



North York Moors Esk Valley

A nature restoration pilot project

The Esk Valley © Mark Bulmer





Stepping stones in River Esk at Egton Bridge © NYMNP

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NEIRF pilot projects: An introduction

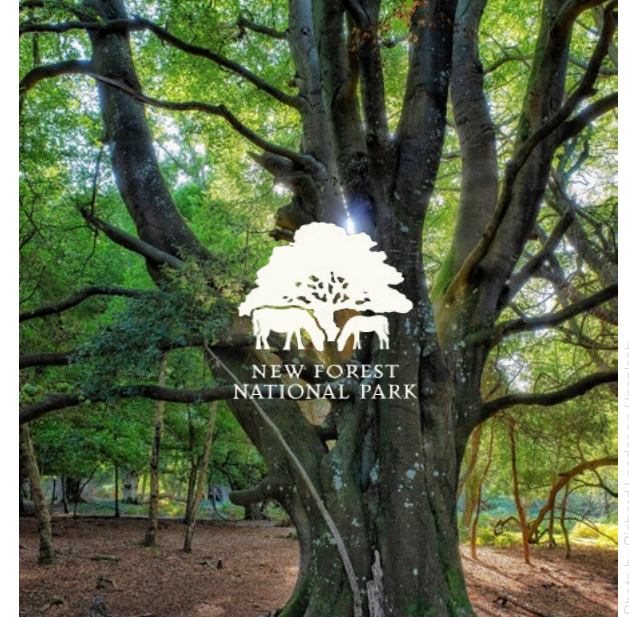
National Parks, in collaboration with Palladium through the Revere initiative (see p28, 'About Revere'), is facilitating several nature restoration projects across the UK.

Two pilots for these projects, in the New Forest and North York Moors National Parks, are funded by the Natural Environment Investment Readiness Fund (NEIRF), the Defra and Environment Agency initiative to encourage the development of environmental projects to become viable for private investment.

The two pilot projects have seen the National Park Authorities and Palladium teams working closely with local landowners and land managers, data modellers Natural Capital Research Ltd and the Environment Agency, to draw up design cases or business cases based on the creation and sale of various ecosystem services.

Both case studies have provided numerous learnings that will be invaluable to their own National Parks as they further explore private financing of nature restoration, and also to other schemes and projects across the National Parks network.

This ebook knowledge product takes an in-depth look at the processes, practices and conclusions from the **North York Moors Esk Valley** pilot scheme, and aims to be a useful resource for future nature restoration projects.



Pilot projects overview

Projects	New Forest Net Zero North York Moors Esk Valley
Funding	Funded by NEIRF, c£100,000 for each pilot
Led by	Revere, a collaboration between National Parks and Palladium (see profile p28)
Duration	July 2021-August 2022
Aim	Collaborating with landowners to explore the potential role of private investment in nature restoration

What is NEIRF?

The **Natural Environment Investment Readiness Fund** is a £10 million fund that provides grants of up to £100,000 to environmental groups, local authorities, businesses and other organisations, to help them develop environmental projects in England which both provide environmental benefits and attract private investment. Designed by Defra and the Environment Agency, working with Her Majesty's Treasury, Natural England and Access – Foundation for Social Investment.

Why nature restoration matters

Grant Moir, Chief Executive of Cairngorms National Park Authority, explains why scaling up ecological restoration in the right way is critical not just to the future of National Parks, but also to the wider UK.



“Ecosystem restoration is incredibly important in the battle against climate change. Globally, around 50% of man-made CO₂ emissions are removed by vegetation, oceans and soil each year – and in terms of biodiversity, the UK does not come out of the Biodiversity Intactness Index well, so there’s an awful lot for us to do. And peatlands in the UK are actually emitting rather than storing carbon – peatlands are responsible for around 20% of Scotland’s CO₂ total emissions.

We are in a global nature crisis, with big declines in species and key habitats. In Scotland, there’s been a 24% decline in average abundance of 352 terrestrial and freshwater species since 1994, and there’s been a 38% decline in the Scottish breeding seabird indicator between 1986 and 2016. These are big decreases in some of the fundamental indicator species, and we’ve got to reverse that quickly.

There are plenty of other good reasons why nature restoration matters too, from helping flood management to providing jobs for people in rural areas.

The positive news is that there are lots of examples of nature restoration projects across the UK that are doing good things, but the challenge now is to scale up these efforts to make a difference to the ambitious targets for 2030 and 2045.

New ways of thinking and working

Ecological restoration is not about returning landscapes to a point in the past, it’s trying to think of new ways to do things. It’s about increasing the amount of land that delivers for nature, improving its ecological functionality, connecting up fragmented habitats – it’s regeneration as well as restoration.

One of the key aspects of ecological restoration is trying to let natural processes maybe run more effectively in places, and creating more semi-natural habitats to allow that to happen.

It’s really important to remember that National Parks are working landscapes, so you have to take the people with you on this restoration journey – farmers, landowners and land managers. It’s not a case of **National Parks** being either ecological or working landscapes, we have to bring both aspects together, which is what we’re trying to do.

There are lots of varying pressures on nature in different places, and the solutions are going to vary accordingly. What works in the Cairngorms, for example, will differ from what’s needed in the South Downs – but the good thing about having the National Parks network is that we can all learn from each other. We’ve all got to find ways for nature to have more room within our overall approach.”

Thinking big

“ Thinking about what restored landscapes will look like in the future is really interesting. The new park plan for the Cairngorms, which was approved in June 2022, has got some big targets and some big opportunities. By 2045, we want to see 50% of the National Park principally managed for ecosystem restoration, 35,000 hectares of new woodland, including 10,000 hectares by natural regeneration (80% of that being native woodland), and we’re looking for 30,000 hectares of peatland restoration.

It’s an exciting agenda, and we’ve got to work closely with people on the ground to make sure it works with more traditional management, too. That’s the crucial bit – scaling up, but also trying to look for new opportunities for people in the future. We’ve achieved some scale in the Cairngorms and we need to replicate that across all 15 National Parks, because if we start to lead on these things then hopefully other areas in the wider countryside will follow.

We’ve also got to tie restoration in with things like food production – we’re not creating any new land, so we need to work out how we can best deliver on the multiple things that people need from it. We’re not trying to transform all our landscapes into places like the Yukon or northern Norway, but we are aiming to turn the dial up on nature.



North York Moors National Park © NYMNPA

National Parks leading the way

As an organisation, National Parks have a responsibility to provide leadership on biodiversity and climate action, but also on the human dimension. A lot of people live and work in the **National Parks**. We’ve got to make nature restoration relevant to people and show how we can deliver that - it’s all interconnected.

Thanks to the structure we have in the National Parks, we are well placed to show people what a positive future looks like. If we can show that there are new ways to create big benefits for nature within the **National Parks**, it will hopefully inspire similar projects to be rolled out in other areas and we are well placed to

try to show what a positive future looks like.

The work we are doing with Revere, raising private finance for nature restoration, is incredibly important. We know there is not enough public money available to carry out all the critical work that needs to be done in the next 25 years.

We know there is private funding available for nature and climate projects and we need to find ways of accessing it. It is essential that we do this with integrity and that the work we do is never greenwashing, and also that the outcomes are beneficial to local areas and communities living within them.

Time to lead

“ Being able to help move forward on the climate and biodiversity agenda is something which is now at the absolute forefront of what residents, communities and the private sector want from National Parks. They expect us to be experts and leaders. This is an area where we can use our brand and our credibility to make a difference. Now is the time for National Parks to really seize this opportunity to raise our profile and show what we can deliver to society as a whole.

Naomi Conway, Director
National Parks Partnerships

For an in-depth conversation on nature restoration with Grant Moir and Naomi Conway check out the [Revere Vimeo channel](#)

We need to work together to trial the various models, see what works, what needs to be tweaked or changed, and how it all fits together. The trial work that we’re doing across the National Park network is absolutely crucial to this. This way, we can make sure that when we roll this out and when we talk to other people, we’ve got good models that ensure long-term, sustainable private finance doing the right things that provide long-term benefits, locally and nationally.”



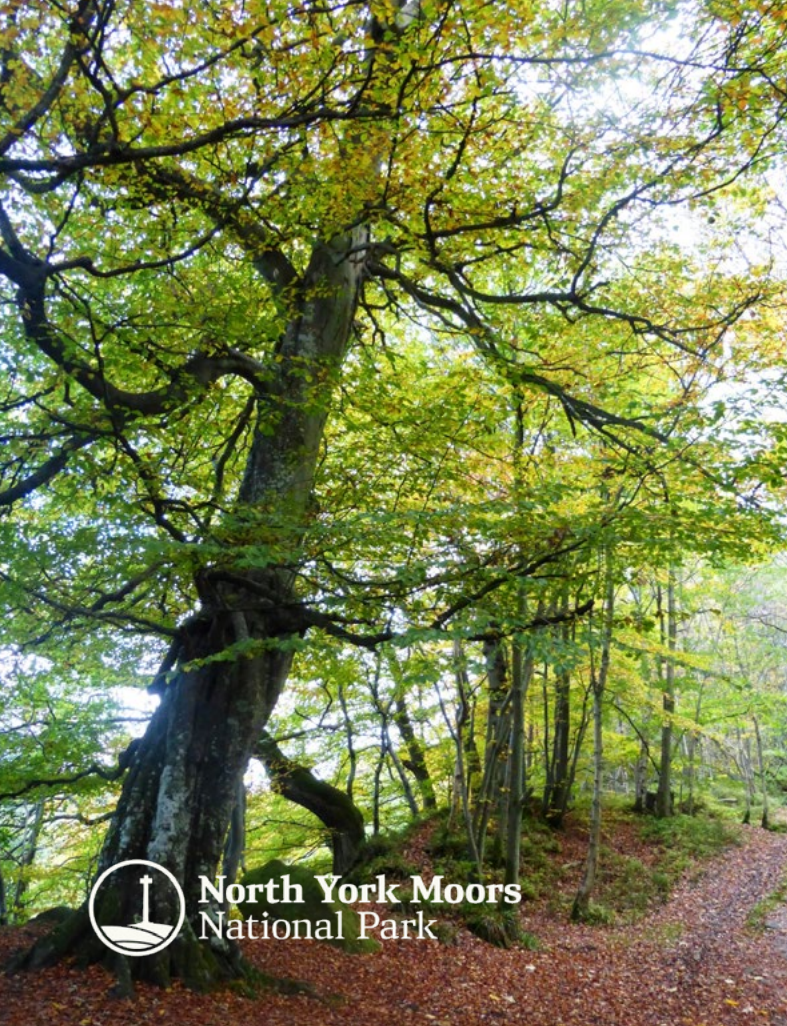
Project profile



**North York Moors
National Park**

Rye Landscape © NYMNP





Airecliffe Woods and River Esk. Photo by Tammy Andrews



North York Moors
National Park

North York Moors Esk Valley pilot

Testing options for members of the
Esk Valley Farmers Group to benefit
from payments for nature restoration

The aim

To test whether delivering nature restoration can generate long-term income for land managers through the sale of ecosystem services; working with farmers to design nature restoration cases to be assessed for commercial viability.

The location

The Esk Valley, a 36,000 ha catchment in the north of the North York Moors National Park. The River Esk flows through the valley to Whitby and the North Sea, with various tributaries joining along the way.

Agriculture has a long history in the Esk Valley. As such, the landscape today is composed mainly of farmland, moorland and woodland. Much of the uplands are used for traditional low-intensity livestock grazing, with some rotational arable farming interspersed into the landscape.



The challenge

The Esk Valley is characterised by a mosaic of habitat types including moorland, farmland, grassland, woodland and rivers. There is a distinct boundary between farmland and grassland in the base of the valley and the moorland that straddles the valley top, often physically marked with dry stone walls separating the farmland from the moorland. Patches of woodland are typically small and unconnected, with a higher density of woodland in the lower reaches of the valley.

Water quality is rated as moderate to poor, with sediment and agricultural runoff into rivers contributing to poor habitat conditions for species such as the critically endangered freshwater pearl mussel. The landscape demonstrates great potential for connecting and softening boundaries between distinct habitats, improving water quality and conditions for iconic local species and transitioning in places to grazing patterns that encourage a more species-rich ecosystem to flourish.



The national picture

The latest Intergovernmental Panel on Climate Change (IPCC) report gives a bleak assessment of the climate impacts we are facing, but states that investing in nature can help to close the emissions gap between current decarbonisation progress and the 1.5°C target. Work to scale up nature-based solutions is therefore urgently needed; the Green Finance Institute calculated a central estimate of £56 billion is required in investment above current public sector commitments for the UK to meet nature-related outcomes in the next ten years.

The future for landowners and farmers is unclear. The UK is currently exiting from the EU farm subsidy payments scheme and transitioning into Defra's Environmental Land Management Schemes (ELMS). Yet many details on how ELMS will work still need to be confirmed. Private payments for environmental outcomes remain **at an** early stage and the rules for how these can combine with public payments are yet to be determined.

Nationally, the UK Government has signalled the need to address the climate and nature emergencies. This includes targets for widespread nature restoration as set out in the UK's 25 Year Environment Plan and Net Zero Strategy.

The participants

Delivered by Palladium, North York Moors National Park Authority, Natural Capital Research Ltd, the Environment Agency and members of the Esk Valley Farmers Group.

Esk Valley Farmers Group

The Esk Valley Farmers Group comprises 52 members covering over 10,000 hectares of the Esk catchment. Farming backgrounds cover beef, dairy, sheep and mixed units of both private and tenanted holdings. The group shares knowledge and skills on best practice for land management, as well as forming synergies with internal and external organisations.



Fishing in the Esk River near Glaisdale © NYMNP

The opportunity

Working with local farmers and farm cluster facilitators, this project tested options for delivering nature restoration with private finance. The diverse membership of the Esk Valley Farmers Group helped to identify specific learnings about the opportunities and challenges for different types of land managers, from tenant farmers through to landowners.

Project partners and land managers worked together to co-design nature restoration cases, with a focus on woodland creation and species rich grasslands. They then quantified the volumes and types of ecosystem services that restoration can deliver and explored the business cases associated with selling them.

Role of restoration

Restoration interventions can contribute to local and national environmental objectives, whilst also providing a long-term income option for land managers through the sale of ecosystem services.

The outcomes

The pilot project has enabled the collection of evidence of the opportunities, challenges and financial viability of delivering commercial nature restoration for land managers in the Esk Valley Farmers Group.

These shareable learnings will help inform and guide other interested parties, both in the North York Moors and across the UK, on options for managing land for nature. It will help policy makers gain a better understanding of blended finance, public finance for nature restoration and how to enable policies that support different types of land managers. ◀



North York Moors
National Park

Pilot perspectives



Aims of the pilot

Summer Davies
Project Development Associate
Palladium

“The overall aim of the Natural Environment Investment Readiness Fund is to bring together collaborations of land managers and project developers to design nature restoration projects that have a viable investment case behind them.

On this project specifically, Palladium worked in partnership with the North York Moors National Park Authority and the Esk Valley Farmers Group to design a nature restoration project with a focus on woodland and species-rich grassland creation.

After establishing what habitats we could create within the Esk Valley, we then built an economic model outlining the implementation and long-term maintenance costs of those interventions. To understand whether there is an investment case, we also investigated what public and private funding and revenue sources could be blended to pay for the environmental outcomes that the habitat creation plan could deliver.

We know that there is a significant funding gap in terms of public money available, versus that required to create and maintain environmentally beneficial habitats in the UK. With that in mind, a key aim of this project was to see whether we could generate enough revenue from private funding sources through sales of environmental outcomes to bridge that funding gap and make the habitat creation plan financially sustainable for decades to come.

We know that there is a significant funding gap in terms of public money available, versus that required to create and maintain environmentally beneficial habitats in the UK.

We also wanted to tap into the North York Moors National Park Authority's inherent expertise and knowledge about the landscape to guide what was appropriate in terms of a nature restoration initiative, and the key ideas that will work for people that live in this area and manage the landscape on a day-to-day basis.

There is a huge amount of uncertainty in land management at the moment; the government is designing what the new agricultural subsidy system will look like, and what type of activities or outcomes will be paid for. There are also increasing parallel opportunities regarding private payments for delivering particular environmental outcomes.

The challenge is that there simply isn't clear guidance on how the public payments system will operate, or on how to blend public and private funding opportunities. In many cases, this makes it difficult for land managers to make confident decisions about the future of their businesses in the very immediate and longer term.

It was therefore a really important aim for us that the land managers we engaged with felt as though they came away from the project with genuinely useful information. We wanted them to be able to take the next steps in terms of planning how to manage their land and businesses and understand how to operate as we go through this transition in land management.”

Woodland bluebells © NYMNP



Heron on banks of River Esk © NYMNP

Chris Watt
River Esk Project Officer
North York Moors National Park Authority

“We wanted to equip the Esk Valley farmers with knowledge and confidence, and have an idea of what the next steps are for them and hopefully be better prepared for future changes.

From a National Park perspective, we also wanted to see these restoration aims become a reality – for land managers to actually pursue the ideas that we gave them and help us to deliver nature recovery on the ground at the same time as them being able to realise a long-term, viable income from it.

We hoped to help change perceptions as well – that we’re not coming in saying we want to completely afforest the Esk Valley or diminish the living landscape, but that we want to work with farmers to move away from some of the more traditional and static ways of thinking, towards landscape and farm businesses that are more resilient.”

Who is involved?

The **Esk Valley Farmers Group**, facilitated by Fraser Hugill, was a core component and one of the main drivers of the project. They were formed and funded through a Countryside Stewardship Facilitation Fund, and are a hub of knowledge exchange, skills, and experience of land management across the Esk Valley.

The group comprises a mixture of farms – beef, dairy, sheep and mixed units of both private and tenanted holdings, smallholders and even some estate owners – and the National Park Authority has worked with them on numerous other projects in the valley.

The **Environment Agency (EA)** were very close partners and involved in the design of the project from the outset. There are some key iconic species that exist only in the Esk River such as the critically endangered freshwater pearl mussel, and the EA were keen to see the project promoting positive outcomes to support those species in the future.

- **North York Moors National Park Authority** – facilitating the project on the ground.
- **Palladium** – bringing a wealth of experience working overseas with afforestation, sustainable farming models and incubating projects that are environmentally positive uses of the land.
- **Natural Capital Research** – providing the technical capabilities to assess the nature restoration potential.
- **Environment Agency / DEFRA** – funding the scheme through NEIRF.
- **Esk Valley Farmers Group**: An association of 52 members covering over 10,000 hectares of the Esk catchment, featuring a mixture of beef, dairy, sheep farming and mixed units of both private and tenanted holdings.
- **Other local stakeholders**: Esk and Coastal Streams Catchment Partnership, Yorkshire Water, Natural England, Yorkshire Wildlife Trust, Freshwater Pearl Mussel Group.
- **Potential buyers of ecosystem services**, who are keen to know what the local potential is for creating these ecosystem services.

On the ground in the Esk Valley



Summer in Westerdale © Chris Watt

Summer Davies Project Development Associate Palladium

“This pilot sits in Revere’s Natural Capital Innovation portfolio, and there have been some key innovative characteristics to this project. Often you might work with just one or two land managers at a time on a nature-based solutions project, but working with the Esk Valley Farmers Group has been brilliant because it’s a large group of land managers. This project unlocked an opportunity to test this approach on a landscape scale and work with a wide range of stakeholders.

Another important characteristic of this project was the participation of tenant farmers in the group, the majority of which are quite representative of the proportion of tenant farmers across the UK.

A lot of payments for natural capital outcomes are typically associated with primarily benefiting landowners, so a really important part of this project has been to understand the challenges that tenant farmers face in this respect and potentially explore how we can channel benefits from environmental improvements to land managers, not just landowners. Getting the perspective of tenant farmers in the Esk Valley has been very helpful in terms of improving our knowledge and understanding of these issues – not just for Revere, but for the sector more widely.”

Chris Watt River Esk Project Officer North York Moors National Park Authority

“The valley contains a mixture of habitats ranging from ancient woodland species and rich grassland to the river Esk itself, which is home to iconic species such as the freshwater pearl mussel, Atlantic salmon and sea trout. The protection and enhancement of these has always been the driving force for a lot of environmental projects here in the past and was something that we could build on.

It was really helpful to start this project with the existing, solid working partnerships we have with the Esk Valley Farmers Group. The private finance concept we’re exploring is entirely new within the valley, so having that platform to work with has made it easier to engage with people and explore the ideas.”

The Esk Valley landscape



Esk Valley © Mark Bulmer

Farming characteristics

Land use in the Esk Valley is largely traditional upland low-intensity **livestock grazing** on improved grassland, with some interspersed rotational arable farming. Approximately 60% of land use is managed under tenancy agreements.

There is currently a **high loading of nutrients** in soil and water due to manure spreading in fields and direct input into the Esk River.

Historical landscape features that represent traditional farming practices are present in the landscape.

There are distinct barriers between habitat types, such as moorland and grassland separated by dry stone walls, and small unconnected areas of woodland.

Environmental challenges

Biodiversity: Continuous improved grassland in the Esk Valley represents **a gap in the local habitat network**. Some targeted projects in the valley are working to improve biodiversity, but are typically small and unconnected.

Water quality: Iconic local species such as the freshwater pearl mussel are at risk due to **nutrient and soil runoff levels** in the River Esk. Agricultural diffuse pollution is directly contributing to failed chemical and moderate overall status of rivers in the catchment.

Soil & carbon: Current land use provides little protection from soil erosion, which has led to areas of **bank collapse** along the river Esk. Carbon stored in soil in the valley is typically lower than on the moorland, with small areas of woodland sequestering significantly more carbon than areas of improved grassland.

Ecosystem services explored & modelled

- Carbon sequestration (woodland)
- Water quality improvement and pollution management
- Biodiversity Net Gain (hay meadow creation)



Esk Valley key species: The freshwater pearl mussel

The freshwater pearl mussel can live for more than 100 years – making it one of the longest-living invertebrates in existence. Formerly widespread and abundant in England and Wales, numbers have severely declined with most populations now on the verge of extinction.

Freshwater pearl mussels are a very important ‘indicator species’; their decline is a warning about the health of the river ecosystem.

The freshwater pearl mussels in the River Esk are the last surviving population in Yorkshire, and only a few are left. Most of the remaining mussels in the Esk are over 60 years old and have not produced young for over 25 years. It is likely that the Esk population will become extinct in the next 40 years unless action is taken to halt this decline.

Factors that lead to a decline in populations can include:

- **Habitat degradation caused by sedimentation of river gravels**
- **Decline in populations of host fish (salmon and trout)**
- **Water quality issues**
- **Historic pearl fishing**

View from the farms

Fraser Hugill
Farmer and Esk Valley
Farmers Group Facilitator

Esk Valley © Mark Bulmer

Setting up the Esk Valley Farmers Group

“I’ve got a really long-term relationship with a lot of the farmers here, and one thing I’ve always liked about the area is that we’ve got a group of farmers who have got quite an open mind to this type of initiative.

The Esk Valley Farmers Group came about because someone from Natural England asked if I would be interested in trying to pull together a group of farmers to apply for the Defra Countryside Stewardship Facilitation Fund, which was all about trying to get farmers working together to do knowledge transfer as a group, to get together to really learn about how they can manage land better. One of the objectives in the Esk Valley was around water quality, and there were others around wading birds and habitats. About 30 farmers came along to the

first meeting; we went through what the scheme was and what it would involve, and we came up with what our priorities would be, which were quite broad. Our objectives within the group were to farm better for the environment, but also to farm better in a way that is still profitable, or ideally more profitable. The group’s quite social as well, so we’re covering the economic, the social, and the environmental.

We’re fairly representative – there’s a mix of tenants and owners – and we’ve got a nice dynamic. We’ve got people with a few acres of land, smallholders, and some large landowners and estates. The politics of whether you’re big or small in our group hasn’t really mattered.

The main issues and concerns for farmers in 2022

To sum it up in one: what does the future hold? There is a big level of uncertainty. Being a member of the EU from a farmer’s point of view gave quite a degree of certainty. I think that’s why we’ve got such a big membership of the group. And in the last six months we’ve hit mega uncertainty with world events, and big commodity spikes, which has been really hard because agriculture is quite energy hungry. That’s why people are looking to change; we’re going to have to work differently and hopefully this project is going to help us understand what that could look like.”

Fraser Hugill is the Esk Valley Farmers Group Facilitator. He grew up on a tenanted upland hill farm in the North York Moors, before the family became owner-occupiers when he was 16. He has farmed all his life, as well as working professionally, including for the North York Moors National Park Authority where he started as a Farm Scheme Conservation Officer in 1997, working with a lot of the farmers that have been involved in this project.

Pilot processes

Summer Davies Project Development Associate Palladium

“We worked directly with approximately 20 farms within the Esk Valley Farmers Group to identify areas of habitat creation opportunities for woodland and species-rich grassland. These two habitats were selected as a focus because they offered the greatest flexibility in terms of applicability across the catchment. While species-rich grassland represents an opportunity for tenant farmers to continue active agricultural land use by managing hay meadows with grazing and hay cutting, native woodland creation offers the most direct access to private payments for environmental outcomes through the Woodland Carbon Code.”

Phase 1: Winter 2021

Natural capital baseline and local market assessment

Natural Capital Research Ltd produced a **detailed baseline assessment** of the pilot site, mapping the existing natural assets. This took into consideration potential ecosystem service opportunities, including:

- Carbon storage
- Carbon sequestration
- Flood risk reduction
- Water purity/nitrates
- Important biodiversity habitats
- Nature networks

Palladium undertook a natural capital market assessment to complement this baseline by establishing the extent and scale of opportunities to generate private payments for environmental outcomes in the Esk Valley. The study covered the four key ecosystem services for which a market currently exists in the UK:

- Carbon dioxide removal and reduction
- Biodiversity Net Gain
- Water quality improvements
- Flood risk reduction

Phase 2: Spring 2022

Habitat creation opportunity identification and economic model development

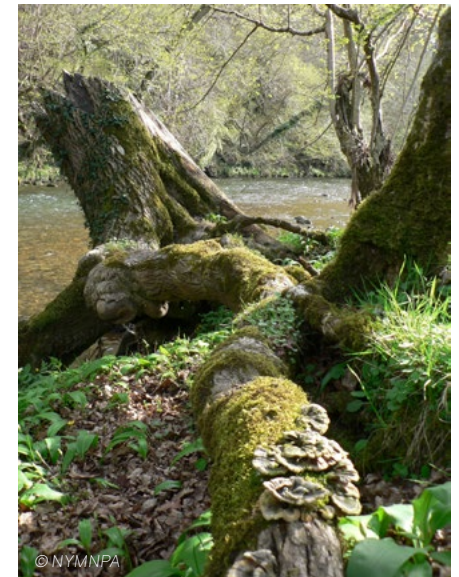
Fraser Hugill, Chris Watt and the **North York Moors National Park Authority team** coordinated drop-in sessions with Esk Valley farmers to identify areas for woodland and species-rich grassland creation on their holdings. Collectively, participants identified 122 hectares of potential native woodland creation and 377 hectares of species-rich grassland creation. Building on this ambitious ‘farmer-led’ proposal, **Natural Capital Research Ltd** used their land-use model to identify any further areas of habitat creation that, if delivered, would generate significant positive outcomes for the landscape in terms of biodiversity, nutrient management, connectivity and carbon. This additional area of 209 hectares of woodland and 182 hectares of grassland represents an ‘advanced’ scenario for habitat creation that could provide ideas for future land use and land management change in the area.

For each of the 21 farms that engaged in helping design a nature restoration plan, **Palladium** subsequently created a personalised commercial model where cashflow is based on the balance between the costs of creating and maintaining habitats over time and the available sources of capital funding and ongoing revenues that could be drawn on for each site.

Phase 3: Summer 2022

Immediate next steps and how to deliver nature restoration at scale

In July, the project team met with farmers individually to talk through their specific commercial models and to discuss **practical next steps** that might work for them, based on their interest in the opportunity in relation to policy developments and evolving financial opportunities. Alongside this, a wider engagement event was held where stakeholders were invited from outside the boundary of the Esk Valley Farmers Group catchment to discuss the project learnings and what it means within the context of the land management transition in the National Park and the UK more broadly.



© NYMNP

Esk Valley pilot project timeline

North York Moors Esk Valley selected as a pilot project.

River Esk EIRF Project Officer appointed.

GIS information collated to assist NCR in devising baseline natural capital reports of Esk Valley Farmers Group holdings.

NCR submit **baseline natural capital reports** of all Esk Valley Farmer Group holdings.

Second engagement session 1-to-1 habitat creation design sessions with land managers in the Esk Valley. Meeting at Danby Village Hall on 20 January. Land managers worked with the project team to outline areas of potential diverse native woodland planting and species-rich haymeadow creation.

Soil sampling is completed and results presented to Esk Valley Farmers Group.

NCR model a second scenario of habitat restoration which builds on the areas identified by land managers and identifies additional areas of potential habitat creation that deliver significant positive outcomes for biodiversity and carbon.

Visualisation material to showcase landscape change in catchment, following restoration over a 30 year period is produced. This will be used as a visual guide and aid discussion of how the valley should look in the future.

Europarc Atlantic Isles visit Esk catchment to see how NEIRF nature recovery will be delivered.

AUG 21 SEP 21 OCT 21 NOV 21 DEC 21 JAN 22 FEB 22 MAR 22 APR 22 MAY 22 JUN 22 JUL 22

Funding awarded by DEFRA.

First team visit with National Parks Partnerships (NPP) Palladium and Natural Capital Research (NCR) held in catchment.

First engagement session Esk Valley Farmers Group members invited to Ugthorpe Lodge to be introduced to the project, meet the team and ask questions about what we intend to achieve and how it fits in with the landscape of policy development and Environmental Land Management Scheme (ELMS).

Palladium conducts **market analysis** to establish the existence and scale of a local market place for sale of ecosystem services across the four key natural capital markets:

- Carbon
- Biodiversity Net Gain
- Water quality / nutrient balancing
- Natural flood management

Soil sampling is undertaken to assist with the provision of a baseline of soil conditions for grassland restoration for Esk Valley Farmers Group.

NCR digitise maps of habitat creation using information collected with land managers in January.



Palladium use both the land manager-led and data enhanced scenarios for habitat creation to build an **economic model** for nature restoration in the Esk Valley.

The model outlines the costs of establishing and managing new habitat types and both the public and private revenue streams that can currently be drawn on to support paying for delivering the proposed environmental outcomes.

Third engagement session 5th July: 1-to-1 meetings with land managers who supported habitat creation mapping to share mapping, commercial opportunities and next steps for delivering nature restoration on their holdings.

July: An engagement and networking event with the Esk Valley Farmers Group and stakeholders from the wider local area to discuss findings from the project, overview of economic opportunities to restore nature in the area and a collaborative discussion about where to go next, including signposting for existing funding schemes.

Project economics

Private payment opportunities in the Esk Valley

Palladium engaged with local and national private sector organisations, along with planning authorities and infrastructure companies, to establish the scale of current opportunities to receive private payments for delivering environmental outcomes in the Esk Valley. A summary of opportunities, as determined in 2022, across the four key natural capital markets is set out here.

CARBON

Presence and viability of a marketplace

- The voluntary market for carbon credits generated from woodland creation is growing rapidly and there are many buyers within the UK.
- UK-based native woodland creation projects are very popular with buyers, due to their high integrity and traceability of outcomes.
- Woodland Carbon Credits are currently selling for £25-40/tCO₂e.

Conclusion

An accessible revenue stream for private payments for nature

- Several project developers, brokers and NGOs are working with landowners across the UK to support connection with buyers of Woodland Carbon Credits and arrangement of payments for delivering and managing woodland creation projects.

BIODIVERSITY NET GAIN (BNG)

Presence and viability of a marketplace

- From winter 2023, achievement of BNG for developments will be mandatory.
- BNG units must be generated within the same National Character Area (NCA) as the development scheme.
- There are very few development occurring within the North York Moors NCA.

Conclusion

Not an option now, but may be in the future

- Long-term annual payments for biodiversity outcomes through the BNG framework are not yet an option in the Esk Valley, but may become viable in the next couple of years.
- The scale of the opportunity is likely to be limited by the typical number of approved developments within the NCA.
- Upfront, lump-sum payments for biodiversity projects in the Esk Valley may be viable outside of the BNG process. Options include S106 payments or smaller biodiversity grants such as those offered by Yorkshire Water.

WATER QUALITY

Presence and viability of a marketplace

- The Esk Valley is a catchment with significant room for water quality improvement where key pollutants are nitrate, phosphate and sediment.
- Lack of planning restriction in the Esk operational catchment regarding nutrient balancing, limits opportunities for nutrient trading with developers.
- Yorkshire Water, the most likely buyer of water quality outcomes, is not yet prepared to engage in nutrient trading projects but may be in the future.

Conclusion

Not an option now, but may be in the future

- Yorkshire Water may provide small upfront payments to support projects that could impact water quality in the Esk, but are not yet ready to engage in annual payments for nutrient balancing outcomes.

NATURAL FLOOD MANAGEMENT (NFM)

Presence and viability of a marketplace

- Flood risk is concentrated towards the east of the Esk catchment.
- Private funding sources for habitat creation with the potential to deliver NFM are mainly derived from property developers and flood insurance companies.
- The EA and NPA note that water level in the river does rise in storm and high rainfall events, but it is very unusual for properties and people to be impacted.

Conclusion

Not considered a viable revenue stream in the Esk Valley

- Unless significant property development occurs in high flood risk areas within the Esk catchment, it is unlikely that either the Environment Agency or private buyers such as developers or flood insurance companies would pay to support habitat creation for flood management outcomes in the Esk.

The bigger picture



Livestock freely grazing between field and woodland

Demonstrating the practical use of woodland as grazing area and shelter for livestock.

One of the key tools of the process was working with illustrator Joshua Rice to create detailed, informative visual guides of potential landscape change within the Esk Valley over the next 30 years, based on various restoration scenarios. This enabled realistic and meaningful discussions with farmers during consultations, and helped to progress the conversation around what the different approaches could mean for the future of the valley.

Briony Fox Director of Conservation & Climate Change North York Moors National Park Authority

“The Esk Valley is a living and working landscape and farmers highly value their role in managing it for the future, so co-creating a vision with them was an essential component of this project.”

Summer Davies Project Development Associate Palladium

“Something we talked about a lot is working with Esk Valley farmers to create a vision for habitat creation that they can see themselves in. We didn't want to plan a restoration design that is a full woodland creation where there are no longer any sheep or cows grazing in the fields. We integrated aspects of traditional farming with nature recovery elements so the farmers could envisage what they're doing now but through a slightly different lens.

We worked this concept into an artistic visualisation of the valley as it is now and what it would look like while delivering some of the restoration interventions, such as some woodland planting and hay meadow creation, and then what all that could look like in the longer term. We presented visuals on a landscape level and also really zoomed in on a riparian habitat, because the river is such a key asset in this area.

We designed these illustrations in collaboration with several stakeholders in the area including the Environment Agency, farmers and, of course the National Park Authority. These images aren't meant to be prescriptive, but rather to spark discussion and debate about the future of the area, what it could look like and how it could be managed.”



Dairy cows grazing red clover

Showing productive agriculture will continue to exist in the valley but that nature-friendly techniques may become more prominent.



Wet, species-rich grassland mix

Flower and grass species that would be expected in a species-rich meadow, including marsh marigold, red burnet, ragged robin, bird's-foot trefoil, pepper saxifrage, yarrow and yellow rattle.

Illustrations © Joshua Rice

Esk Valley: A landscape view over time

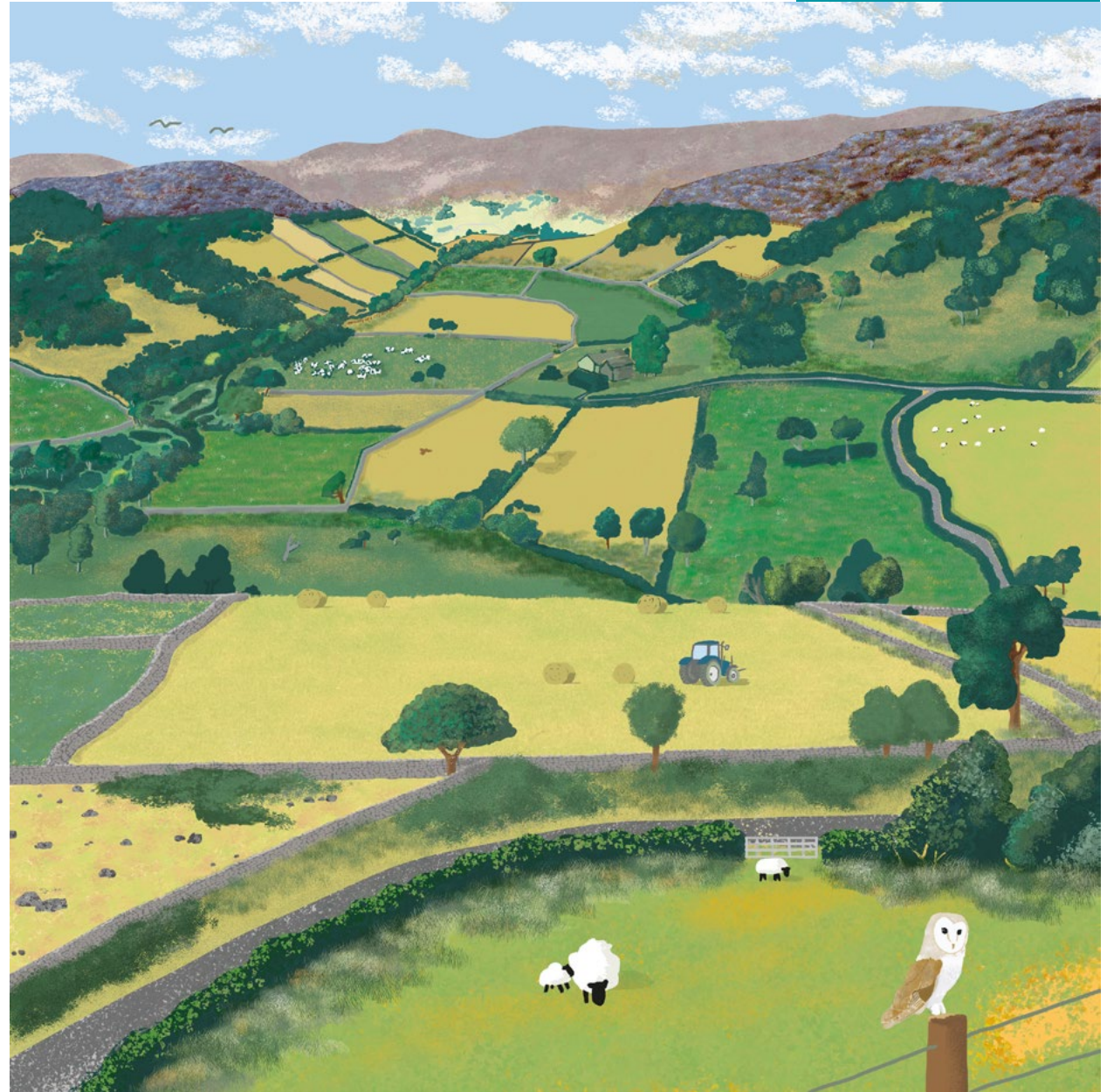
How might the valley evolve over the next 30 years? These illustrations were designed to spark conversation and debate.



Current view
Low tree cover,
distinct field
boundaries.



Transition view
(3-5 years) Tree
planting in action;
still a mix of cattle
and sheep.



30-year view Denser tree cover, more connected areas of woodland and species-rich grasslands. Illustrations © Joshua Rice



Esk Valley: A riparian view over time

How might the valley evolve over the next 30 years? These illustrations were designed to spark conversation and debate.



Current view
Poached riverbank, signs of erosion, Ash dieback.



Transition view
(3-5 years)
Reprofiling banks, rocky riverbed becoming visible.



30-year view Strengthened riverbanks, maturing woodland, salmon swimming up stream.

Illustrations © Joshua Rice



Pilot outcomes

Outputs

Technical outputs from the project will support future habitat creation works in the Esk Valley.

1. Maps of native woodland and species-rich grassland creation opportunities

21 farmers within the catchment identified over 120ha of potential native woodland creation and over 375ha of species-rich grassland creation that could be delivered if funding opportunities were aligned and sustainable. The species-rich grassland opportunities were found to be most popular with the group of participants, due to ability to manage the habitat with grazing and hay cutting, meaning that it is still classed as an agricultural land use, making it accessible for tenant farmers.

2. Assessment of current natural capital market opportunities in the Esk Valley

Speaking to investors, offtakers, local planning departments and other key stakeholders, the extent and scale of the market was assessed for the four key ecosystem services where a market for private payments currently exists in the UK. Of carbon, biodiversity, water quality and natural flood management outcomes, the carbon market is the most mature and easiest to access. Biodiversity and water quality outcomes have potential to improve in the future with policy and strategic development of key offtakers but may be limited in scale due to level of demand. Flood risk is low within the catchment and as such, natural flood management is not considered to be a viable source of funding for nature recovery.

3. Commercial modelling

For each farm, a multi-year commercial model was created, detailing costs and revenues of delivering the outlined habitat creation opportunities based on currently available public and private funding sources. Costs covered habitat establishment such as seeding, sapling purchase, fence erection and management, such as woodland thinning and grassland re-seeding to support maturation of the habitats. Revenues combined public grants through the England Woodland Creation Offer and higher tier Countryside Stewardship payments, as well as relevant private payments through the Woodland Carbon Code where appropriate.

The Esk Valley NEIRF project has resulted in a suite of technical outputs to support habitat creation in the catchment, key learnings for the area and the natural capital sector more widely, and a set of practical next steps to help the Esk Valley Farmers Group and the North York Moors National Park Authority move proactively towards nature recovery at scale in line with their newly published Management Plan, addressing nature recovery, climate change and health and wellbeing.



© NYMNPA

Next steps

Immediate and longer term opportunities for delivering habitat creation in the Esk Valley have been outlined. By setting out short, medium and long-term options, practical delivery routes were provided for those keen to make progress now, and those that would like to wait to take advantage of opportunities that may make nature recovery more financially viable and sustainable in the near future.

1. Immediate funding opportunities

Grant schemes for habitat creation exist in varying forms, each with different specifications on habitat structure and management. Options include Countryside Stewardship, England Woodland Creation Offer and Section 106 payments. Current grant schemes are typically based on single upfront capital payments, with options in some cases for a revenue payment for a maximum of 10 years. As long as new woodland projects comply with the Woodland Carbon Code (WCC) additionality rules, grant payments could also be 'stacked' with payments for WCC carbon credits.

2. Horizon scan

In the medium term, DEFRA is set to publish guidance on how land management communities can collaborate to access higher tiers of funding for managing land for nature. These are the Local Nature Recovery and Landscape Recovery grant schemes. This project with the Esk Valley has hopefully set a strong basis for the group to work together to attract higher payments for their work than they could each achieve if they worked individually.

Policy and natural capital markets developments should also lead to a wider range of available payments for different habitat types. For example, Biodiversity Net Gain (BNG) will become mandatory in winter 2023, meaning a formal England-wide market for delivering outcomes for biodiversity will exist. The upcoming 'Farm Soil Carbon Code' and 'Agroforestry Carbon Code' have potential to enable access to carbon payments while maintaining agricultural land use, ultimately providing increased opportunities for tenant farmers.

3. Delivering nature recovery at scale

Funding facilities run at a regional level (eg, National Park, AONB, county) could help to unlock the ability of smallholders and tenant farmers to engage in nature recovery. A regional nature funding facility could:

- a** Set a nature recovery strategy at a landscape scale, defining key environmental outcomes and habitat creation, connectivity and management goals that contribute towards achievement of the strategy. In England, many of these strategies have already been set through the Nature Recovery Network.
- b** Collate all public and private funding into the facility based on revenues and capital funding that can be raised to deliver the defined strategy. This is based on a blend of sources such as ELMS Landscape Recovery Grant, WCC, Peatland Code and BNG payments.
- c** Assess, approve and support sites submitted by individuals and groups, submit sites to the facility, where project ideas demonstrate how they will contribute to the delivery of the strategy through habitat creation, connectivity etc.
- d** Distribute relevant funding to land managers in single annual payments.

Woodland bluebells © NYMNPA

The farmers' perspective

Summer Davies Project Development Associate Palladium

“It’s almost been like a practice round for the way that public funding is going. For the new ELM Scheme, the information that we’ve had so far from DEFRA tells us that accessing those higher tiers of funds is going to be based on collaboration, whether that’s with a couple of neighbours or a much larger catchment scale group of people. Hopefully for the Esk Valley Farmers Group, just going through this process and thinking about how they can contribute to a broader vision for the area, whilst still achieving their own personal business aims, is really beneficial.”

Bluebells in the Esk Valley © Mark Bulmer

Fraser Hugill Esk Valley Farmers Group Facilitator

“The pilot project has been a really challenging experience for the farmers in many ways, in terms of them trying to get their heads around what it’s all about. But I think it’s positive in that it’s exposed them to something that is still fairly cutting edge, in a way that a group of farmers, some of them quite small, would otherwise not have had this level of exposure.

The exercise we did, looking at what the future might be like, was a challenge. Farmers are used to being presented with a scheme where somebody tells them they’ll get this amount of money for doing a certain thing, but for this project, where we presented them with questions around what they’d like to do and how they’d do it, what their level of ambition is, and without being able to tell them definitely about what money is available, is really quite a difficult concept.

But I think there’s a really valuable output from this mix of public funding and private options that we’ve presented them with, which is that they’re part of the process before you get the funding. I think there’s a really important lesson in trying to do that, and thinking about how we can work so that the farmer or the landowner feels that it’s their scheme as much as ours.

It’s been important to be honest, open and not over-promise. I’ve told farmers that there may either be nothing that comes directly from the private finance route but they’ll be better positioned for ELMS, or there might be something that comes from this, and if it does, they’ll be at the head of the queue. It’s a learning process, and one of the key learning processes was finding out what the scope was to get a group of relatively small upland hill farmers working together on this. All the press messages out there suggest that they’re going to be disenfranchised as they’re not of sufficient scale individually to be able to deliver at landscape scale. If you want to put that landscape together you’ve got to have some sort of mechanism, and that’s really the unique thing that I think we’ve been doing through this project.”

Key learnings

Summer Davies
Project Development Associate
Palladium

Haymeadows © Emma Dodsworth

“ I learnt a lot through this project but have boiled it down into three key findings: the need for equality in access to financial benefits, funding facilities to unlock our ability to delivery nature recovery at scale, and the importance of trusted local advisors and facilitators.

The first relates to discrepancy in access to funding for landowners verses tenant farmers. At the moment, there are clear and direct routes to payments for carbon outcomes, because the carbon market is quite mature and we can use the Woodland Carbon Code and the Peatland Code to validate transactions for carbon emissions removal and reduction respectively. But those payments are directly related to landowners, and unless you have quite a modern farming tenancy agreement, you're unlikely as a tenant farmer to get access to financial benefits of delivering carbon related outcomes. Verification frameworks, such as Biodiversity Net Gain (to become mandatory in winter 2023) and the upcoming Farm Soil Carbon Code and Agroforestry Carbon Code, are better suited for tenant farmers as they cover habitats and management techniques that can be considered as agricultural land use. This not only means that tenant farmers can contribute to nature recovery without being in breach of tenancy agreements, but that they can also access a blend of public and private payments for their work. These frameworks are still being developed and are not yet operational.

Secondly, through discussions with farmers, project partners and stakeholders operating in the finance for natural capital sector, we also know that the current mechanisms for accessing finance for nature restoration projects are a significant barrier to land use and land management transition in Britain.

The funding offered by public sources for habitat creation and maintenance is not reflective of the true lifetime cost of delivering change for nature and climate, this fact is well documented. Furthermore, if you want to blend sources of public and private finance to help bridge that funding gap, you have to register your project through multiple frameworks and schemes to access each framework's relevant funding and check that you meet the additionality requirements for each, where guidance on the subject is either vague or non-existent e.g. Woodland Carbon

[T]he current mechanisms for accessing finance for nature restoration projects are a significant barrier to land use and land management transition in Britain.

Code, Countryside Stewardship, Biodiversity Net Gain.

This adds a significant cost of time and advisory support which is not feasible for the majority of working farms, therefore limiting our collective ability to deliver change at scale. We must design and operate nature recovery funding facilities at a regional level if we want to achieve our climate resilience and biodiversity action goals in the UK.

Facilities operating at, for example, a National Park, AONB or county level, could set a landscape scale strategy for nature recovery, habitat creation and connectivity (something many have already done through the Nature Recovery Network). These facilities could collate all sources of relevant funding (public and private) for delivering against that strategy and then

distribute it to land managers through simple single annual payments based on their contribution to delivery of the strategy. This kind of approach would unlock the ability of smallholders and farmers to take part in nature recovery and access fair and sustainable payments for doing so.

Finally, what has also become clear through this process is that when you bring land managers together for collective outcomes, trusted facilitators like Chris and Fraser are crucial to success. They know the land managers really well, and they work within the landscape. If we are to deliver nature recovery at scale, it is critical that land management communities have access to facilitators who understand their challenges, can advise them honestly and who coordinate groups or catchments to better enable people to work together. On this project alone, I am confident that if we didn't have people like Chris and Fraser working with us, it is unlikely that we would have achieved the proactive level of engagement and participation that we did. I am grateful to have worked with them and feel the project has been a success as a direct result of their support. ”

Chris Watt
 River Esk Project Officer
 North York Moors
 National Park Authority

“A key learning on the engagement side is that it has to be landowner-led. One of the main reasons for the success of the project is the engagement with the landowners and managers – the one-to-one sessions and the general summary sessions that we’ve held since the project commenced. We’ve been able to keep everyone updated and in the loop, and given them a chance to actually say what they want to happen on their land, and how they envisage things over the next 20 to 50 years. Putting them in the driving seat has been a really key element.”

Woodland with sunshine ©Gareth Dockerty

Farmer feedback

Aiden Ford Mixed Livestock Farmer

How have you found the whole process and the project?

The process has been very interesting, it’s given me a lot of food for thought. It’s good to have a finger on the pulse of what the future might hold, certainly in terms of ELMS (Environmental Land Management Scheme), private capital and carbon credits – all concepts that were alien to me a year ago. It’s been a good way to find out more, rather than just endlessly searching on the internet. It’s been nice to have that interpersonal discussion.

Is there any proposal that you might proceed with?

For us it’s about how much we want to change our farm systematically and if this fits in and works for us, rather than trying to change our farm just to get some money, because there isn’t enough on offer for either the credits or ELMS. We would have to think about – which we are actually – going down the lower input, lower yield, but hopefully high profitability type of farming – less intensive, less fertiliser, less sprays, less cows. If this fits in with that, great. But if not then it doesn’t pay enough to worry about it.

Our main source of income is diversification anyway. But, for example, I wouldn’t want to plant all my land up with trees particularly because you’re a custodian of your farm. Ours has been a farm for a thousand years – if I was suddenly to put a whole load of oaks in, they’re going to last for ever so long and affect future generations.

How do you see things developing over the next 30 years?

The cynic in me sees a lot of estates selling off small tenancy farms such as ours, large farms becoming larger, and a lot of land being taken back in hand by estates and planting trees. For me, that undermines the whole social viability of our community. If you sell off land, farms and houses, you end up with a bit of a vacuum for your schools, shops and pubs.

On the other side, from a personal point of view, I see us carrying on down the leisure side, hopefully trying to think of other ways to make value of the land that we farm. I hope that people will start valuing food a bit more, and hopefully that will play a bit more into sustainable farming methods such as ours.

Next steps

Summer Davies
Project Development Associate
Palladium



“The project finished with us providing a summary of what we’ve learned through the process, in terms of the economics and practicalities of delivering habitat creation at this scale and the environmental outcomes that could be achieved. We outlined some potential next steps for land managers that included immediate funding opportunities for people who want to get started now, and a horizon scan for future policy developments and funding sources that may evolve in the coming years to make diverse habitat creation a more financially sustainable option than it is today.

We really wanted to talk with land managers and owners about what happens next, so that the project doesn’t end and then that’s it. We wanted to make sure there’s a clear pathway to delivery in the immediate future and over the next five to ten years, as policies and the natural capital market evolves.

Something that I’d really like to see come out of this project is us going from here to a place where we find a practical way to enable nature restoration at scale within the Esk Valley, or even the National Park as a whole. At the moment, there are plenty of opportunities to create habitats but the process for designing, approving and getting payments for projects through multiple sources is a huge barrier for land managers. I think the key to delivering against our national environmental goals in a way that is financially sustainable for land managers, is to design a facility that brings public funding and private funding together and distributes to people through a really simple, single payments system.

Having a funding facility where all of the public and private funding is brought into one place, where farmers just have to access it once, based on payments for delivering environmental outcomes that align to a thriving and resilient vision for the landscape, would be a really exciting step to be able to take for the National Park Authority. Palladium is exploring this approach with the South Downs National Park Authority and we are really looking forward to being able to implement our ideas with other **National Parks** across the UK in the years to come.

Neil Harland
Upland Sheep Farmer

Farmer feedback

How have you found the process around the project?

The process has been fine. It’s something a little bit new in terms of private capital investing in British agriculture, so you need to get your head round that because up until now it’s been public funding. So there’ll be new things to think about, such as how long the project lasts – one project we were discussing spanned 40 years. I might not even be around then. For a young person that might be a lot easier to do than for someone of my age.

Is there any proposal that you might take up?

We might pursue the species-rich grassland biodiversity option, because our farm does play host to a lot of waders, peewits, curlew, that sort of thing. That’s the main one I can see our farm taking advantage of.

Fraser Hugill
Esk Valley Farmers Group
Facilitator

“The economic model that Palladium has provided enables us to have constructive conversations about current and future opportunities with the three pilot landowners, and how nature restoration opportunities compare with how they currently manage their land. We will also disseminate the learnings amongst our stakeholders and everyone who has an interest in this project.

We’ll also be able to provide detailed feedback to Defra about what we’ve discovered about the state of the markets currently, and how easy or difficult it is for people to participate in it.

Beyond that, we really hope that the project becomes a springboard for lots more interesting work to come, and enables us to continue and develop the conversation with other interested landowners in the Esk Valley.”

About Revere

Revere is a collaboration between UK National Parks and Palladium



Revere is a collaboration between UK National Parks and Palladium that combines the National Parks' ecological expertise with Palladium's commercial acumen to develop innovative solutions that work for nature, investors and communities.



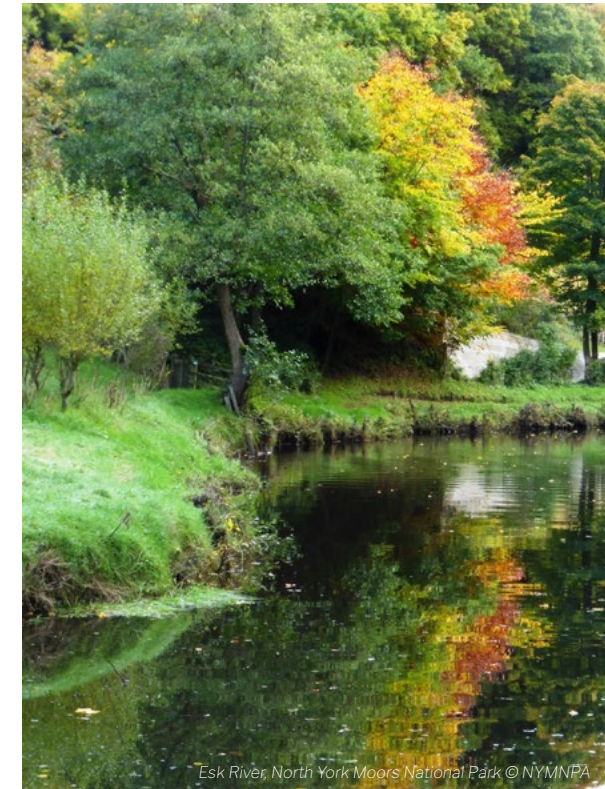
Palladium is a global positive impact company operating in over 90 countries, working with governments, businesses, and investors on collaborative models and systemic approaches to solve the world's most pressing challenges. Revere is a core part of Palladium's vision to restore and protect nature by catalysing private finance and creating new partnerships.



National Parks Partnerships (NPP) devises and manages UK-level partnerships between the 15 UK National Parks and the private sector. The 15 National Park Authorities are the members of NPP, and NPP is managed by a board that consists of both National Park and independent representatives.

“When it comes to restoring nature at scale, we need to explore all the possible avenues for funding, because there's a climate emergency. For the National Parks, though, exploring private finance has to be done really carefully, putting nature and communities first, with a fair and equitable system for land *managers* and everyone involved in this new economic model.

**Naomi Conway, Director
National Parks Partnerships**



Esk River, North York Moors National Park © NYMNPA

Revere's vision

Revere's vision is that private finance is deployed at an unprecedented scale to restore nature for the long-term and create livelihood opportunities for communities across the diverse working landscapes of the UK's National Parks.

To do this, Revere works with existing land managers, farmers and communities to design nature restoration projects, raise private capital to finance them, and generate revenue by selling ecosystem services.

Revere distributes the revenue earned between the parties involved in each restoration project.

Investments in natural capital transform ecosystems into a healthy state and accelerate progress towards the UK's net zero and biodiversity targets.

What Revere does



**Designs
restoration
projects**



**Raises
private
capital**



**Sells
ecosystem
services**

Revere designs and delivers projects that restore degraded peatlands, grasslands, woodlands and wetlands.

These projects generate ecosystem services, which can be fairly valued and paid for by the companies and organisations that benefit from them.



An ancient tree © NYMNPA

“There's not enough money in the public purse to address the climate and nature emergencies - private finance has to be the way to go.”

**Emma Davies, Senior Partnerships Manager
Nature-based Solutions, Palladium**

Find out more at [Revere.eco](https://www.revere.eco)

Unlocking investment

Revere's current projects are categorised into three separate portfolios that will unlock investment and deliver nature restoration at scale:



**Peatland
carbon
portfolio**



**Natural capital
innovation
portfolio**



**Woodland
carbon
portfolio**

Further information

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thepalladiumgroup.com

Revere
revere.eco

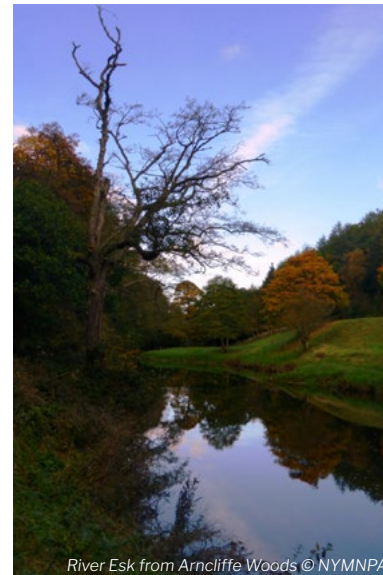
Defra
gov.uk/government/organisations/department-for-environment-food-rural-affairs

Environment Agency
gov.uk/government/organisations/environment-agency

Natural Capital Research
natcapresearch.com

The Workshop
theworkshop.co.uk

Joshua Rice illustration
joshrice.pictures



River Esk from Arncliffe Woods © NYMNP

Further reading

Pearl mussel protection

- [Esk Valley Pearl Mussel](#)

Biodiversity Net Gain

- [Defra Consultation on Biodiversity Net Gain Regulations and Implementation](#)
- [About the consultation](#)
- [General government guidance](#)
- [Natural England's Access to Evidence](#)

Woodland Carbon Code

- [Woodland Carbon Code](#)

NEIRF

- [First round of funding](#)
- [Second round of funding](#)

Environmental Land Management Scheme

- [ELMS landscape Recovery Grant](#)

Peatland Code

- [Peatland Code Registry](#)
- [IUCN UK Peatland Programme](#)

To access a library of knowledge-sharing video discussions recorded through the duration of the pilot project, visit **[Revere Vimeo channel](#)**