



SOURCE

Partnership Report Spring 2018



The **SOURCE Partnership** has been active in the Upper Calder Valley since 2010. Our aims are to:-

- minimise the risk of flash flooding by appropriately sited tree-planting, slowing the flow interventions and moorland management
- treat damaged land and control erosion
- improve the quality of the River Calder
- undertake educational activities and encourage volunteering so that people of all ages and from all walks of life become aware of the value of our rivers and uplands.

In the past year :-

- **150** leaky dams have been installed with the help of **200** volunteers
- **15835** trees have been planted at **15** tree planting sites, with **815** volunteers
- **500** volunteers days have been spent on river clean-ups
- **3** sites have been treated for erosion, using **370** fascines
- **150m** of living willow revetments have been installed to slow surface run-off and we have created an attenuation system to hold **600m³** of floodwater in heavy rainfall.

There have also been major developments which will enable us to do even more in years to come:-

- **The Northern Forest** is a home grown collaboration between the Northern Community Forests (including our own White Rose Forest) and the Woodland Trust nationally, aiming to plant 50 million trees over the next 25 years.
- **The Leeds city region** - £1.3m of Local Growth Fund 3 funds have been allocated (subject to procurement arrangements), to natural flood management interventions at Gorpley, Hardcastle Crags and Wessenden Valley in Kirklees.
- **The Launch of the Calderdale Natural Flood Management Grants Scheme** (see Back Page).

As you read through this booklet, you will notice that there are numerous ways to get involved:-

- **Slow the Flow Calderdale** hold regular leaky dam building days, and their website gives a host of ideas for how people can “slow the flow” in their gardens. www.slowtheflow.net
- **Treesresponsibility** hold regular tree-plantings, and also arrange team-building days for local businesses, school plantings and residential tree-planting weekends. Volunteers can also help with tree-care. Helping the project forward does not necessarily involve volunteering – the group are asking people to save up newspapers which they use as mulching material, and they are always interested in hearing from landowners who can offer potential tree-planting sites. If you would like further information, please contact treesresponsibility@yahoo.co.uk or visit their website www.treesresponsibility.com
- **Calder Future** will be continuing their programme of river clean-ups and balsam bashing throughout the summer. Contact gavin@calderfuture.org.uk
- Finally, landowners who would like to consider installing Natural Flood Management measures on their land, such as leaky dams or digging out millponds, or who have erosion problems needing attention, can contact the SOURCE partnership for advice through treesresponsibility@yahoo.co.uk or they can apply directly to the Calderdale NFM grant scheme.

The SOURCE Partnership gratefully acknowledges the support of our funders:-



Slow the Flow Calderdale - Hardcastle Crags Project



During the past year, Slow the Flow Calderdale has been working on a pilot natural flood management project to slow the flow in streams and rivers flowing through Hardcastle Crags. We approached the National Trust and they were very receptive, so we undertook a walkover survey of the two tributaries. This led to a report which was submitted to the Environment Agency who sanctioned a grant of £50,000 to kick start the project. Felling licences were needed, so construction of leaky dams was delayed until April 2017. Since then, around 150 leaky dams have been constructed, all by volunteers at weekends.

Introducing woody debris in streams to slow the flow is in effect mimicking natural wild woodlands and streams where trees will have fallen naturally into stream beds either by windfall, decay or at the end of their lives. The woody debris eventually rots allowing colonisation of woodland plants and invertebrates, providing food for mammals, birds and aquatic life. Wetting the woodland has added benefits for a richer diversity of plants.

The project meshes well with the National Trust who lead on the project management and organise the skilled elements, such as tree felling adjacent to watercourses ready for volunteers to begin work. We hope there will be further funding over the next five years with around £500,000 of additional grants currently pending. Larger main river leaky dams are proposed which will require a greater level of engineering, together with reinstatement of several disused millponds for run-off interception and attenuation.

Much of the 122 Hectares of woodland at Hardcastle Crags is designated as PAWS (Plantation on Ancient Woodland Sites) and the ground flora is heavily shaded and in many places absent due to the dense canopy. A 30% thinning of non-native conifers, beech and sycamore is required to allow the woodland flora to recover.



Restored and vegetated ground flora will intercept precipitation, impede surface run off, reduce erosion and sediment transport and slow the rate of water flow into the system of ditches and natural water courses throughout the woodland. The felling work also provides the timber required for the Natural Flood Management (NFM) interventions detailed above.

As a second project, we have installed a series of river level monitors on structures which span the two tributaries. These use ultrasonics to determine the level of water in the streams which is plotted against real time as a hydrograph. The intention is to gather evidence of the efficacy of the project using data from Hebden Water (the river currently targeted with leaky dams) and the adjacent watercourse Crimsworth Dean Beck, where currently there are no interventions, thereby acting as a control.

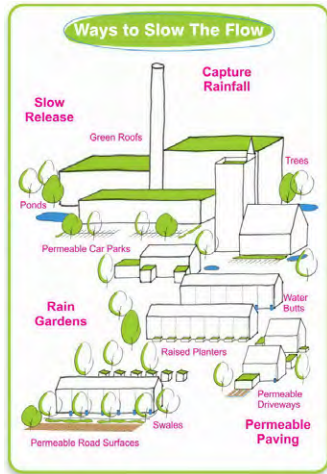
The work and our success so far demonstrates how a group of ordinary citizens can pool their skills to make a positive difference to their own communities. From hereon, we hope to go from strength to strength by enhancing the longevity of traditional engineering solutions currently in the planning stages, substantially reducing our flood risk and enhancing our resilience, thereby combating the increasing risks from climate change.

Stuart Bradshaw

STOP PRESS:- Slow The Flow Calderdale has been chosen as the Hebden Royd Mayor's Charity for 2018.



Slow the Flow Calderdale - SUDS



A second Slow the Flow Calderdale group project is Urban SuDS (Sustainable Drainage Systems). Last year, landscape architect Amanda McDermott created an information package detailing how local people could help to minimise flood risk in the valley – ‘You can Slow the Flow’.

The ‘You Can Slow The Flow’ project has been well received – it helped to earn Slow The Flow Calderdale the SWIG (Sustainable Water Industry Group) Award for best project in 2017, and the content is being used widely, including by Yorkshire Water and the Yorkshire Wildlife Trust in their new ‘Soak it Up!’ campaign www.yorkshirewater.com/soakitup engaging with schools to promote urban SuDS.

Through a new grant from Calderdale Council, we are now promoting the resource more widely locally, including collecting case study examples of urban SuDS interventions like rain gardens, green roofs, and swales. If you would like to be a case study please get in touch at secretary@slowtheflow.net.

The public case study at Hebden Bridge Town Hall is nearing completion, a joint project with **Calder Rivers Trust**. Following a useful prototype exercise, the final four rain garden planters (grant funded by the Postcode Local Trust) will be installed on Monday 11th June, with a public launch on Friday 29th. Rainwater from downpipes around the edge of the courtyard will be diverted into the raised planters, where the water will be slowed by being filtered through layers of biodiverse planting, soil and aggregate, before being released back into the drainage system. If you would like to volunteer on installation day, contact secretary@slowtheflow.net.

Small interventions can make a difference, but only if enough people get involved (e.g. recycling...) so please think about what you can do, and let us know when you’ve done it! See www.slowtheflow.net/you-can-slow-the-flow for inspiration.



The Midgleden Brook Project

The Midgleden Brook sub-catchment is part of the Walsden catchment - one of the four catchments within the Upper Calder Valley which showed the greatest promise for Natural Flood Management in a study carried out by the Environment Agency. So back in spring 2017, the SOURCE Partnership entered ‘The Midgleden Brook Project’ into a national competition run by DEFRA for community NFM initiatives.

In the summer we were delighted to hear that our submission had been successful, and we had been awarded a grant of £50,000. Much form filling ensued throughout the autumn, but the project is now well under way, with matchfunding from the Woodland Trust, SUMA Wholefoods, Todmorden Council and Calderdale MBC.

The project is very much a team effort with different SOURCE partners taking different roles. The tree and hedge-planting work falls to **Treesresponsibility** as well as the overall project management and slowing the flow interventions at Rock Nook and on the southern side of Gorpley Clough. **Slow the Flow Calderdale** will oversee monitoring. They will also design and install the woody debris leaky dams as well as a floodwater attenuation system on the northern valley side above Gorpley Clough. **The Upper Calderdale Wildlife Network** has conducted ecological surveys, and **Calder Rivers Trust** will shortly be carrying out river species monitoring. Fascines to control sedimentation in Gorpley Clough, and treat a small landslip on Midgleden Bank have been installed by **Sticks and Stones**.



The Map shows the different locations where interventions will be carried out (all within 2.5 kilometres of Clough Foot). It also shows the location of properties that may potentially benefit from our project, in terms of reduced downstream flood risk - 1012 homes and 190 businesses are in the flood zone within 10 kilometres of the proposed works.

We are not claiming that NFM is the only solution to preventing flooding to communities in the Upper Calder Valley. However it can be a useful tool in the flood prevention toolbox, complimenting the traditional flood defences which are being built downstream while at the same time contributing to habitat creation and improvement.

The Midgleden Brook Project (cont...)



The first “spend” of the grant was on over 900 metres of fencing on a piece of land we call the “Gorpley Spur” – it belongs to Yorkshire Water, but drains straight into Midgleden Brook, rather than into their reservoir. We are very grateful to our contractor, Jack Whitaker, for hurrying the job through so that the Treesponsibility tree-planting could begin, whilst being patient about being paid when the grant payment paperwork was taking longer than expected.

We are also extremely grateful to all the volunteers who cheerfully braved the very steep hillside with us in all weathers to plant 4963 trees over the season. We did some of the planting during our “weekends” (see overleaf), but we had good support from business teams as well – we had 9 groups from Northern Powergrid, 5 from Yorkshire Water, one from the Environment Agency, one from WSP and one from Thompson Reuters. A special mention too, to the Bahais who trudged up to the most inaccessible part of the site to help us finish off.

The tree-planting element of the Midgleden Brook project will continue in the autumn and next spring. We have a kilometre of hedge to plant in the area, and we are also hoping to continue with the (flatter and easier!) parts of the Gorpley Spur (subject to further permissions). We are hoping that even more businesses will want to get involved – it is a good team-building exercise with real benefits to the local community.

Treesponsibility is also planting leaky dams. In the past living willow revetments have mostly been used for bank stabilisation on watercourses, but our idea is to plant them across areas where there is significant surface water flow in storm events. Because the living leaky dams have roots, there will be no long-term maintenance problem. Slow the Flow Calderdale have installed cameras to monitor their effectiveness.

We initially planned in-stream interventions in Gorpley Clough, but this will not be possible because Yorkshire Water periodically discharges from the reservoir. So now we are focusing on flows entering the clough from the valley sides. The culvert pictured is a particular problem, with large flows in heavy rainfall causing erosion.

Tracing the path of the flow uphill, we found an area where the landscape appears to have been worked (possibly for flagstone) and the surface is incised with two parallel delphs, or cuttings. Water storage is possible in the delphs by the introduction of earth or rockfill dams. Each dam will be designed to allow water to fill the available volume behind and then drain out slowly.

Beech trees are a major cause of erosion in the clough, because they are large trees with shallow roots. Their canopy throws a lot of shade, so ground flora cannot establish. This means that there is a lot of bare ground which causes significant sedimentation into the watercourse, and there is also a landslip hazard. Some of the funding from DEFRA will be allocated to tree-work to remove trees like the one pictured. The timber will be used for leaky dams.



Gorpley Reservoir project, a White Rose Forest (WRF) collaboration with Yorkshire Water, heralds a new approach to land management in the South Pennines. Yorkshire Water offered this 160 hectare site as a demonstration “to achieve a landscape that can manage water for the benefit of society by contributing to sustainable flood management...and by mitigating the effects of climate change”.

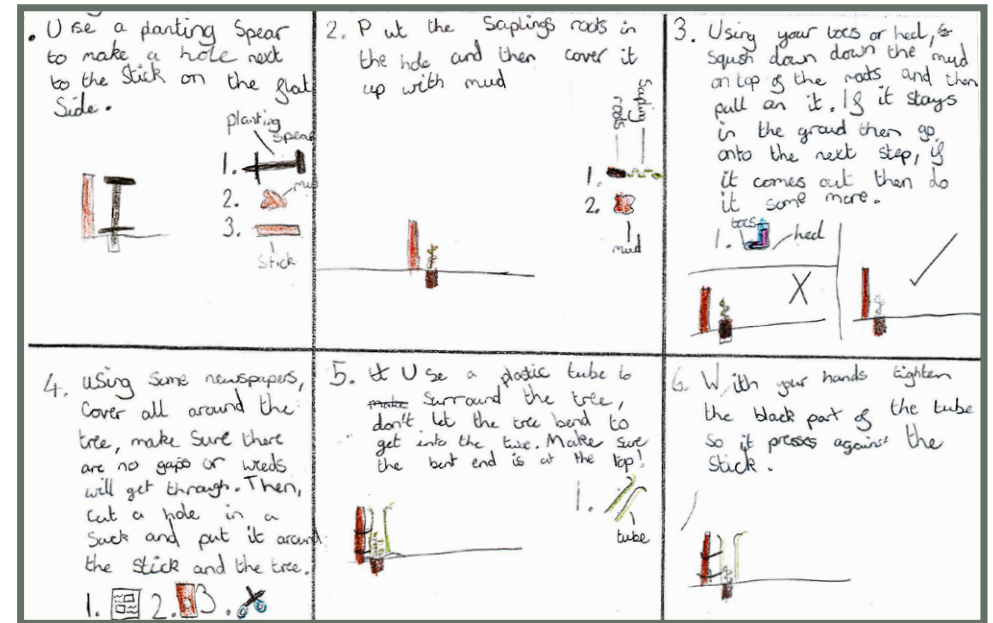
The joint venture fosters a multi partner / multi-disciplinary approach to project design and delivery, starting with Calderdale Council providing the planning and policy platform from which the project could develop in alignment with good practice. A number of partners with expertise and experience in upland land management, attended a two day design workshop that produced a scheme that planned 34 hectares of peat restoration, 13 hectares of heathland and 68 hectares of woodland creation carefully designed to redress the degraded soil, landscape and water needs of the site. The **Upper Calderdale Wildlife Network** and the RSPB provided invaluable species information that highlighted the need to retain and expand the bird foraging habitat around the reservoir.

270 stone, turf and living willow leaky dams will be installed to reduce water flow and a monitoring process designed by the iCASP project and Calderdale MBC, will measure the effectiveness of the interventions over time.

The Woodland Trust plan to hold the long term lease and oversee a project management group made up of the National Trust, Treeresponsibility, Yorkshire Water and Calderdale MBC.



Photo:- Remember the Future



Treesresponsibility is the Calderdale delivery partner for the WRF Trees for Learning programme, funded by DEFRA. In the past year, 15 schools have participated with over 550 children coming out to the countryside to plant trees. Each class also gets a visit so that the children can learn the multiple benefits of trees.

If your school would like to participate in the coming year, please contact treeresponsibility@yahoo.co.uk.

“

The children thoroughly enjoyed their Treeresponsibility experience and felt very proud of what they had achieved in one morning... 101 trees planted! The project has proven to be an excellent, engaging hook into further sustainability research and topic work. Thank you for the opportunity!

”



Treesponsibility - Background Work

Treesponsibility was established twenty years ago, but the work involves much more than just planting trees – there is a lot of background activity needed to keep the group in existence. In particular we need to ensure that there is a continuing flow of land to plant, and that we have the resources we need to do so. We also need to link up with enough people who want to come out planting.



Our sites are checked out by Charles Flynn of the **Upper Calderdale Wildlife Network**. He undertakes ecological surveys of areas which landowners have offered as potential tree-planting sites and his role is to ensure that the planting of trees will not cause the loss of valuable wildlife habitat. This can be because the land supports a range of plants, which in turn provide food for a variety of pollinating insects, the plants themselves are rare, or the land itself is important breeding or foraging habitat for birds of conservation concern. The presence of particular species of fungi can also mean that tree-planting is inappropriate.



One of the resources which is in particularly short supply is newspaper. Treesponsibility does not use chemicals as weed suppressants on our planting sites, instead opting to mulch with four newspapers per tree, covered with a light hessian square. In the coming year we are aiming to plant 30,000 trees, so we will need a lot of newspaper – the pile pictured opposite will hardly scratch the surface.

We are hoping that the local community will rally round to “Fill a Sack and Bring it Back”.



Treesponsibility generally hosts about 8 residential tree-planting weekends a year, and the planning for these has to happen months in advance. First we need to make contact with groups who want to come out, whether it is for a university reunion, significant birthdays or general group get-together. Next we need to book the hostels – we use scout huts in Hebden Hey and Blake Dean, and the Woodcraft Folk camping barn at Height Gate. Accommodation is basic, but people always have a very good time, and we make sure that our volunteers are well-fed with delicious vegan food. Contact us if you are interested in finding out more.



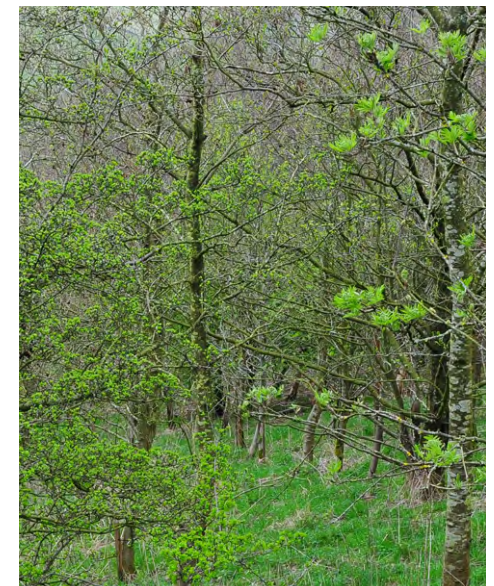
The tree-planting itself is not the end of the story. When we started out we were able to plant using rabbit spirals and canes, but there are an increasing number of deer in the valley, so we now need to use a tubex shelter on every tree. These need to be removed when the tree is established – a big job. Over the summer we will be arranging regular volunteer days – please get in touch if you would like to help.



Treesponsibility loves to plant hedges, but they do need maintenance, or they will grow “leggy,” with the stronger trees out-competing the weaker ones. Hedge-laying involves cutting back the trees, but leaving some stems partially attached, then weaving these “pleachers” between stakes hammered into the ground to make a strong living basket. For details of training courses contact keith@sticksandstones.work



As well as helping to mitigate the flood risk in the valley, the trees we plant can also be an economic resource. We have planted a lot of hazel coppice. Coppicing is a traditional method of woodland management which exploits the capacity of many species of trees to put out new shoots from their stump if cut down. Hazel poles make good stakes for hedge-laying and pegging fascines for erosion control.



Woodland, 18 years after planting. Job done!

Rapid Response Catchments Programme



Cragg Vale

Photo:-Stuart Bradshaw

The SOURCE partnership has been receiving funding through the Environment Agency's Rapid Response Catchments Programme for several years and the following four pages detail some of the work undertaken this year with recent photos of similar work completed as part of the programme in 2016/17.



One major site for this year was Cragg Vale Country Business Park. The 4,800 trees on the site were planted with Trees for Learning funding, with the Environment Agency paying for living willow revetments, and an attenuation pond to hold back 600m³ of stormwater run-off from an existing and a proposed parking area at the business park. The pond outlet was placed some 30cm above the base of the pond so that some water is retained when the storm has passed to enhance biodiversity and promote habitat creation.

Landowner Chris Bingham writes:- "The team from Treesresponsibility was amazing, supported by an army of school children and volunteers, and many thanks to Stuart Bradshaw from Slow the Flow Calderdale for design of the new attenuation pond. We need more longer-term projects like this along the tops of our valleys. We can't just expect work done around the valley bottoms will be enough to prevent the devastation of December 2015."

Chris Blagg is the landowner at Stonebooth Farm, where digger work was carried out last year. He writes:- "When we bought our 10 acre small holding in 2005 the old mill pond was half silted up and there was a heavy growth of bullrushes. More recently we had an invasion of Himalayan Balsam. We'd always planned to dredge the pond, but it was a major job and sank to the bottom of the list behind fencing, water supply and looking after stock. After the floods in 2015, I attended a flood prevention consultation and discussed the possibility of getting our pond dredged for stormwater attenuation with an engineer, Stuart Bradshaw, and Dongria from Treesresponsibility."



"Stuart drew up an engineering scheme and Dongria arranged funding from the EA. The first step was an ecological survey by the Upper Calderdale Wildlife Network. Then we had to work out where to put the extracted silt. Spreading it on adjacent fields was ruled out because of concerns about spreading balsam seeds, so we opted to dig a pit, use any native clay within to line the edges of the pond and then fill in with the silt and cover it with geotextile to prevent erosion and seed spread. Mitchell Excavations were contracted to carry out the digger operations, with oversight from Stuart. Treesresponsibility managed the budget and interim funding, as well as planting 1600 trees elsewhere on our land. They were highly professional throughout."

"The pond will hold back about 1500 m³ of water during downpours and has been put to the test several times including in the heavy rainfall in March this year."



Stonebooth

Photo:-Colin Varndell

Rapid Response Catchments Programme (Cont.)



As well as installing fascines at sites in the Midgelden Bank Project, **Sticks and Stones** has also been working in Colden Clough as part of the Rapid Response Catchments Programme. The area had previously been cleared of Himalayan Balsam with EA funding. Balsam suppresses any other kind of understorey vegetation, and dies back in winter leaving bare slopes, leading to erosion of the soil and siltation of Colden Water. With the balsam cleared, the next job was to encourage revegetation by native woodland plants by staking fascines made from coppiced hazel and birch along the contours to stabilize the soil. The picture shows about 160 fascines, some of which were made from material sourced from the valley. Evidence from all around Calderdale shows that, in almost all cases, treating eroded slopes this way halts erosion and speeds up the regeneration of damaged zones.



Do you own or know of any sites that could benefit from this kind of work? Rapid Response Catchment funding may be available for landowners who need small landslips to be stabilised with fascines.

Contact Keith Wilson,
keith@sticksandstones.work



The photograph above shows revegetation on a landslip at Meadow's Edge which was treated in 2016. Landowner Lea Stock writes:- "During the Boxing Day 2015 floods there was a landslip on the hillside behind my house and about 15 full grown beech trees slid upright towards my house landing just a few yards behind it. In the aftermath I had help from many people and was really fortunate that Treesponsibility were able to make a project of stabilising the remaining hillside. Keith Wilson of Sticks and Stones and lots of wonderful volunteers endured thick steep mud over many days to terrace the hillside with logs cut on site and brushwood fascines brought from woodland management elsewhere in Calderdale. Deep-rooted trees (oak and alder) were planted to help stabilise the slope."

"The trees have grown well since then. The fascines have definitely helped stop erosion when we have had heavy rain and flash flooding. Foxgloves and broom have flowered. A larch tree with attached owl nest-box, originally in deep beechwood shade, now stands alone on the hillside. This spring a pair of kestrels have nested there and we are hoping they'll raise a brood."



River Clean-ups

A partnership between **Calder Future** and **Calder Valley Clean-up** (set up by Trevor Bannister) has been funded by the EA to work with local people, businesses and youth groups to clear debris from the river channel and to cut back overhanging vegetation - interest locally in the importance of doing this has really taken off since the Boxing Day flood of 2015. Trevor himself has become quite high profile as he was awarded the freedom of Calderdale back in April for his efforts. Doing this clearance work on the river avoids the build-up of materials in the river corridor which might exacerbate flooding.

We have also been active in controlling the invasive Himalayan balsam in the river corridor - as this is an annual plant which suppresses our native species, and which dies back in the winter leaving no root system to hold the banking and sandy shoals together, its presence leads to a problem with erosion and the dissipation of silt through the river channel. We will continue to remove debris and invasive species during the 2018 summer season.



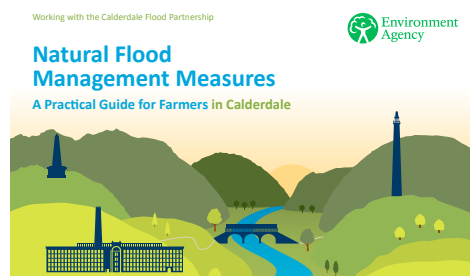
'Eastwood residents easily filled a skip with debris taken from the River Calder on their river day in June 2017'

Moors for the Future

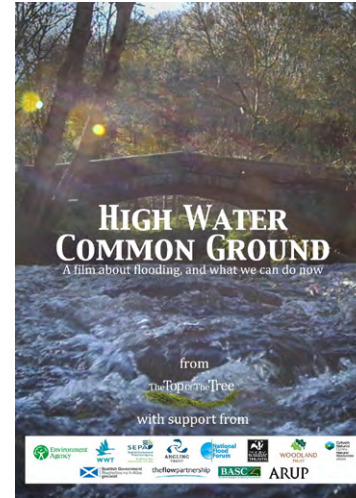
With its 'bog wobble' floor, on-board games and audio-visual experience of moorland life through the seasons, MFF's new Bogtastic Van is well worth a visit. You can find out more at www.moorsforthefuture.org.uk/bogtastic-events or if you'd like to book the van to attend your event, please email charlotte.kenyon@peakdistrict.gov.uk



Visit www.eyeoncalderdale.com/Media/DefaultNFM/calderdale_nfm_guide.pdf for an informative practical guide on NFM techniques. It was originally created by the Yorkshire Dales National Park Authority and their partners. The EA commissioned MFF to adapt it for farmers in Calderdale.



High Water Common Ground



Like so many people around the UK, I have never been flooded. I used to, naively, think that a flood might be quite an exciting event, but the Boxing Day floods of 2015 changed my perspective on that profoundly, as my partner Beth was spending Christmas at her family home in Hebden Bridge.

As that flood hit I learned how devastating floods can be. But on that day, and in the months that followed, I also witnessed a phenomenal outpouring of community spirit.

Then I learned about the great work of Treesponsibility, who introduced me to 'Natural Flood Risk Management' – the idea that we can work with natural processes to strengthen the environment's, and our own, flood resilience.

High Water Common Ground emerged as a documentary about communities investigating NFM all over the country, and as a toolkit for communities looking to do similar things.



I produced the film in collaboration with a number of major organisations – all recognised stakeholders in flooding and the environment. They funded the production whilst allowing me to retain independent editorial rights, and respected my absolute refusal to allow anyone with a badge on-screen – HWCG is a film about 'ordinary' people, not a communication from distant authorities.

Currently HWCG is available only for organised screenings (though anyone can organise a screening by contacting myself or any of the collaborators), and will be publicly available later this year. In the meantime, please visit www.highwaterfilm.co.uk to learn more about this project, for screening information, and for a library of short films about NFM.

Andy Clark, Producer HWCG



NFM grant scheme launched in Calderdale

Calderdale farmers and landowners now have an opportunity to help deliver natural flood management (NFM) and contribute to flood mitigation and alleviation. NFM techniques can contribute to holding more water in the land, temporarily storing more water and slowing the flow of water across the land.

As part of the Calderdale flood action plan being currently delivered, Calderdale partners have been working on a new grant scheme to help deliver NFM measures. Initially £200,000 is being released by the Environment Agency and CMBC to support delivery of NFM interventions.

The scheme was launched on Wednesday 9th May and initial applications need to be with Calderdale Council by June 20th. Grants will pay for the cost of the measures installed and cover some of the future maintenance costs. Applicants may do the work themselves or they may employ contractors.

The application form and supporting information detail the type of measures which will be funded, as well as wider guidance on techniques.

They are available at:-
www.eyeoncalderdale.com/nfm-grant-scheme



“Thanks to ambitious partnership working, Calderdale is quickly becoming one of the leading areas for natural flood management in the UK. We are all looking forward to another busy year ahead.”

Zora van Leeuwen Natural Flood
Management Officer for Calderdale MBC

enquiries:-
NFM@calderdale.gov.uk