Department for Environment Food and Rural Affairs

NATURAL ENVIRONMENT INVESTMENT READINESS FUND

Environment Agency

NATURAL ENGLAND

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This is one of a suite of case studies of NEIRF funded projects, to highlight efforts to protect and enhance the natural environment, while generating revenue from ecosystem services.

**Wendling Beck project area**
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# WENDLING BECK ENVIRONMENT PROJECT

## HIGH LEVEL SUMMARY OF PROJECT

### GOVERNANCE

The Wendling Beck Alliance (WBA) operates as a project steering group and is a collaboration between farmers/landowners, non-governmental organisations (NGOs), local authorities and private sector organisations

### INVESTIBLE PROJECT

Wendling Beck Operating Company (Op-Co) was established in the form of a Limited Liability Partnership (LLP), wholly owned by the farmers/landowners; to deliver and manage the project, channel investment and sell Biodiversity Net Gain (BNG) units and nutrient credits

### SELLERS

Farmers/landowners

### BUYERS

Developers, utility companies, local authorities and government

## Habitat and geographical location

Species-rich grasslands and heathlands

Freshwaters and wetlands

Woodlands

Breckland, Norfolk

## PROJECT OVERVIEW

**The WBA is a collaboration between four farmers, Norfolk Wildlife Trust, Norfolk County Council, three NGOs (Norfolk Rivers Trust, Norfolk Farming and Wildlife Advisory Group, and The Nature Conservancy (TNC)), along with the utility company Anglian Water. The WBA aims to create a blueprint to leverage private finance for the delivery of nature-based solutions (NbS) at a landscape-scale. It will deliver a broad mosaic of different habitat types focussing on specific, local, functional ecosystems and target species, and the links between these across the project area.**

The Wendling Beck river is a tributary of the river Wensum and lies within a strategic corridor for nature recovery. The Wendling Beck Environment Project (WBEP) will transform around 2,000 acres of arable land through the creation of species-rich grasslands, heathlands, wetlands and woodlands along with the restoration of chalk streams in the Wendling Beck area. Habitat interventions will also include nitrogen and phosphate removal from soil and water, natural flood management (NFM), carbon sequestration and storage, and reducing carbon emissions from farming. These interventions will see improvements in water, soil and air quality, as well as biodiversity, and provide public access and education opportunities through a new Environment Hub.

The project will raise revenue through the sale of environmental credits via a new LLP. The project will focus primarily on BNG, with a secondary focus on nutrient credits and natural flood management solutions. Selling voluntary biodiversity credits via environmental and social governance (ESG) markets) could also play a part in generating income. Other forms of income such as eco-tourism, and a farm shop and café will also form part of the project strategy.

Carbon sequestration will be measured but is unlikely to form a future revenue stream under current standards.

Key outcomes will be measured through a detailed monitoring framework, focussing on species presence and abundance, carbon stores (both in soils and above-ground biomass) and water quality. Monitoring will deploy novel techniques and data will be managed centrally.

The NEIRF grant was used to fund consultancy support for the WBEP to develop a legal framework and become investment-ready, including:

- Detailed project design, management and delivery planning.
- Baselining.
- Governance and strategy frameworks, including legal agreements with landowners.
- Monitoring, evaluation and governance plan.
- Stress-tested financial modelling, an investment model, a communications and marketing strategy and marketing materials.

The project aims to create a blueprint for the wider roll-out of NbS and, along with partners such as The Nature Conservancy, share knowledge with other UK and European initiatives that want to deliver similar models. The project has been working with the Green Finance Institute Hive to share information on the project's approach and TNC is using the project as an international exemplar for financing and implementing NbS for freshwater resilience.

**Lowland meadow creation**
© Lucy Carrigan


**New cycle path and Norfolk trail**
© WBA

## GOVERNMENT ENVIRONMENTAL GOALS

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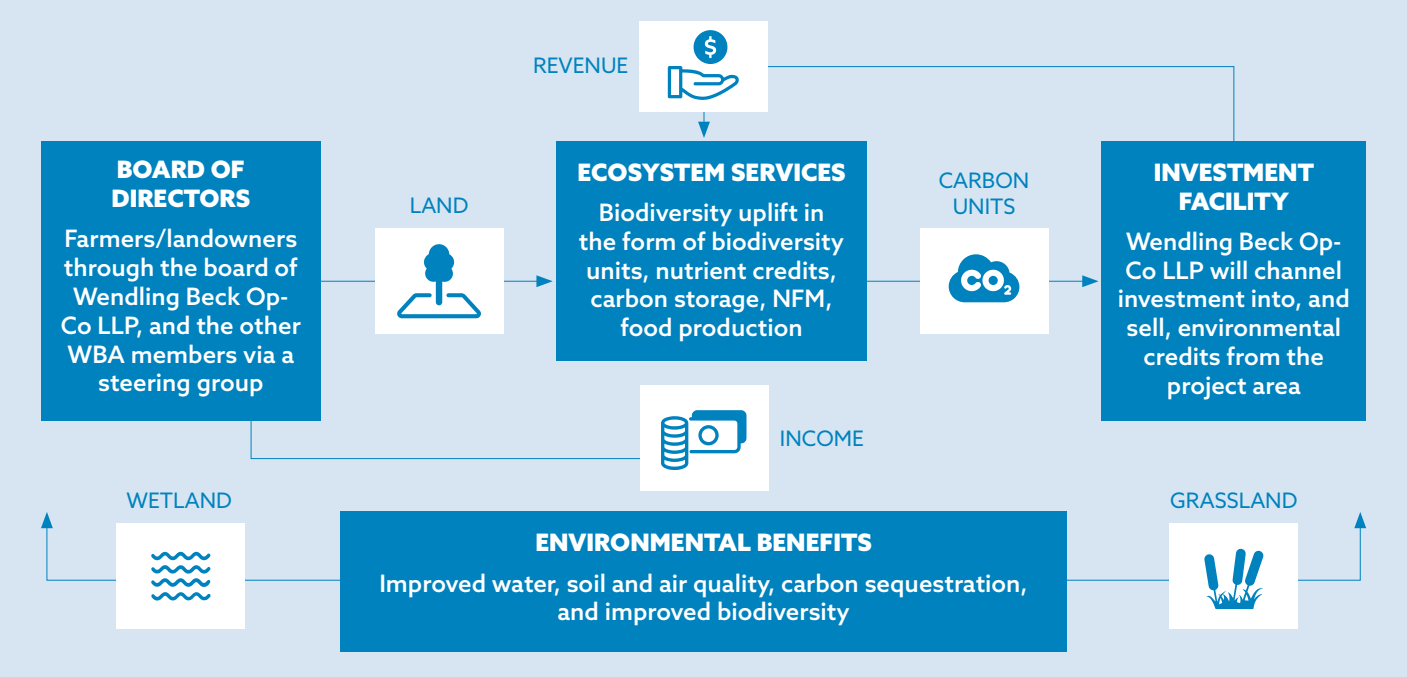
|---|---|
| **Clean air** | WBEP farmers will stop the use of agrochemicals, synthetic fertilisers and heavy machinery across the Wendling Beck catchment, **reducing local sources of air pollution** such as ammonia. Increased cover of trees and permanent plant species will enhance air filtration and help improve local air quality. |
| **Clean and plentiful water** | The construction of wetlands, river and floodplain restoration and riparian zones will **help remove pollutants and increase the capture, filtration and storage of water and soil nutrients**. River re-alignment, floodplain restoration and reduced or eliminated abstraction for agriculture will also help hold water in the landscape for longer, recharging and supporting precious chalk aquifers. |
| **Thriving plants and wildlife** | The project will create large-scale mosaics of habitat to **promote ecological connectivity and biodiversity** including one of the largest areas of lowland meadow in the UK, lowland heath, fen, scrub, woodlands wetlands and ponds. These habitats will **increase biodiversity and the potential for species re-introductions**. The project will also help create a seedbank for disease resistant Ash and Elm trees in collaboration with John Innes Centre. |
| **Reducing the risks of harm from environmental hazards** | The anticipated increase in soil health, surface water storage and infiltration, and reduction in the speed of water run-off from habitat creation will help to **mitigate flooding and increase resilience to drought**. Local environmental hazards may also be reduced: a NFM strategy has been devised which could alleviate flooding, while also polishing water from the Dereham Water Recycling Centre before it enters the watercourse. |
| **Enhancing beauty, heritage, and engagement with the natural environment** | Greater provision of green landscapes near Dereham, a growing market town of around 20,000 residents, will **increase public access to natural spaces**. The WBA will also deliver community learning on climate change, net zero and land management for conservation via the Gressenhall Environment Hub (a partnership with Norfolk County Council at the Gressenhall Museum of Norfolk Life). |
| **Mitigating and adapting to climate change** | Reduction of conventional agriculture in the area will **reduce greenhouse gas emissions which contribute to climate change**. The creation and maintenance of wetland habitats on peat soils and areas of afforestation will support the sequestration and storage of carbon dioxide. |

## OPERATING MODEL




The WBA will deliver the project through the creation of Wendling Beck Op-Co LLP. The LLP will be governed by a management board initially made up of the four landowners within the project area, while the other members of the WBA will form a steering group. The steering group is bound by a collaboration agreement (MOU) and will be responsible for periodically reviewing the project's delivery and direction and make sure it is aligned with the group's agreed nature recovery principles. A LLP was selected due to the following benefits or factors:

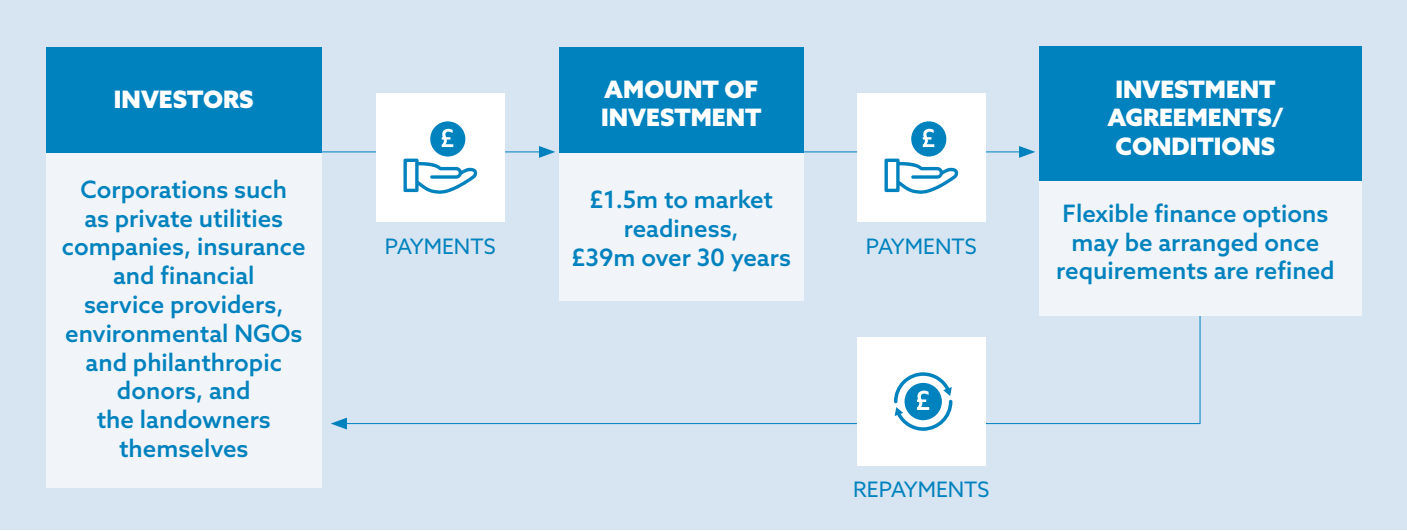
- Enable profit-making businesses while limiting partners' liability.
- Are corporate bodies, which can own assets, hold property, employ staff and enter into contracts.
- Are flexible, allowing ownership and profit distributions to be tailored to the company's needs, and transfer of revenue from the project to other stakeholders can be set up as necessary.
- Have a relatively transparent tax structure.
- Have access to debt markets as well as third party grant funding.
- Offer scope for potential additional for-profit activities, for example tourism, which can reduce commercial risk by diversifying income streams.
- Can be set up quickly and at low cost (providing they don't represent a collective investment scheme and incur the need for regulation).

Separately, WBA collaborated with wider stakeholders such as NGOs, community groups, local authorities and other projects to plan and deliver co-benefits of the project. Examples include:

- A cycle path to link local villages and improve access to the project area.
- Volunteering opportunities for local charities like Norfolk Mencap and away days for businesses such as Aviva.
- Support for academic projects in environmental science with the University of East Anglia, and in genetic diversity of plant species with Norfolk Biodiversity and Information Service and the Earlham Institute.
- Contributions to seed bank initiatives with the John Innes Centre and the Eden Project.
- Establishment of a consultancy (Swallowtail Consulting Ltd) to help deliver landscape-scale nature-based solutions with other projects.

After the end of the NEIRF-funded project, the WBA produced a business and technical plan and legally binding agreements between its members. This defined roles and responsibilities, plans for designated land for habitat creation, land management regimes, permitted land activities and uses, revenue and cashflow projections, and how payments will be proportioned and distributed. The WBA also drafted a Delegation of Authority, to govern and provide clarity around approval processes for project-related decisions.

## INVESTMENT MODEL




The WBA spoke with several potential private sector investors from the insurance and finance sectors (including Aviva, NatWest and Climate Asset Management (HSBC)) and explored the option of concessionary capital. However, at the end of the NEIRF-funded project to reach market readiness, equity investment represented around 20% of the project's total funding, alongside around 80% grant funding. The project will then phase its stages of work so that revenue from early credits sales can be re-invested in the next phases of capital works, enabling the project to become self-funding.
The project expects to explore equity and debt investment options in more detail once the project has reached further maturity, however the need for this kind of financing is somewhat reduced by:

- Grants, including Natural England's Nature Recovery Programme to support initial habitat creation work (at landowner risk and opportunity cost).
- A phased approach to habitat creation; using revenue from initial BNG unit sales to fund the next phase of capital works while other stacked private finance (nutrient neutrality, NFM) and possibly public (Environmental Land Management) revenue streams are developed.
- Investing in developing in-house specialisms to support project implementation, reducing the need for paid-for consultancy.
- In-kind support from a variety of organisations.

The WBA anticipate receiving a large amount of revenue early in the project from direct sales of BNG units to property developers and from government investing revenue from the sale of statutory credits. The project's financial model will continue to be monitored and iterated, and long-term profits from these sales will be invested in a low-risk fund portfolio or gilts to earn interest to help protect revenue streams long-term and mitigate inflation. The project's financial model conservatively uses £30k/biodiversity unit, resulting in a financial projection of ~£80 million over 30+ years. The project anticipates that the total capital value of the land will be significantly eroded over the life of the project and factored this into financial projections.

Some sales and contracts for the project's nature-based solutions are already in draft in the form of BNG unit sales to utility providers and developers, nutrient credits via local authorities and potential provision of NFM services to a local water company.

**Managing wetlands**
© Daniel Casson

## INNOVATION

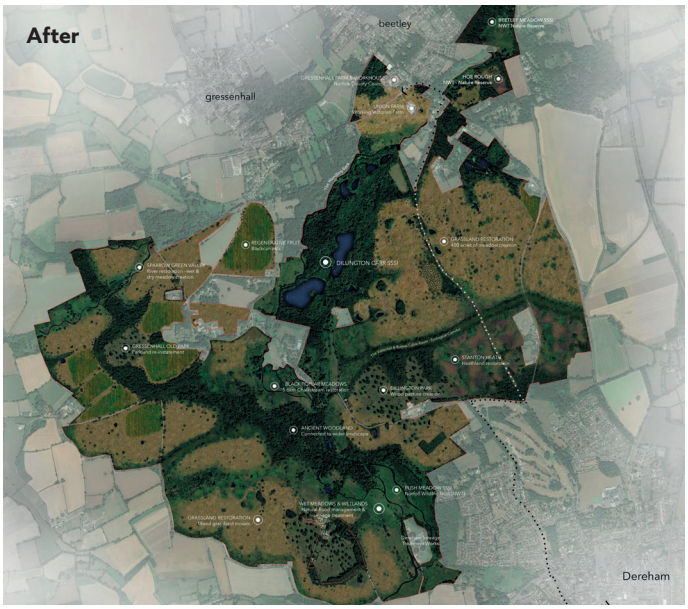
The WBA is innovative in its structure in that it brings together a number of stakeholders in collaboration on the WBEP including farmers/landowners, Norfolk Wildlife Trust and Norfolk County Council along with non-governmental organisations and a utility company to deliver joined-up habitat creation at scale. The WBEP itself will also involve the use of a number of advanced intervention, modelling and monitoring methods. These include:

- Investigating how to monitor habitat transition and species recovery using novel techniques like bioacoustic monitoring, environmental DNA (eDNA) and remote sensing.
- Using new technology such as artificial intelligence for measuring the amount of carbon sequestered and stored in above-ground biomass.
- Employing the regenerative Soil Food Web methodology to restore agricultural soils.
- Pioneering interventions for Nutrient Neutrality for phosphorus removal.
- Using accelerated natural selection that, by 2029, will deliver a seed bank of disease resistant Ash seeds, with Elm also in development.
- Spatial modelling of BNG demand by habitat type, in order to quantify market opportunities.

## SCALABILITY AND REPLICABILITY

The project has worked with consultants to examine the demand for BNG units within the local area using the Defra 3.1 metric as well as local planning information regarding housing, employment, utilities, education, infrastructure and minerals, to support market projections and to understand the potential for scale. The WBEP itself is designed to run in perpetuity, with the expectation that demand for biodiversity units will continue to be driven by mandatory BNG legislation while the WBEP also expands into other markets such as nutrient neutrality. The WBA has found that although local geographical characteristics and potential ecosystem services available can be very varied between projects, their general approach has been replicable and scalable, as evidenced by work with other projects[1] in the region, which comprise circa 300,000 acres of land.

The WBA also plan to maintain project viability by taking account of, and mitigating, likely climate change impacts in their project management plans. The project aims to develop a climate-resistant approach using different techniques for the establishment and maintenance of habitats, with the potential to adapt their approach as time goes on, and by focussing on species diversity and ensuring that species sourced are both habitat-appropriate and climate-resilient.


1 Breckland Farmers Wildlife Network, Upper Wensum Farm Cluster, Lincoln and Witham Valley Farming and Nature Network, Ouse Washes Landscape Recovery, Northwest Norfolk Coast Project and Crown Point Nature for Norwich.

## LEARNING POINTS

- **Develop a 'masterplan' vision at the outset.** This will let stakeholders see where they fit into the wider project and its aims, supporting buy-in.
- **Allow ample time for project set-up in the initial stages of the programme.** Consider which project elements are critical to deliver first, and whether some can be achieved in subsequent financial years to balance spending.
- **Develop formal collaboration agreements early** to ensure stakeholders are aligned on roles, responsibilities and the overall mission.
- **Proactively develop a communications plan.** Communicate early and throughout the project with parties that will be affected by project activities, including local communities and the public.
- **Obtain buy-in from local authorities by engaging early.** Local authorities can be a valuable source of support, funding and offer important insights into planning and local priorities.
- **Employ good measurement and data management practices.** Establish baseline measurements early and measure as much as possible – ensuring that control data is also captured so that outcomes can be compared and correctly attributed. A good data management strategy and system is essential.
- **Put nature and people at the centre of networking and collaboration.** Stakeholders and the public want to support projects that are genuine in their mission to benefit people and nature. Involve as many people as possible and communicate the project's benefits in these areas.

## OTHER WORK RELATED TO THE WENDLING BECK ENVIRONMENT PROJECT

The Dillington Hall Estate Test and Trial explored how landscape-scale projects could be delivered and funded through a combination of public and private scheme funding sources, using the Wendling Beck Environment Project as a case study. Tests and Trials was established in 2018 as a means to co-design and test how potential elements of three environmental land management schemes; Sustainable Farming Incentive, Countryside Stewardship and Landscape Recovery, work in a real-life environment, with different user groups, across different geographies and sectors.

The project has also been working with Natural England on BNG. The Wendling Beck Environment Project was selected to be one of Natural England's statutory biodiversity credits pilots in preparation for mandatory BNG.

Separately, case studies from the Green Finance Institute provide further detail on the project's approach to initial scoping and baselining and estimating ecosystem services.

## WOULD YOU LIKE TO KNOW MORE?

If you would like to learn more about the Wendling Beck Environment Project, please get in touch with Glenn Anderson, Wendling Beck Op-Co at **glenn@wendlingbeck.org** or **www.swallowtail.earth**, or visit the project's website. For questions regarding NEIRF, please contact **NEIRF@environment-agency.gov.uk**.

This case study was produced by Ecorys.