



## FLOOD RISK MANAGEMENT

### KELDHOLME, KIRKBYMOORSIDE & KIRBY MILLS

The Town Council has been proactive in trying to address concerns by local residents regarding flood risk and is responsible for engaging the Environment Agency, North Yorkshire Council (Lead Local Flood Authority), Ryedale District Council (prior to devolution in 2023), Yorkshire Water and local land owners with the potential to participate in an Natural Flood Management scheme to address the issue of flooding in Keldholme, Kirby Mills and the wider catchment.

In 2020 the Town Council commissioned JBA Consulting Ltd to undertake a [Natural Flood Management report](#) for the entire Kirkbymoorside catchment.

This report, together with the findings detailed in the [Flood Risk Mapping report](#) commissioned by the Environment Agency in 2002 was submitted to all associated agencies.

Subsequently the Environment Agency has embarked on a Natural Flood Management (NFM) Project. This document details information provided by the Environment Agency (EA) cataloguing progress of the River Dove NFM project. It is hoped that this offers suitable assurance that, whilst the Town Council is not the Local Flood Authority, it has engaged the responsible agencies to ensure that the matter of flood risk within the catchment is addressed.

#### River Dove NFM Project Updates

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#### July 2025

Repair work at Grouse Hall has been completed following the damage after Storm Darragh, the site has been drilled and ditch blocking has been finished too. Chicks of the wading birds have been spotted on the site now so the habitat outcomes continue to be positive. Carbon dating is being progressed on the archaeological finds now that Historic England funding has been agreed. The Farming in Protected Landscapes application has been approved for further modelling of the additional bank lowering opportunities in this area which should take place in the next few months.

The floodplain reconnection site at Ravenswick Hall is more uncertain. The project team are still keen to deliver something here but the hydrogeology requires further investigation and the remaining time and budget in the project is likely to make this challenging. If the landowner is still willing, the discussion may now need to be around a compromise option that maximises connectivity of the existing floodplain rather than lowering new areas.

Farndale Estate should be receiving their new soil aeration equipment imminently which will allow soil management activities at 2-3 farms initially. The team will conduct walk over surveys at the end of summer to work out a plan for the soil health work which could include spreading gypsum but with a focus on aeration using the new kit. A first pass will be planned for the Autumn. With 200Ha+ within the area being discussed this could provide a significant increase in infiltration of water within the landscape to the benefit of drought resilience, improved yield and reduced flood risk. This is provided that this work is repeated by farmers where necessary to maintain and improve the soil over time. It is hoped that learning from any successes could be repeated by others in the catchment who may wish follow suit.

Discussions are ongoing with the North York Moors National Park regarding further tree planting and ~1km of hedgerow has been created so far with the potential for more. These elements continue to be supported through the national park's woodland creation and strategic boundaries funding. Unfortunately, some failures of existing saplings has been noted following the exceptionally dry spring.

Delivery of the remaining attenuation bunds, scrapes, leaky dams, fencing, buffer strips, hedgerow and tree planting will happen over the next few months. The project is formally agreed to continue until November 2025 but partners are likely to remain engaged with landowners in the area as part of other upcoming projects and we will all be interested to see how the measures perform and are maintained over the coming years.











## May 2025

Delivery of NFM measures has progressed further with new hedgerow and tree planting as well as buffer strips and scrapes being installed. The large floodplain reconnection site at Grouse Hall worked well during Storm Darragh allowing a large amount of water onto the floodplain that would otherwise have been in the river. Some repair work is ongoing however as the grass cover had not re-established before the storm arrived. New gravel banks appeared behind the large woody debris after the storm and there are reports of wading birds using the new scrapes so there are significant environmental outcomes here now too. A notable archaeological find was discovered in the floodplain too, perhaps several thousand years old, and funding for further investigations and carbon dating is being explored through Historic England to ensure the discovery can be appropriately assessed and logged with York Museum. The additional bank lowering opportunities in this area are going to be explored further with some localised modelling which we hope will be supported by a new Farming in Protected Landscapes application.

The floodplain reconnection site at Ravenswick Hall is still an ambition although the hydrogeology requires further investigation. Discussion with the landowner here has re-started and we may need to employ a contractor to do a geophysical assessment.

Farndale Estate have very kindly agreed to purchase new soil aeration equipment which will allow soil management activities at 2-3 farms. Soil health work on ~270Ha is possible now which could lead to a significant increase in infiltration of water within the landscape to the benefit of drought resilience, improved yield and reduced flood risk. With the Estate buying the equipment, this work could be repeated after the project finishes to continue to improve and maintain infiltration on these farms and others who may wish follow suit.

Discussions are ongoing with the North York Moors National Park regarding further tree planting and ~1km of hedgerow has been created so far with the potential for more. Once established, this will help to intercept rainfall and overland flow in the upper catchment. These elements continue to be supported through the national park's woodland creation and strategic boundaries funding.

Due to the delays and cost associated with Storm Darragh, as well as the archaeology costs and the risks at Ravenswick, delivery of the project is now expected to continue until November 2025. Due to these impacts, a Business Case Update Report was submitted in Q4 last year which secured a further £40k of Grant in Aid funding for the project. Delivery of more attenuation bunds, scrapes, leaky dams, fencing, buffer strips, hedgerow and tree planting and completing the 2 floodplain reconnections will continue over the spring and summer spurred on by some measures having now already been put to use!



## November 2024

Delivery of NFM measures continues with further attenuation ponds, buffer strips and leaky dams being constructed (example in link). [Peter Mawson on X: "A wet day! A leaky dam doing its job of slowing the flow of water and silt off the farm and into the river. On the high water side there's an increasing amount of silt and stone; at some point that'll be dug out and reused."](https://t.co/NaBSkdli7m)

Supported by the National Park's 'Farming in Protected Landscapes Fund', significant work has also been completed at the large floodplain reconnection site at Grouse Hall with a large area of new floodplain activated (see image below) and further bank lowering opportunities have been identified with this landowner.





Discussion with York Caving Club has been useful in improving understanding of hydrogeology and identified the need for further investigations before work can take place at the other main floodplain reconnection site at Ravenswick Hall.

The project team are still looking into soil management planning at 2-3 key farms, following the soil health event run at the start of June, with continued support from the specialist soil consultant. Improved soil health is expected to lead to greater infiltration of water within the landscape to the benefit of drought resilience, improve yield and reduced flood risk. The 'Moors to Restore' peatland restoration project is not yet in progress in the catchment so the opportunity for complimentary NFM measures is no longer certain. Discussions are ongoing with the North York Moors National Park too regarding tree planting and an application for an initial 1.7km of hedgerow creation to reduce and slow down surface run off in the upper catchment. These elements are supported through the national park's woodland creation and strategic boundaries funding and work is due to start this winter, with plans to expand up to another 2.3km once agreement has been reached with stakeholders.

Delivery of further NFM measures will continue this year, and likely into next, including flood attenuation bunds, scrapes, leaky dams, fencing, buffer strips, hedgerow and tree planting and completing the 2 floodplain reconnections. Great to see more action on the ground and still lots to do!

## **July 2024**

Since receiving approval for the full £266k total project value at the end of Year 1 delivery of NFM measures is now underway on the River Dove. Work has completed on 3 leaky dams at High Farn-dale, with an EA team helping to construct one of them during a recent site visit, and an attenuation bund has been started at Keysbeck Farm.

Landowner engagement to date has now identified sufficient measures to meet the minimum target for flood storage and environmental outcomes. The team have also received final designs for the 2 larger floodplain reconnection opportunities at Grouse Hall and Ravenswick which identify the potential reactivation of over 40,000m<sup>3</sup> of floodplain volume. These designs are being discussed with landowners and work at Grouse Hall is expected to get underway in the next quarter.

A soil health event titled 'The weatherproof farm' was run at the start of June with a targeted group of farmers who had expressed interest. The plan is to follow this up with soil management planning at 2-3 key farms with continued support from the specialist soil consultant to help with testing, planning and implementation of the improvements over the next few years.

The project is also considering purchasing some equipment for the farmers to share in order to facilitate this work. Improved soil health is expected to lead to greater infiltration of water within the landscape to the benefit of drought resilience, improved yield and reduced flood risk. The 'Moors to Restore' peatland restoration project should also provide the project with further opportunity for NFM measures that complement the moorland objectives as well as this project.

Discussions are ongoing with the North York Moors National Park too regarding tree planting opportunities and to facilitate a bid to the Farming in Protected Landscapes fund to supported wider outcomes for farmers and the environment alongside our project. Delivery of further NFM measures will continue throughout the year including flood attenuation bunds, scrapes, leaky dams, fencing, buffer strips, hedgerow and tree planting and the 2 floodplain reconnections.

It is going to be a packed programme!

### **September 2023**

Over the summer the project has secured an additional £10k from the North York Moors National Park's Farming in Protected Landscapes Scheme, and has engaged with the River Restoration Centre, to support the feasibility and detailed design work to investigate floodplain reconnection opportunities at two sites along the River Dove.

Floodplain re-connection will restore natural processes to targeted parts of the river where currently the floodplain is not being activated regularly during high rainfall events. By activating the floodplain more regularly there is opportunity to slow the flow of floodwaters, reducing the volume within the river channel, providing a flood risk benefit downstream. Additional biodiversity benefits will also be developed alongside the plans, including floodplain meadow and wetland restoration work, to ensure the sites are delivering a multi-benefit approach.

Landowner engagement in the upper catchment is underway, with three farms visited so far and several more planned over the autumn and winter. A number of NFM measures are being discussed with landowners including creating temporary flood storage areas, leaky dams, tree planting and soil aeration. It is anticipated some 'quick win' measures will be delivered over the coming winter as agreements with landowners are progressed.

A pipeline of NFM measures is being collated, which will support the submission of the full business case over the winter. Approval of the full business case will unlock the budget necessary to deliver these measures in 2024/2025.

### **January 2023**

#### **1. Funding.**

- a. An indicative Local Levy allocation of £154k has been secured from Regional Flood and Coastal Committee.
- b. £94k Grant in Aid funding has been bid for through the Environment Agency's capital programme.
- c. With the addition of the Kirkbymoorside Town Council contribution (the JBA study) and Yorkshire Wildlife Trust's time, the economic case can be made and partnership funding rules are met.

## 2. Approvals.

- a. The Strategic Outline Case (SOC) has been drafted and locally assured. This document makes the strategic and economic case, demonstrates sufficient benefits appraisal against the cost, assess broad options, delivery method and project funding. Yorkshire Wildlife Trust provided high levels costings based on the JBA report and we estimated benefits using the available river flow archive data and Vale of Pickering flood model which allowed us to make some calculated assumptions and avoid the need for new modelling at greater cost and time.
- b. There has been verbal acceptance of the Strategic Outline Case (SOC) by the budget holder, we're now waiting on formal confirmation. This will allow spend of 36k for further study, engagement and design work.

## 3. Partnerships.

- a. A 'collaborative agreement' is in draft with Yorkshire Wildlife Trust and we're now getting our legal team to assist in finalising.
- b. NYCC have shared the previous WSP report and we have discussed project appraisal aspects such as benefit apportionment and project scope.
- c. Site visits with Chris Tinkler and Paul Smith have taken place. Some options were discussed, e.g. Large Woody Debris and floodplain reconnection but further investigation is needed.
- d. Follow up email and calls sent re monitoring to Paul Smith. Yorkshire Wildlife Trust are following up.
- e. We have contacted Tom Holt who is broadly supportive. A planned site visit was cancelled before Xmas and we hope to re-establish one soon.
- f. We met with the Yorkshire Peat Partnership. They have a green light to do some peatland restoration work around Bransdale this winter, Farndale was also looked at but is not funded as yet. This is one to possibly support through the project.
- g. Yorkshire Wildlife Trust had a productive meet with George Winn-Darley and better understand land ownership in the upper catchment and introduction of JBA report.

## 4. Other related matters.

- a. Marshalls. Kirkbymoorside Town Council have been contacted about a contribution of time and money towards environmental outcomes. It would be great to join this up with the NFM scheme. This would probably be best done under the direction of Yorkshire Wildlife Trust delivery.
- b. North Yorkshire County Council have reviewed the planning app re Swineherd Lane and applied conditions to their response.
- c. Ryedale District Council have drafted a newsletter to residents with input from North Yorkshire County Council and the Environment Agency which will include mention of planned projects.
- d. Our national economics and research team are reviewing our business case and have verbally confirmed we are following the latest national thinking around NFM appraisal.

## 5. To do.

- a. Consider whether connections with the Woodland Trust / White Rose Forest / Highways are needed.
- b. Carry out further site visits and landowner engagement spring/summer 2023 including potentially looking at some of the WSP sites at the same time to avoid dual engagement.



- c. Conduct detailed design and draft landowner agreements.
  - d. Draft a Full Business Case and seek approval.
  - e. Deliver the scheme. Programming to start next winter going into financial year 2024/25.
6. Key risk at this stage.
- a. Sufficient landowner/tenant engagement and agreement for delivery and ongoing maintenance.
  - b. Costs – inflation.

## **June 2022**

Headline notes following a meeting with NYCC (Lead Local Flood Authority) on 17 May 2022 and pursuant to the last meeting with Kirkbymoorside Town Council, NYCC and the EA on 25 March and provision by Kirkbymoorside Town Council of information in respect of the identification of land owners:

“Thanks you for your help gathering land ownership details. You'll see from the below that Yorkshire Wildlife Trust (YWT) are willing to support the Natural Flood Mitigation (NFM) elements of a scheme and have offered to lead on the project management and landowner engagement for this. Based on their experience of NFM delivery this makes sense and probably works best.

1. Building on the JBA report into NFM opportunities in the catchment, it was agreed that some drainage improvements, property level protection and natural flood management (NFM) opportunities could be investigated further as the works most likely to be technically feasible and fundable for the Town.
2. A strong partnership approach between EA, NYCC, Kirkbymoorside Town Council and landowners is however required to achieve this.
3. NYCC met with Yorkshire Water and raised the sewer discharge issue and mentioned this latest scheme discussion.
4. The EA has had preliminary contact with Yorkshire Wildlife Trust (YWT) as a potential delivery partner for the NFM element. They are willing in principle to be involved and have provided some high level cost and time estimates.
5. We have used these estimates to increase the bid for grant in aid (GiA) funding and the EA and NYCC are in the process of drafting a Local Levy bid to seek additional funding from the Regional Flood and Coastal Committee.
6. If these avenues of funding are secured this year, we could ask YWT to begin engaging landowners and working on developing the scope of NFM interventions.
7. Kirkbymoorside Town Council can help with details and contacting landowners in the catchment.
8. The EA and NYCC can then work on a joint business case. It is estimated to take around 2 years to get to this point allowing for the project development work and project assurance that is required to claim the funding.
9. It's suggested that proposals at Ravenswick Hall Estate for re-naturalising the site are discussed with Vicky Murray and the Yorkshire Derwent Catchment Partnership to link with wider strategies, knowledge and possibly funding.
10. The EA has raised this proposed scheme with an internal NFM practitioners group to draw on learning from other NFM schemes.