM interventions on sites across the project area. These also included a section from the landowner to explain their interest in and involvement with the scheme.

Lessons Learned

1. Good communication is key – when hosting an individual project, on behalf of an LPS, it is easy to become isolated from the wider programme objectives. Regular communication can help to overcome this.
2. Ensure expectations around match funding from individual partners are fully understood at the outset of the project to avoid confusion around match funding responsibilities later down the line.
3. When operating across an area as large as the South West Peak, it is advantageous to identify, prior to the project commencing, certain focus areas. During the LPS development phase opportunity mapping using a modelling approach was completed and the outputs provided to the project officer to follow up in year one with ground truthing visits as set out in the project plan. A great reliance was placed upon the part-time Farm Link Workers to facilitate and identify locations for NFM work, which should have been led more strategically by the Slowing the Flow project officer.

The Big Headline

Discovering wild salmon parr during e-fishing monitoring in the upper reaches of the Swainsley brook, previously unrecorded on this tributary and amazingly far for this species to travel into the headwaters of a watercourse. The Large Woody Debris (LWD) dams created through the project will provide shelter and feeding grounds for such populations to develop further.

Appendix 1. Map of interventions (main waterbodies in royal blue, catchments in light blue)

