











WYRE CATCHMENT NATURAL FLOOD MANAGEMENT PROJECT: TECHNICAL CASE STUDY

HIGH LEVEL SUMMARY OF PROJECT



PROJECT OVERVIEW

The Wyre catchment area is approximately 450km², with land used for pastoral and arable agriculture, forestry, and residential and industrial infrastructure.

It is home to a wide range of priority species and habitats including Atlantic Salmon, European Smelt, Curlew, SSSI saltmarshes, peatlands and hay meadows. It is also a 'quick response catchment', meaning that its watercourses are very responsive to heavy rainfall in part due to steep valley slopes, which increases the risk of flash flooding. Correspondingly, communities in the Wyre catchment in North Lancashire, such as Churchtown, have experienced a 1-in-50-year flood event four times in the last 20 years. Most recently, this happened in August 2016 when 16 properties were flooded. The threat and impact of flooding can have significant effects on communities, businesses, and economy and is expected to only increase with climate change. As such, flooding has been a longstanding concern in the Wyre catchment.

There were several flood reduction measures in place prior to the Wyre Catchment NFM project; specifically, drainage and hard flood defence structures. These included barrages¹ on the Wyre River roughly 3-4km upstream and downstream of Churchtown: various stretches of raised embankments to hold back flood water so that it bypasses villages, and, more recently, flap valves² where the river meets a tributary named Ainspool. In 2018-19 the Churchtown Flood Action Group, in collaboration with other stakeholders, organised a further embankment to be built. The new embankment is around 600m long and runs across the right bank from Kirkland Bridge upwards towards higher ground. It is designed to prevent water that may build up behind the bridge from coming over the A6 highway and into the village.

Despite this, concerns remained that when the Wyre River and the flood basin of Garstang (upstream from Churchtown; see Figure 1) become full during extreme weather events, it would still be difficult to control the volumes of water entering the main river and travelling downstream to Churchtown, and to control its flow to avoid flooding.

2 A type of non-return valve which allows water to flow in only one direction.

The increasing frequency of high-flow events in the Garstang area since the year 2000 added to these concerns, and to the need to consider solutions that could work with the natural processes of the watercourses upstream to prevent high volumes from reaching the downstream communities.



Figure 1: Map of river/storage basins along the Wyre River

The Wyre Catchment Natural Flood Management (NFM) Project was therefore established to scope, design and develop a payment-for-outcomes business model that would use nature-based solutions to reduce flood risk in the Wyre Catchment. The project was one of four pilot initiatives funded by a partnership between the Esmee Fairbairn Foundation, Triodos Bank, Defra and the Environment Agency that supported proposals from the environmental sector aimed at testing the nascent natural capital market.³ The grant funded the design and development phase of the project, which was conducted by partners including the Rivers Trust, the Wyre Rivers Trust (WRT), Triodos Bank UK, the Environment Agency, United Utilities, Flood Re, Co-Op Insurance and the Esmée Fairbairn Foundation between 2018 and 2022. During this period, partners worked together on multiple activities,⁴ to:

¹ Dam-like structures built across the river which have large gates. The gates can be opened or closed to control the amount of water passing through, helping to store water upstream and release water downstream as needed.

³ These pilot initiatives were the precursor to the <u>Natural Investment</u> <u>Readiness Fund (NEIRF) programme which aims to support the</u> <u>development of nature projects to the point of being able to attract</u> <u>private investment</u>. The programme is led by Defra and the EA.

⁴ For more detail on each of the activities completed by the project in its journey to become investment-ready, visit the <u>GFI website</u>.

- Understand potential NFM interventions and their likely impact by commissioning a hydrological study; ground truthing the interventions identified; and conducting baselining and modelling to quantify flood risk benefits at both Churchtown and catchment levels.
- Scope project costs to be able to 'reverse engineer' and produce a financial model. Estimations included the capital cost of interventions; hosting and maintenance costs; governance costs; and costs to service the initial investment required. Develop the project's business model, including identifying other benefits and how they will be treated in terms of monetisation (e.g. carbon sequestration).
- Complete Memorandums of Understanding with buyers and landowners, before moving to sign legal contracts with all relevant stakeholders.
- Identify and establish an appropriate legal entity and governance structure, in this case a special purpose vehicle (SPV) in the form of a CIC.⁵
- Identify and engage investors and public financing options and set up loan facilities.
- Identify and engage with land managers, buyers, investors and community stakeholders throughout the project process.

The project has successfully raised £1.5 million of funding, including a £627,000 tree planting and hedgerow creation grant from the Woodland Trust, and £850,000 of private repayable investment from a consortium of investors to help fund interventions. The project has a projected annual revenue rising to £280,000 by its ninth year.⁶ It is governed by the Wyre CIC established by project stakeholders in 2021; with NFM intervention delivery contracted through Wyre Rivers Trust. This case study is designed to capture impacts and learnings from the project's delivery phase up to December 2024.

The below diagrams summarise the project's business model. This document then goes on to cover:

- 1 Progress, including key challenges and enablers to delivery.
- 2 Outcomes and impacts of the project including environmental, economic, social and organisationally for some of the stakeholders involved.
- 3 Learnings in relation to scaling or replication of the project model.



- 5 Community Interest Companies (CICs) are limited companies which operate to provide a benefit to the community they serve. The purpose of a CIC is primarily one of community benefit rather than private profit.
- 6 Revenue was lower in Years 1-3 during the delivery phase. The actual annual revenue for October 2023 to November 2024 was around £188,500 but is forecast to rise year on year.

PROJECT DESIGN AND SET UP

This case study provides an overview of the project's design in the diagrams below. More detailed information and lessons learned from its design and development phase is available on the Green Finance Institute Hive website <u>here</u>, and in a number of focussed case studies <u>here</u>.

OPERATING MODEL



*The Wyre Rivers Trust, The Rivers Trust Buyer Group Representative, The Land Managers, Investor Representative, Local Flood Action Groups, An Independent Chair.

WYRE CATCHMENT NATURAL FLOOD MANAGEMENT PROJECT: TECHNICAL CASE STUDY

Both sellers and buyers are contracted for a nine-year period, with the potential to extend up to 50 years. The CIC format was selected for its social enterprise structure, reflecting the project's commitment to transparency, neutral ownership and to reinvesting all retained profits to the benefit of the local the community, while allowing the project to access the flexibility that operating as a private company provides.

INVESTMENT MODEL



7 Access to Social Investment Task Relief (SITR) helped to make investment more attractive to private individuals. Investors could claim back 30% of a SITR investment as an income tax refund. The scheme also had capital gains tax and inheritance tax advantages. SITR ended in April 2023.

For more information about the background and context to the project, and its early design phase, please view the GFI Hive Toolkit project website <u>here</u>.



PROJECT DELIVERY

This section of the case study provides information on project activities following the incorporation of the CIC in June 2021 and the completion of the project design phase.

To deliver the business model and its NFM interventions, project stakeholders then focused on:

- Transitioning from Memoranda of Understanding to legally binding contracts with land managers (farmers and landowners) to secure their participation and finalise terms so that groundwork could begin.
- Agreeing and delivering interventions on land managers' land once contracts were signed, including sourcing and managing materials, contractors and volunteers to resource the groundwork, led by WRT.
- Continuing to engage with land managers to generate additional interest in hosting interventions on a rolling basis, to ensure enough interventions could be delivered (WRT).
- Providing and maintaining transparency and visibility of delivery progress to buyers and investors (via updates from WRT to the CIC board which meets quarterly; and CIC directors to their respective stakeholder groups).
- Monitoring how the financial model works in practice (e.g. receiving payments from buyers and drawing down investment). This included making minor adjustments where required to ensure cashflow was available to support intervention costs, delivery, land manager payments and interest repayments (CIC).

- Monitoring water levels during key weather events to develop the evidence base for the project's impact and sharing data with the CIC (WRT).
- Sharing and disseminating project learnings (all).

Design and delivery of the NFM interventions is led by WRT, guided by the previous hydrological modelling conducted by the project. WRT has two full time staff working on NFM delivery and one NFM trainee member of staff. They are also responsible for the woodland creation element of the project and have one separate member of staff who works exclusively on this. The team members also receive ad hoc support from other staff as needed. The project, via WRT, aims to have completed at least 80% of all planned interventions within a three-year delivery window during which the project would draw down all investment capital. This window was agreed by stakeholders considering WRT's delivery capacity, seasonal timings for installing interventions and the anticipated phased nature of buy-in from land managers in the catchment.

Table 1 below indicates the interventions delivered by the project as of November 2024. Before the end of March 2025, the project also aimed to deliver approx. a further 500 leaky dams, 12-14Ha of woodland and 3-4km of hedgerow. At the time of the research for this report (November to December 2024) the project was on track to meet or exceed its targets.

Intervention type	Units	Amount delivered (i.e. in ground)
Small leaky dams	No of dams	510
Large leaky dams	No of dams	230
Ponds and scrapes	Hectares	2.24
Low level earth bunds	Meters	186
Banked hedges	Meters	9,532
Floodplain reconnection	Meters	415
Peat restoration	Hectares	16.29
Woodland creation	Hectares	21.76
Intensive grass (silage) to rough pasture	Hectares	3
Permanent pasture to rough pasture	Hectares	8.27
Riparian buffer strips	Meters	10,852

Table 1: Interventions delivered by the project as of November 2024

PROJECT IMPACT

This section of the case study summarises the project impacts to date, including from the perspectives of some of the different stakeholder groups involved.

ENVIRONMENTAL OUTCOMES

The project aimed to reduce peak flow by 5-15% in a 1-in-50-year flood event, which its earlier modelling indicated would be achieved should the project deliver on its intervention targets. By way of additional measurement, WRT has been using upstream and downstream water level loggers in Damas Gill and an unnamed watercourse. These are both tributaries of the River Wyre, which WRT aimed to monitor to estimate the impact of the interventions. WRT selected these sites on the basis that they have received interventions; that land managers were happy to grant monitoring access; and for their representativeness of other tributaries in the catchment. Capturing water levels during key rainfall events each month, such as storms, this hydrological data estimates the extent to which the project's upstream NFM interventions are storing water in the catchment to slow and reduce downstream peaks.

Rainfall Abbeystead Gardens -

Accordingly, monitoring has shown reductions between upstream and downstream peak water levels in Damas Gill of between 15 and 30%. This is shown in Figure 2 below which illustrates the results from water level monitoring in Damas Gill during Storm Henk in January 2024. The blue line (Damas US) indicates upstream water levels. The dotted red line (Damas DS calibration) indicates downstream levels, calibrated to control for the normal difference in the depth at each monitoring point. The graph shows that while water levels rise both up and downstream during rainfall, downstream peaks are lower than upstream peaks, as shown by the difference between the red and blue lines. This suggests that water upstream is being effectively held temporarily in the Gill's upland areas by the NFM interventions (in this case, woodland and leaky dams) as intended. These interventions sit between the two monitoring points. It was not possible to complete pre-intervention monitoring at these sites due to the pace of delivery and delays in obtaining level loggers, limiting the conclusions that can be drawn from these results. However, the project plans to complete additional monitoring in a location for which pre-intervention data is held, and hopes that this will provide a more robust insight into intervention impact.

Damas DS 010124 - - - Damas DS Calibration



Figure 2: Comparing upstream and downstream water levels in the Damas Gill during

While the impact of the interventions on flood risk requires further monitoring over a number of years to ascertain their true effectiveness, the early indications from water level data are positive. The project is mindful that other future NFM work is also planned within the catchment, which may influence water level data, and that careful monitoring will be required to accurately assign impact to interventions.

Damas US 0101204

WYRE CATCHMENT NATURAL FLOOD MANAGEMENT PROJECT: TECHNICAL CASE STUDY

In addition to NFM benefits, the interventions delivered by the project have also yielded other environmental benefits relevant to the Government's 25 Year Environment Plan which are detailed below.

Clean and plentiful water	Riparian buffer strips protect watercourses by providing erosion control and intercepting agricultural pollutants , reducing nutrient runoff and improving water quality. Interventions that slow the release of water from the ground, such as peatland restoration, also help to prevent drought.
Thriving plants and wildlife	Planting trees and hedgerows and restoring grassland encourages a wide variety of wildlife into this newly created habitat. Interventions also offer benefits to aquatic wildlife: reducing flows within watercourses offers greater refugia for salmonids, while reducing velocities help to protect fish nests during the spawning period . The interventions are designed – and land managers must maintain them – for optimal assessment against a custom- built biodiversity measurement framework that sets out specific metrics for different intervention types to be reviewed against.
Mitigating and adapting to climate change	Mitigation: woodland planting and wetland and peatland restoration sequester carbon from the atmosphere which is a major climate change contributor. Adaptation: NFM measures will regulate water flows to improve the surrounding area's resilience to the threat of flooding, as well as improving the resilience of watercourses.

Some project stakeholders also described how the knowledge accrued through the project has supported them to work on other environmental outcomes in the catchment to date, for example around best practice in engagement with land managers, and technical learnings about reducing surface runoff to protect saltmarshes.

SOCIAL AND COMMUNITY OUTCOMES

The WRT has delivered most of its intervention through contractors and volunteers. Around 85 volunteers have been involved in activities such as tree planting and building leaky dams. Altogether, volunteer contributions totalled around 2500 hours in 2023, and 3300 hours in 2024. The three-year intervention delivery window has enabled the WRT to become a more regular local volunteering destination and offer more businesses the opportunity to use their community or voluntary days delivering interventions, in turn generating more visibility for the project. More fundamentally, project stakeholders described an increase in community confidence that the local impact of climate change and the risk of flooding is being addressed, illustrated by interest in the project's work from community members and land managers alike. One community stakeholder described how the project, in combination with an embankment built in 2019 and other measures campaigned for by flood action groups brought together by the Wyre Flood Forum, has helped to ease resident's minds about the potential for flooding.

It traumatises people, especially when you've suffered the first flood. And so, from a mental point of view, putting people's mind at rest has a great value. And these nuisance floods can be stopped by natural flood management... we're pretty convinced about that. There's no perceived immediate benefit [from the project], but the anticipation is that there will be considerable benefit. **J**

Community Stakeholder

The project is also forecast to have around £200,000 surplus revenue available by the end of its nine-year period, which may be used either to support an extension and enlargement of the NFM project, or allocated to fund other social and environmental projects in the Wyre catchment area. A 100% asset lock within the CIC Articles ensures that any profits are spent to the benefit of the community. In total, land managers in the area are projected to earn upwards of £28,000 collectively per year for intervention hosting and maintenance, assuming all interventions are maintained to 100%.⁸

ECONOMIC OUTCOMES

In its three-year intervention delivery window, the project has sustained some job opportunities within WRT itself including a NFM role and a Woodland role, as well as creating 3 new roles. It has contributed to the employment of contractors in the area, including 6-7 fencing contractors and a number of grounds works contractors for pond creation and peat restoration.

The project has also supported the sustainable hardwood chestnut industry in England, which is harvested from coppice woodland habitat in the South of England, by purchasing large quantities of chestnut fencing posts for the project. This in turn has led to interest from local farmers in using the same materials due to their long 25-30 year lifespan. The project has also necessitated the creation of new community tree nurseries.

Fewer floods also bring about long-term economic benefits for the area by protecting infrastructure and properties from flooding. The project calculated that the financial cost to insurers of a 1 in 50-year flood is £1.96m within Churchtown (assuming the average claim is £35,000). Significant further modelling was completed by the project and its stakeholders during the project scoping and design phase which indicated the project would be economically beneficial. These included modelling by FloodRe – to understand the economic cost of flooding in Churchtown to the insurance industry – and by United Utilities – to understand the economic cost of flooding to its own assets in the Wyre catchment area. It was also noted that increased confidence in the safety of the area from flooding may encourage further investment from businesses. The water stored in the upper catchment has also been monetised by the CIC via the Rivers Trust, which successfully transacted Replenish storage credits with Sainsbury's to the amount of 93,722m3. The revenue from this sale has contributed to project cashflow.

ORGANISATIONAL OUTCOMES

For Wyre Rivers Trust

The main organisational outcome for WRT has been enhanced visibility. This has been on a local scale, as community members and land managers notice the project work taking place on the land and information spreads via word of mouth. WRT has also received an extensive amount of interest from a range of UK organisations.

The WRT sees this enhanced reputational benefit as being key to the expansion of its local partnerships within recent years (for example with Myerscough University Centre where the Trust now has its offices and links with young farmers); and recruiting and sustaining more staff. The Trust is also now the northern river restoration hub of the River Restoration Centre (RRC) at Cranfield University, bringing further visibility to the organisation as well as access for the Trust to training and expertise from the RRC.

Through the project, WRT has also further developed its significant capabilities not only in designing and delivering NFM interventions but in managing and delivering natural capital projects under a financial model that combines different investment facilities with public finance. Staff reported now feeling more confident engaging with natural capital markets and projects that entail private finance.

We knew that it would allow us to increase our capacity and allow us to increase our delivery across the catchment, so it was absolutely at the forefront of our minds that this would help the Trust to grow and to develop our skill sets. 33

WRT Staff Member

⁸ This figure was lower in Years 1-3 while the number of land managers involved, and interventions being delivered, were still increasing.

WRT staff have taken into account the learnings from this project's model and already carried these forwards into a successful Landscape Recovery bid and design phase in the Brock and Calder Valleys in the Wyre catchment. WRT was also successful in compiling a ~£1m business case to secure funding from the National NFM Programme launched in 2023 by Defra and the EA to improve flood resilience, where it will further employ learnings from this project. Staff felt confident that they could deliver a similar project again.

For one participating land manager:

One land manager, a sheep and dairy farmer in the upper catchment, described the changes on their farm resulting from woodland and hedgerow planting, leaky dams and riparian buffer strips delivered by WRT. Despite having participated in other nature-related schemes such as Sustainable Farming Incentives, this project is the first NFMfocussed project the farmer has taken part in and it is significantly larger in terms of scale and the financial value of the capital works. The land manager expects to receive around £10,000 in total over the duration of the project's 9-year period as payment for intervention hosting and maintenance.

It's been fairly easy. I've not had to organise anything. I've not had to buy anything. I think the hardest thing I've done really is to sign a bit of paper and that was it. So that to me is priceless... All the other grants and schemes that I do, there's quite a lot of work involved. J Land Manager

Some of the changes they had observed relate to flood risk reduction on the farm itself; for example, observing less surface water sitting on paths within the farm. Other changes relate to land management changes that the farmer has introduced. Previously using a block grazing system for livestock, the introduction of additional hedgerow to separate fields has enabled the farmer to transition from block grazing to a <u>paddock grazing system</u>. This involves maintaining rotational grazing, but with more frequent movement of livestock between smaller areas of land, which enables greater grass growth and coverage as smaller land parcels have more time to recover between grazes; over time reducing ground compaction to the benefit of soils and plants, and increasing dairy productivity as livestock access the improved vegetation.

⁴⁴ These interventions aren't taking land out of production. They're making poor land that was unproductive, productive... the business is far more sustainable because of it.

Land Manager

As well as the longer-term benefits to soil and livestock productivity, the farmer sees these interventions as being of potential value should net zero farming become more important within UK food supply chains. The farm also stands to benefit financially from being able to marginally increase its milk price. This is because the farmer expects the interventions to improve the farm's performance within the annual climate audits carried out as part of their dairy selling cooperative membership, which provides price incentives for sustainable farming. The annual climate audits will also measure biodiversity and carbon capture in the near future, and the farm expects the NFM interventions such as hedgerow, woodland, buffer strips and peatland restoration to contribute to the audit scores.



For two buyers of NFM benefits:

The primary motivation for buyers was the reduction in flood risk to the Wyre catchment area. For United Utilities, the Wyre area is home to around 30 sites and assets that include network pumping stations and wastewater treatment works with flooding posing a significant financial risk. As such the project was modelled to produce significant future cost saving benefits for United Utilities, based on a 5-15% reduction in flood impact over 120 years. The company also has a strong interest in improving water management for the benefit of its customers and the environment, and in promoting projects that can attract different kinds of investment to provide improvements in water quality, storage and NFM.

There was a strong business case for why we should invest in [the Wyre] area and the availability of existing work looking at how natural flood management could be delivered [there] gave us confidence that there was a natural flood management solution that would materially deliver benefit... Essentially it's a long term risk reduction. We [also] want to be able to invest in a way that's delivering broader value to the catchments that we work in. J

United Utilities Stakeholder

For the Wyre Council, the project aligns with its goal of reducing flooding in the area for businesses and residents and complements other natural flood management initiatives in the area including floodplain creation in the lower Wyre valley, and using saltmarsh and managed realignment in coastal areas to reduce flooding. The Council was also interested in reducing agricultural load into watercourses, and the carbon capture potential of the NFM interventions such as tree planting which aligned with its climate change strategy. As such, the Council has used funds intended for both flood management and carbon reduction to fund the project's interventions.

The biggest drivers [for our involvement] were reduction of flooding because that's easier to measure... But it's a combination of things which we've got benefit from. J

Wyre Council Stakeholder



KEY CHALLENGES, ENABLERS AND SKILLS IN CONDUCTING ACTIVITIES

This section of the case study details the main enablers and challenges that the project experienced during its delivery phase (years 1-3 of the project's business model), in Figure 3. It then details the skills and knowledge that was required within the project team to deliver the model during this phase, as well as the skills and knowledge developed during this phase.

Table 2: Enablers from the first three years of delivery

Maintaining an open-book approach to project developments

Transparency is embedded throughout project delivery. All stakeholders represented on the CIC have access to board meeting minutes and have been invited to a number of 'open days' to visit intervention sites. This has enabled trust and a feeling of collaboration between stakeholders, as well as frank discussion and resolution of issues during the delivery phase.

Stakeholder groups share common ground and continue to feel their interests are represented

The project has brought together stakeholder groups, including investors interested in social impact, which have a genuine interest in catchment improvement. While a CIC with a flat hierarchy to deliver a shared mission is not unique, the right of each stakeholder group to appoint their own director, with an independent chair, is novel and ensures that the project continues to remain accountable to all stakeholders.



Enablers

Building on relationships with farming communities

Prior to the project, WRT already worked with a farm cluster in the upper Wyre catchment and were able to communicate the upcoming project in advance. This enabled immediate engagement from a small number of farmers to host the earliest interventions and gave other land managers confidence to become involved in the project as its delivery phase progressed.

WRT's leverage of volunteer labour

As a charity, WRT had an existing network of volunteers that it could draw on to help deliver interventions. The work of volunteers has saved a significant amount of capital costs on contracting.

Using simple, service-based contracts with land managers

<u>Contracts</u> were designed to describe land manager's roles as providing a service to the CIC in the form of intervention maintenance in alignment with the project's Farmer Handbook, to be audited once a year. This made contracts accessible and alleviated concerns that some land managers had over land rights.

Table 3: Challenges from the first three years of delivery

Resourcing intervention delivery

The use of WRT as the sole supplier incurred a level of risk to the project and WRT itself despite WRT's successful delivery. From the perspective of WRT, additional finance allocated to delivery would have been welcome to support an additional full-time staff member to work on NFM delivery to help balance fieldwork requirements with office-based procurement and administrative work with subcontractors. Charitable organisations like WRT may also welcome greater contractual protections in delivering similar projects due to their weaker fiscal position relative to other partners.

Engaging land managers under existing stewardship agreements

While some farmers were content to work with the project, others declined due to concerns about the risk of penalties associated with land changes such as moving field boundaries. These were often associated with existing Countryside Stewardship schemes on their land. Building relationships with bigger estates as well as smaller tenant farmers was also key to achieving interventions on the target volume of land, although WRT has worked to balance the interest of smaller and larger scale land managers for fairness.

Varied intervention uptake from land managers

Investors and buyers favour predictability and regimentation within delivery, but the feasibility of interventions has been influenced by the time of year, the characteristics of the land and watercourses, the permits required and priorities of the land managers who are engaged at the time. To provide the flexibility required, WRT has worked with the CIC to agree minor planning revisions to reduce targets for interventions that were less popular with land managers such as bunds and prioritising interventions land managers found more appealing such as hedgerow planting. They note that this could be done more iteratively with governance bodies in future to avoid accruing a backlog of less popular interventions and running out of the more popular ones.

Delivering woodland planting to budget

The Woodland Trust grant amount was based on an estimate of the number of gates, fences and posts needed to deliver woodland across a given hectarage. However, in practice WRT has found that more materials have been needed to plant woodland to follow watercourses as the grant's estimate was based on block planting. The project has managed to finance this gap through an uplift in the Woodland Trust grant in response to inflation and an expansion in the project's area of planting.

Cashflow issues from missed payment dates

The project requires all buyers to pay in a timely manner for the interventions delivered, in part because, for simplicity, the model holds that all transactions between stakeholders (via the CIC) are made in a single quarter. A late payment from one buyer has resulted in a cashflow issue for WRT's delivery of interventions, although the challenge has been mitigated somewhat by investors agreeing to receive the interest on their repayments up to one month later than laid out in their loan agreements.



Challenges

WYRE CATCHMENT NATURAL FLOOD MANAGEMENT PROJECT: TECHNICAL CASE STUDY

PROJECT SKILLS

Understanding of NFM to determine which interventions to place where Specialist understanding of the geographies, ecology of the catchment area and its habitats to ensure habitat is positively impacted

Ability to engage with and develop trusting relationships with a wide variety of land managers (including owners and tenant farmers) to secure project buy in SKILLS AND KNOWLEDGE INPUT REQUIRED

Legislative awareness as to the permissions and documentations needed to deliver interventions (as well as lobbying skills where legislation changes or is unfavourable)

Enhanced project management skills such as responding to challenges in the availability of materials, and managing multiple contractors working on different interventions simultaneously

Ability to communicate the benefits of the project to varied audiences including investors, the community and other organisations interested in the model

> Greater understanding of the benefits and drawbacks of different natural capital project governance options, particularly CICs

Enhanced partnership working with land managers to target land for interventions that isn't economically efficient to farm (such as those that are very small, steep or wet)

> Increased legislative and administrative skills to complete the relevant documentation for interventions and their impacts on each site



SKILLS AND KNOWLEDGE DEVELOPED THROUGH OR AS A RESULT OF THE PROJECT

A comprehensive set of memoranda of understanding (MOU) and contracts between the CIC and various stakeholders which can be used as templates in future for similar projects, for example Landscape Recovery



LESSONS LEARNED

This section of the case study reflects on the potential for scaling or replicating the Wyre Catchment NFM project business model. It summarises the key considerations generated by the project that may be used to inform the delivery of similar projects in future.

SCALABILITY AND REPLICABILITY

WRT and members of the CIC have received numerous requests for knowledge sharing from other organisations interested in replicating the model, and in accessing private finance to fund NFM projects in a way that is favourable for all parties. WRT estimates it has spent roughly one staff day per month sharing learnings to date, and has presented at the River Restoration Centre Annual Network Conference in 2023 and at a Lancaster University conference, as well as receiving visits from multiple bodies to the catchment site to view the interventions on the ground.⁹ It also directs other stakeholders to the GFI case studies as a core knowledge sharing tool and plans to share further project information on the River's Trust open source NFM platform: the NFM Hub. Organisations which have approached WRT to share learning include other Rivers Trusts, local authorities and government agencies including Natural England and the Environment Agency. The project hopes to continue to generate interest from these groups in supporting or replicating similar projects, as well as from utility companies and the private sector.

Project stakeholders consider the Wyre NFM project to be a 'pathfinder' pilot project and are optimistic that the model will be adopted elsewhere. There are no plans to scale the model itself in the Wyre, although stakeholders will have the option to extend their contracts at the end of the 9-year period if there is buyer appetite to do so.

9 The project has also attracted a lot of interest beyond the catchment, for example, in 2024, the project received a visit from a 17-person delegation of Japan's Ministry of Land, Infrastructure and Transport to learn about the work being carried out. The project is yet to be directly replicated to the knowledge of stakeholders, though they see Landscape Recovery projects as likely to adopt similar governance structures and require similar skills to deliver. The <u>Aire Resilience Company project</u> in Leeds, West Yorkshire, also follows a similar model.

Stakeholders reflected that the following enablers would support replication in other catchments:

- Maintaining access to the right collection of skilled professionals that have local connections and environmental expertise to deliver interventions on the ground, and the commercial experience to complete financial modelling, contracting and transactions. Existing catchment partnerships may be a good place to start for the development of CICs, given the shared regional agenda.
- Reconsidering the project's approach in promoting nature in businesses' decisionmaking. Businesses and financial institutions are increasingly required and encouraged to assess, report and act on their nature-related dependencies, impacts, risks and opportunities. There is scope for the project to position itself more clearly as an opportunity for businesses to do so by using relevant language and metrics, for example, <u>TFND metrics</u>.
- **Monetising biodiversity benefits.** Given the introduction of statutory biodiversity net gain (BNG) there is now a more reliable market in England for projects to sell BNG. However, this would need financial appraisal and implications for longer contracts with land managers would need to be considered, as well as stacking rules.

LESSONS LEARNED CONTINUED

- Reconsidering the project's approach to carbon monetisation. Carbon units are not presently sold by the project and are owned by landowners. Subject to stacking rules this may be something that other projects and their sellers could consider.
- Continuation of shared learnings between similar projects, within the realm of what's commercially appropriate, for example within a green finance community of practice.
- Increased monitoring budgets. The monitoring budget for the Wyre NFM project is relatively small compared to the capital budget. This limited the baseline assessments WRT could perform, in turn limiting the wider environmental evidence that could be captured to assess and demonstrate the project's impact. Outside of intervention auditing; hydrological monitoring; carbon sequestration (using the Woodland Carbon Code); and biodiversity assessments to inform Impact Fund investor interest rates, the project is not yet actively monitoring other environmental benefits such as benefits to specific species and soil, though there are plans to do so within the coming years. Increased monitoring budgets within similar projects may help to further support the environmental evidence base for the project's model and demonstrate what naturebased solutions like NFM can deliver over grey infrastructure.
- **Building in a short delivery readiness phase.** This could fall after contracts have been signed and funds provided, but before the official delivery start date. This would allow time for delivery organisations to prepare equipment, contractors and order materials without eating into the delivery window itself.

Engaging land managers, buyers and investors will also be key to delivering similar projects. Lessons learned by the Wyre Catchment NFM project indicate that the following factors can be valuable in this process:

- Demonstrating value for money and emphasising favourable payment structures for all stakeholders, now that the initial concept has been proven and stakeholders may be less motivated by generating learnings, the onus is now on demonstrating value for money.
- Ensuring projects have access to a range of buyers, to enable diversity in the ecosystem services that projects can sell. This may be more difficult in rural areas where the number of businesses is limited.
- Ensuring favourable conditions for land managers which includes offering sufficient financial incentives to change land use, and to maintain that change so that intervention benefits are not jeopardised. Changes to farming regulations to the benefit of tenant farmers may also help to remove the barriers to participation that are present within stewardship agreements.
- **Consideration of a debt-free model**, if there is appetite among buyers to pay upfront for intervention delivery, or this upfront capital funding is available in the form of grants. This could simplify the model, the management of the project and reduce the risk incurred by the CIC. This approach may also be more attractive for some buyers for whom upfront payment(s) are more viable than signing a multi-year variable payment-for-outcomes contract. However, it may still require a working capital cashflow facility to bridge any gaps, which debt finance could provide.

WOULD YOU LIKE TO KNOW MORE?

If you would like to learn more about the Wyre Catchment CIC NFM project, please get in touch with Thomas Myerscough, General Manager for the Wyre Rivers Trust at **tom@wyreriverstrust.org**. For the Environment Agency, please contact **futurefunding@environment-agency.gov.uk**.

Case study produced by Ecorys between November 2024 and March 2025.