

28<sup>th</sup> Oct 2016 FINAL



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Dear Sheffield City Council

Thank you for consulting us on the Flood Prevention proposals for the Upper Don, Sheaf and Porter Valleys. We totally understand the need for increased flood protection measures in Sheffield and applaud the Council for securing substantial funding from the central Government and the Environment Agency to address the risks.

**Q1. Do we agree with the objectives of the Sheffield Flood Protection Programme?**

- *Protect our communities* – yes, we do understand this is the priority for the programme and agree it is the primary objective – flooding can be totally devastating to communities, individuals and businesses and although we have substantial comments to make on the proposals we are not suggesting that nothing should be done.
- *Grow our Economy* – this is not a general principle that we would object to, but the consultation is lacking in detail. All the information we can find in the consultation says:
  - o *enabling development of 46 hectares of land* – but it does not say where or for what purpose so it is difficult for us to comment at this stage
  - o *Potential for 15,000 new jobs* – again no detail about this so we cannot comment at the moment
  - o *27,000 new homes* – again it does not say where so we cannot comment at this stage
  - o *£150million annual economic growth into Sheffield* – again no detail about how this figure has been derived so we cannot comment at this stage. Have the economic and other benefits (ecosystem service etc) of natural flood management upstream been assessed at all? It must not be assumed that 'hard' defences are the only measures that can bring economic benefits.
- *Transform our waterways* – again the consultation is lacking in detail so in theory we agree with this objective but we would like more information
  - o *Reliable river maintenance* – this sounds like a good idea so agree
  - o *New recreation opportunities* – this could be a good idea but it depends where and what?
  - o *Hydro-electric power generation* – likewise this may be good assuming no negative impact on fish passage but we would need to know more details
  - o *Sustainable transport routes* – there is no information about this in the consultation or how it links with the flood defence proposals, but again it sounds positive?
  - o *Regeneration of 30 hectares of riverside for people and wildlife* – this could be good but without any information on where and what we cannot comment – we would welcome the opportunity to be involved in this objective. We have recent relevant experience of delivering riparian improvements in Sheffield and Rotherham. These include Centenary Riverside (see later), created as part of the Rotherham Flood Defence Scheme, wetland habitat creation at Kilnhurst Ings and river restoration at Catcliffe (which included ensuring habitat improvement did not result in increased flood risk for properties in this sensitive area). We would be happy to share more information about these schemes.
  - o *Improved health and wellbeing* – again, we are supportive of this as an objective but are not sure how health and wellbeing would be improved

through these proposed measure? Again, we would welcome the opportunity to be involved in relevant discussions.



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**Q2. Which aspects of Sheffield's rivers do you value most? Please tick all that apply, or add your own thoughts about the value of the rivers to your community and the city**

- As a Wildlife Trust the aspect we value the most is 'supporting a wide variety of plants and wildlife' but our work also includes engaging people in enjoying the natural environment and improving the quality of the environment. We know that the rivers are the natural backbones of Sheffield and provide the ecological corridors through the city. Our mapping shows the highest levels of ecological connectivity along the corridors and it is essential to maintain and enhance this. The rivers also provide a sense of place to the people of Sheffield and enhance their quality of life. As the water quality of the Don and its tributaries has increased over the last few decades, wildlife has returned to the city and the rivers provide some of the wildlife oasis's in the urban environment. There is always more to do to enhance the rivers for wildlife and we hope that this consultation will offer the opportunity to do this.

**Q5. Options for reducing flood risk from the Sheaf and the Don overall do you agree with the range of options that is being considered?**

We are pleased that a range of options are being considered. However, the options have been arranged into four themes but the consultation only covers themes 2. and 3. (although Q11 and Q13 do briefly mention themes 1 and 4 so it is rather confusing). We are disappointed that the consultation does not provide more information about theme 1 and I will pick this up in Q11. I pick up the fourth theme in Q13.

We disagree with the way you have used the term 'Slowing the flow' – to categorise the options. You have used this to cover: 1a. Rural land management; 1b. Managing existing reservoirs; 1c. Creating new storage areas; and 1d. Urban water management. However in other projects it is just used for the 1a. Rural/natural land management approached (e.g. see [Slowing the Flow at Pickering](#) referred to in Q11). Although you could say that the use of SUDS in 1d could be classified as slowing the flow, we would argue that 1b and 1c are actually 'Containing the flow' options.

1b. Managing existing reservoirs does sound like an option worth exploring with Yorkshire Water who are the third partner in the Sheffield Flood Risk Management Partnership (with SCC and the EA). We appreciate that reservoirs are primarily managed for drinking water and that this will remain the main priority, but could 'compensation reservoirs' provide large areas of storage in times of potential floods? There is no further information in this consultation about this option and no question about it. What difference would this make to the amount of water that may have to be contained further downstream? The [Sheffield-Flood-Risk-Management-Strategy](#) (2013) says "a component of the SFRMS will be to investigate the effect that upstream reservoir operation and flow management may have in reducing flood risk in the Don Valley" and "the Upper Don Reservoir Storage Study schedules for completion in 2013 that is assessing the potential for upstream management of flows." Has this investigation of the 23 reservoirs upstream of the city been undertaken and the results been taken into account as part of these studies?

1d. Urban Water management – SUDS schemes, green roofs, rain gardens, green infrastructure in the city centre and using permeable materials will all contribute to reducing runoff and flooding. Again there is no more information in this consultation about these options and what a difference they could make and no question about them. There

are champions of SUDS schemes within SCC and this should be explored to a greater extent (see our suggestion in Q12). The Green Roof Centre in Sheffield should be supported through funding and strengthening planning policies to increase the number of green roofs on new developments (e.g. why has the new IKEA not got a green roof?). It is estimated that surface water flooding contributed 5% of the flooding in 2007.



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There is a 'Sheffield Surface Water Management Plan' (not sure if this is publically available but it is referenced in the Sheffield Flood Risk Management Strategy. There has clearly been much work going into this area since 2007, which is positive - how will putting these measures in place contribute to the risk of future flooding?

2a. Removing pinch points - De-culverting, modifying bridges and weirs and re-landscaping are all mentioned. Three places are mentioned in the text (no questions about these?) – Sheaf debris improvements, Lower Porter river improvements and modifying the weir at Oughtibridge. These are all certainly worth exploring further and may well have been by the Surface Water Management Plan. It would also tie in with the ambitions of the 'Sheffield Waterways Strategy: City of Rivers'. A recent example at Matilda St has provided flood storage, green infrastructure and increased economic value of the land. Has there been an exercise to see if more like this could be created? We would also like to make the point that otters, white-clawed crayfish and bats use the River Don and its tributaries and so all work of this kind should consider the impact on these protected species.

**Q6.** *Our current work is showing that due to the nature of the Upper Don and Sheaf Catchments, the most appropriate options are focused on the balance between flood storage areas and flood defences. Do you agree in principle that we should try and find spaces to temporarily store flood water in areas of existing flood plains along the rivers, in order to reduce flood risk and potentially minimise the impact of flood defences downstream within the city? Please write any additional suggestions.*

Agree (but)

*Comments:* we agree that some flood storage areas are probably necessary but we do not necessarily agree with the current approach which seems to be favoured. The emphasis seems to be on building a small number of large engineering solutions – embankments, supported by a small number of 'basin-style' flood storage areas on existing green spaces. This is a very heavy-engineering approach and for the locations suggested, would have a very large impact (see Q7 and 8). It is also very unclear to the people reading the information how many of these options per river may be needed? An engineering consultant may suggest one large engineering solution per valley. We think that a slightly different approach is needed and that a larger number of smaller interventions (natural where possible) would be a more favourable approach for the environment and more acceptable to local people. Sheffield City Council should take this opportunity to think wider than a small number of engineering solutions and make sure the opportunity links in with its other ambitions across the Council and partnership projects – e.g. Sheffield Waterways Strategy Group work, the new Trees and Woodlands Strategy, The Green and Open Spaces Strategy, Landscape Partnership, rural land ownership, the Sheffield Climate Change Adaptation Strategy, SUDS, the Sheffield Plan, climate change and ecosystem services. The response to this consultation has shown the level of interest and knowledge of the river and its tributaries from many groups and individuals. This collective knowledge should be harnessed to come up with a range of innovative solutions – in line with the Pitt Review - rather than just thinking about hard engineering solutions.

We would also like to say that it is not clear enough how often flooding may occur and such hard engineering solutions may be used? For example, if an embankment is built for maximum capacity for a 1 in 200 year flood (factoring in climate change), would it be used to a lesser extent far more often for a 1 in 10, 1 in 50, 1 in 10 year flood? i.e. how often it is predicted that they would be used at all? Maybe this is too difficult to predict?

We would also like to highlight again, the importance of protecting otters, white-clawed crayfish, bats and other wildlife with these proposals. For example, any new across rivers should be passable for otters and fish.

### **Q7 Your view on potential flood storage options**

You say here 'please note that as described in our additional information part of the programme includes looking at reservoir and upland management' but it is very unclear whether putting these options into place would reduce the need for large flood storage areas and by how much? We do appreciate that the options are coming out of flood modelling exercises and that this will never be an exact science but for the reader of the consultation is difficult to understand how one option may affect another. There is also no information about potential future ownership or maintenance of the sites under consideration.

*Do you agree that the following flood storage options should be considered for further investigation in the Sheaf Catchment?*

Porter Brook:

*Mayfield Storage Area - disagree*

*Whiteley Woods Flood Storage Area – strongly disagree*

*Endcliffe Park Flood Storage Area - agree*

Sheaf:

*Totley Brook Flood Storage Area – strongly disagree*

*Abbey Brook Flood Storage Area – neither agree nor disagree*

*Millhouses Park Flood Storage Area - agree*

*Comments:*

In general, we have looked at all the proposals from the point of view of wildlife, environmental and social impact and loss. We have taken the stance of strongly disagreeing/disagreeing (strongly disagreeing for Ancient Woodland sites and disagreeing for Local Wildlife Sites) where we think that the impact would be the greatest and most permanent on wildlife, access and visual impact on the character of an area. We have agreed that the recreational sites should be *further explored* (as the question asks) as it is our opinion that 'bunds' and occasional (?) flooding would result in less of an environmental impact and more temporary loss than the construction of large permanent embankments in the more natural sites. However, that is not to say there are still many questions to answer before we would actually support building any of the proposals. We have also suggested alternatives.

Porter Brook:

The detailed flood risk mapping does not extend to the areas of Mayfield and Whiteley Wood so we are a bit unclear what this means? There is also no information provided on the size and scale of the proposed embankments or what they may look like? This is very

important for people to really understand what is being proposed so they can come to an informed view. How high would they be? Would they be concrete? And/or short mown grassland? These views also apply to the Upper Don and its tributaries.



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Mayfield – We disagree because we think that the proposals are disproportionate for this Local Wildlife Site and it would have a large negative impact on the character of this well-used popular area. We refer to you to the Friends of Porter Valley who have intimate knowledge of the valley. I know for example that the potential of using a de-silted Forge Dam and four other dams along the valley for flood storage is being explored as a partial solution. These water bodies need to be de-silted anyway – why not de-silt them and stabilise the dams as part of the flood defences (they could be emptied of water prior to a flood event).

Whiteley Woods – this suggestion is to build a very large embankment across the Porter Valley by the wire mill pond. We strongly disagree with this option because of the negative impact the embankment would have on the ancient woodland and local wildlife site. The text says “we would minimise impacts on Ancient Woodland habitats and trees” (etc) but it is clear that such a large engineering structure would have a significant impact on the woodland in terms of loss of ancient woodland habitat in the footprint of such an embankment, impacts from construction, changes in the character of the woodland and impacts on access and enjoyment of the woodland. The Wire Mill pond is an established bat foraging area and there could be substantial negative impacts on the biodiversity of this area. There may be negative knock-on effects on the Forge Dam café and community area which would be nearby. Again the Friends of Porter Valley would be able to provide additional information.

Endcliffe Park – we appreciate that some people are concerned about the possible impacts of turning an area of the park into a flood storage area. However, the grass ‘bowl’ area which is being suggested for a future flood storage area currently suffers from waterlogging and the grassland itself is of little biodiversity value. The wider park does have good biodiversity value and this should be protected and enhanced. We are concerned to hear from a third party that the trees lining the driveway down the side of the park could be removed as part of the proposals – all efforts should be made to avoid this. If done in the right way – as suggested by the helpful illustration (but detailed design would need to be carried out with park users to ensure the aesthetic design and continued functionality of the park was acceptable)– it could potentially improve drainage (except during times of flood!). However, there are still questions to be answered. How high would the grass terracing be? What impact would this have on the café, seating, children’s entertainment and parkour in this well-used park? Would easy access be maintained for wheelchairs and pushchairs? Could there also be the opportunity to enhance the edges of the site for biodiversity? How often would the park be expected to flood? How quickly would it be cleared up again afterwards? Also how would the water get from the Porter Brook into the basin? This is very unclear. Who would be responsible for maintenance? We understand that there has been no notice of the consultation in the park for park users and that a proper consultation of park users and small business-owners in the park is currently lacking. Friends of Porter Valley also raise questions about this proposal. We have also been alerted to the presence of underground water storage tanks at Endcliffe and Millhouses (70m x 30m x 7m tall) parks that were built in 2005. It is our understanding that these take sewerage water in times of flood to prevent sewerage water from entering the rivers. It would be interesting to know the relationship between the tanks and the current proposals.

<http://i2.photobucket.com/albums/y28/cgkshreff/Sheffield%20Forum/MillhousesTank.jpg>



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Other suggestions: We appreciate that some action will want to be taken in the Porter Valley. It is unclear whether upstream measures, downstream food walls and Endcliffe Park flood storage areas alone would be sufficient?

Has the valley been fully explored for other potential 'alongside river' storage areas? Is there any scope for more areas like the proposed 'basin' at Endcliffe Park? Is there any scope for a floodable nature reserve such as [Centenary Riverside](#)? (see later). We appreciate that there will be limitations because it is a valley but would like to be reassured that all other options have been explored.

Have options been explored that tie in with de-culverting work? For example – could there be a tank built under the Waitrose car park? The Friends of Porter valley make a number of other suggestions that should all be explored.

Sheaf:

Totley Brook – we are a bit confused about this suggestion. The consultation maps show that the detailed flood risk mapping does not extend to this area so we would like to know what this means? We do not agree with the suggestion of a large embankment here because we agree with the Friends of Gillfield Wood that it would be out of proportion. The suggestion (information provided at a consultation event) is that the embankment would be 12m tall, 8m deep and 300m wide. This seems very large for potentially holding water back from a relatively small tributary. It does not even potentially hold water back from flash floods coming down the streams from the Derbyshire side into Totley Brook. More water comes down from Oldhay Brook (into the Sheaf) and there are no measures suggested there? There is low lying land in this area which could be explored. However, the main reason we strongly disagree with this suggested option because of the impact it would have on Gillfield Wood - an ancient woodland and designated Local Wildlife Site (see map). The greatest impact would be from the embankment and its construction. The site – especially the area where the embankment is suggested – is very well used by local people and there would be a negative impact on public access and recreation. Construction access would be difficult here so there would likely be a high level of impact on the ancient woodland from construction traffic through the woodland. An alternative suggestion is to create something smaller nearer the Baslow Rd end of Totley Brook – this would avoid the impacts on the ancient woodland and recreational areas and would have easier access for construction.

Abbey Brook – We are less concerned about the impacts of this proposal as the habitat to be affected would be a golf course. It is not possible to tell from the information provided how big the embankment would be, what the visual impact would be, or what the impacts may be on the ecology and recreation of the area, so at this point in time we cannot make any further comments.

Millhouses Park – as with Endcliffe Park, we appreciate that some people may be concerned about these proposals, but again from the helpful illustrations, we cannot see any negative impact on the park except during times of flood. As the park is liable to flooding anyway – it would be better to manage this process. Again, we would like to know the relationship between the current proposals and the underground sewerage water storage tanks. But we would like to caveat that it is unclear how often the park may flood and how quickly it may be cleared up and that the Friends of Millhouses Park will have greater knowledge of the park and what the potential impacts may be. We hope that the



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Friends of Group and park users are fully consulted and that access, recreation, clear up, aesthetics and biodiversity issues are all addressed. Could the lake by Abbeydale Industrial Hamlet potentially be drained prior to a flood to offer extra capacity?

Other suggestions for the Sheaf: Again, have all the options for the Sheaf been explored that would avoid the need for large engineered embankments? Have the following options been explored?

We are not sure if this derelict-looking works still occupies this space next to the Abbeydale Rd car park, or whether new development occupies the land?

<https://www.google.co.uk/maps/@53.3489798,-1.4896131,156m/data=!3m1!1e3>

But if there is no new development, could an off-line natural storage area be created here on the Sheaf?

Broadfield Rd Park – could this be used in a similar to Millhouses and Endcliffe Park?

What about temporarily flooding the Tesco carpark on Abbeydale Rd and car parks around the Broadfield business park if needed? Or building underground storage areas under the car parks which would pose less of a risk to the businesses (although flooding a car park would have less impact than flooding business and houses).

Could this car park between London Rd and Saxon also be flooded at times of need? (or again a tank built?)

<https://www.google.co.uk/maps/@53.3614997,-1.4735248,164m/data=!3m1!1e3>

or this one?

<https://www.google.co.uk/maps/@53.3636439,-1.4695857,163m/data=!3m1!1e3>

Pinch points – is the river culverted here at Keyline? Need it be?

<https://www.google.co.uk/maps/@53.3663678,-1.4667023,165m/data=!3m1!1e3>

What about flood storage here? Between Priestly street and the Sheaf? (behind Evans cycles)

<https://www.google.co.uk/maps/@53.3702714,-1.4652462,167m/data=!3m1!1e3>

Also see Q12

**Q8 Do you agree that the following flood storage options should be considered for further investigation in the Upper Don Catchment?**

*Wharnccliffe Side Flood Storage Area – agree*

*Oughtibridge Sports Ground Flood Storage Area - agree*

*Coronation Park Flood Storage Area - agree*

*Beeley Wood Flood Storage Area – disagree*

*Loxley Flood Storage Area - disagree*

*Rivelin Flood Storage Areas - disagree*

Comments:

Wharnccliffe Side Flood Storage Areas – If this could be done without having a negative impact on Wharnccliffe side, then these are definitely worth exploring. We do not know who the land owner is, but with their support, the upstream site could potentially be worth investigating to see if it would be a suitable place for a new flood storage nature

reserve/urban nature park along the lines of [Centenary Riverside](#). Centenary Riverside is an award-winning 4.5 hectare wetland reserve nestled alongside the River Don. It forms part of Rotherham's Flood Alleviation scheme which holds back potential flood water and protects industrial and residential areas nearby. It is managed on a long-term lease by Sheffield and Rotherham Wildlife Trust and is now a haven for wildlife and people. We should collectively be seeking more win-win solutions such as this.



Oughtibridge Sports Ground and Coronation Park Flood Storage Areas – the sports pitch and park are well worth exploring as options, but detailed consultation would need to be carried out with the park users as no detail or illustration is provided here as it has been for Millhouses and Endcliffe Parks, so it is unclear at this stage whether it would be suitable. Bradfield Parish Council and Friends of Coronation Park have more knowledge of the area so their views need to be given proper consideration. They raise several points – including the fact that the proposed embankment appears to extremely large in relation to the risk posed and there is a real concern about the number and type of trees that may be removed as part of the scheme. As with the proposals at Endcliffe and Millhouses parks, detailed consultations would need to be carried out with the park users - including maintaining or enhancing access, recreational value, biodiversity and aesthetic feel.

Beeley Wood Flood Storage Area – we strongly disagree with this option because of the potential negative impact of a large embankment on the ancient woodland (as per our comments on Q7). Beeley wood is owned by multiple land owners – have they all been consulted? The response of the Woodland Trust should also be taken into account when considering ancient woodlands, including the reference to their 'Woodland and Flood Risk' position statement.

Loxley Flood Storage Area – the detailed flood risk mapping does not extend to the areas of Loxley and Rivelin valleys but we are not very clear what this means? Construction of large embankments (up to 14m we were told at the consultation) would have a very significant negative effect on these special valleys. How often is it predicted that such embankments would be needed? How many embankments would be needed? The Loxley valley is a Local Wildlife Site and the Wisewood option (2) would affect ancient woodland. Have all other options for this valley been fully explored, including upstream and nearer the built up areas? The Loxley Valley Protection Society have very good local knowledge of the valley and suggest that exploring options around the Hepworth site would be well worth looking into – especially as this is an area that floods anyway. Creating a storage area alongside the river here in a previously developed area would be preferable to building large engineered embankments across the valley. Have all options been explored of using the exiting water bodies along the valleys? It should be noted that if dredging is to be explored it should only be done if it would have a minimal adverse impact on wildlife and the wider environment. Please also see our comments below about the Loxley and Rivelin Valleys.

Rivelin Flood Storage Areas –as with Loxley – these proposals appear to be far too large in scale for such a sensitive valley which is designated as a Local Wildlife Site. It has been very unclear how large the embankments may be, although we have heard they may be 11-12m high. Impacts of such constructions in the valleys could have a significant impact on the wildlife and this needs to be properly assessed. Such hard engineering solutions are not appropriate in these valleys for many reasons – impacts on wildlife, access, historical interest, geology, aesthetics and the 'feel' of the valleys – this sense of place is something that may be hard to put into words, but that visitors to the valleys value very highly. Walking through the valley is a popular pastime for many people and it is unclear





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what such an embankment would mean for people's enjoyment of the valley. We also understand the frustration of allotment holders in the valley.

How often is it predicted that such embankments would be needed? How many embankments would be needed? Have all other options for this valley been fully explored, including upstream and nearer the built up areas? Have the Natural Flood Management options been modelled upstream? What about 'alongside river' solutions (given the limitations of the valley)?

We have spoken with one landowner who would be directly affected by the Windle (Wolf) Wheel proposals. They manage their land in an environmentally and wildlife-friendly way – including leaving one area entirely for nature – and now have a wildlife-rich piece of land. They are rightly concerned about the potential impact of the proposals on their land including direct loss of this land, construction impacts and the impact of potential fencing and we agree this proposal is of great concern. The Sheffield Area Geology Trust raise concerns about potential impact in the Rivelin Valley and in particular the proposals at this site.

The Rivelin Valley Conservation Group are hugely knowledgeable about the valley and have written a very detailed response full of pertinent points and alternative suggestions. We support exploring these suggestions as possible options and as favourable alternatives to building large new engineered embankments.

We question the whole approach of building large embankments in these sensitive valleys. One suggestion for steep-sided valleys is potential use of large woody material to form 'leaky dams' which would significantly slow the water flow. These would need to be considered with the Environment Agency and experts (such as the Wild Trout Trust and Don Catchment Rivers Trust) – to ensure flood risk was not inadvertently increased and that any interventions did not have a negative impact on fish.

*(May add more suggestions after looking at Google maps but limited in the valleys.)*

#### **Q9 and 10 on walls**

We not have any specific response on the walls at this point in time, except to make the point that any new or extended walls should include an assessment of impact on the ecology and efforts should be made to enhance the riparian habitat for wildlife.

**Q11. Your views on rural land management.** *We will use land-management techniques such as soil aeration, bunds, leaky dams, woodland creation and river restoration to absorb water and slow the flow. We would like your views on these options.*

*Planting trees in upland areas* - strongly agree

*Restoring peatland* – strongly agree

*Working with farmers and communities to pilot land management techniques* – strongly agree

*Comments:*

**Theme 1. Keeping flood water out of the city by using reservoirs, planting trees and managing upland areas differently (these are areas on the highland outside the city)**



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This is mentioned briefly on the maps and introduction and summarised on one page but we would like to know more information. It says that 760 sites have been identified for potential floodplain and storage features in the Upper Don and 230 in the Sheaf catchment. Where are these? What impact could they have? How much funding would these take? Although we appreciate that upland management will not be the entire solution to prevent floods in Sheffield, it needs to be given serious consideration as part of the solution. There are many benefits of working upstream: working with natural processes; reducing run-off of soil and pollutants into watercourses; improving quality of habitats (and in turn species and ecosystem services); and engaging land-owners in the process. This approach would involve a larger number of smaller natural interventions – a move away from large engineering solutions which are often less acceptable to the public.

We appreciate that such an approach would involve working with a number of land-owners, but this may not be as difficult as first perceived. For example at [The Sheffield Moors Partnership](#) is a partnership of public sector and charitable ownership who between them own and manage 56km<sup>2</sup> of upland from Redmires Reservoir/Wyoming Brook in the North to the Eastern Moors Estate south of the Sheaf, covering a significant area upland of the consultation. It would be straightforward to engage with this partnership for discussions. For example, it is worth investigating upstream catchment management upstream of the Limb Valley – which swells during times of high water.

Further north – around the Upper Don – again, although some of the land is in private land ownership – large areas are owned by SCC and Yorkshire Water. This area is included in a ‘Landscape Partnership’ bid to the Heritage Lottery Fund. The project is being led by Sheffield and Rotherham Wildlife Trust, but SCC, Yorkshire Water, Bradfield Parish Council, PDNPA, Natural England, the Environment Agency and a private land owner representative are key partners – again, an easy partnership to engage with. In fact, the bid includes a theme of ‘Working with Water’ - offering opportunities for joined-up working.

We would like the Council and its partners to provide more information about the research they have undertaken into upstream options and how much of a difference these could possibly make. The Trust would be very willing to engage in any further exploration of these opportunities and is a partner in both the partnerships mentioned. It is very unclear how much funding (from the £83M) could potentially be put towards this theme? The Trust attended a workshop organised by the Don Network on the subject which was helpful, but there are still unanswered questions about funding eligibility and further exploration of options, which at this stage we understand have just come from a modelling exercise. It is not clear whether the modelling included all potential upstream interventions either.

There are a number of high profile partnerships already championing this approach, including our neighbours [Moors for the Future](#) and the successful [Slowing the Flow at Pickering](#). Good practice can be taken from these partnerships – including looking moorland restoration (also contributing to the Sheffield Climate change adaptation strategy) and working with natural processes for example strategic tree-planting and the creation of a number of small leaky dams upstream help to slow and retain the flow. Both projects are very willing to share what they have learnt. The more upstream natural flood management that can be put in place, the less is the need for large downstream hard defences.

**Q12 Your views on flood corridors.** *To manage flood water during extreme weather we can use corridors to safely move water between points on a river in a controlled way. Do you agree that the following flood corridors should be considered for further investigation?*



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*Penistone Rd* – agree - if using the road temporarily reduces the risk to businesses on that corridor flooding then this makes sense

*Little London Rd* – agree – as above. It is also worth noting that this section of the Sheaf could be better maintained. There is a lot of rubbish (3 shopping trolleys in a 20m stretch near the Climbing Works at the moment) and a lot of Japanese Knotweed. Better riparian habitat management could help this area.

We have just completed surveying the Don and its main tributaries for invasive plant species and these maps can now be used for targeting control of these species.

#### *Comments*

We wondered if there was/could be a similar scheme in place at Broadfield Rd? Could there also be an opportunity to build a fairly large underground SUDS scheme (stormwater soakaway storage – perhaps with a link back to the river) on the land that has been cleared on the corner of Broadfield Rd and London Rd? We presume the land has been cleared for development, but development could still be allowed on top of the SUDS? This area is very prone to flooding so even reasonably small measures like this could help. Another alternative for this site is to turn it into an offline natural flood storage area (basin)– this would have the benefit of providing a natural greenspace/green infrastructure for the community in an otherwise built up area. There may be other potential sites along the course of the sheaf and Don where small green spaces (like at Matilda St) could be created as well as using existing green spaces (see Q7)

**Q13 *Your views on improving resilience.*** *We want to do our best to ensure that people, businesses, organisations and property are as prepared for and resilient to flooding as possible and that action is taken beforehand so that life can get back to normal as quickly as possible after a flood. Do you agree that the following resilience options should be considered for further investigation?*

*Better emergency planning* – strongly agree

*Householder resilience advice* – strongly agree

*Establish a network of flood action groups* – agree

*Establish a network of support groups* –agree

*Improved flood warning systems* – strongly agree

We have made our comments based on the little information provided. There is little detail about what these measures may entail, how much they may cost and whether they would have any impact on the defences required. But they all seem sensible things to do.

In the resilience option is 3a. *'River Stewardship: Taking care of the river'* – this is also something strongly agree with (and not sure why it is not covered by Q13?). The River Stewardship Company have an excellent reputation for this type of work.

Also in the resilience option is *'3b. Planning policy and Development Control'* – *use of planning policies to ensure future developments will not worsen flood risk, and promoting opportunities to improve the rivers in partnership with developers.* This is another option that is not covered by Q13, but that we strongly agree with. With the Sheffield Plan still in the development stage this is the perfect time to strengthen such policies. There have been examples in recent years where building has been permitted on the flood plan e.g. at Deepcar, and SCC should consider whether policies and development management need to be strengthened around this.