

WANSBECK RESTORATION FOR CLIMATE CHANGE

THE WILDS OF WANNEY PROJECT

INTRODUCTION

The Wansbeck Restoration for Climate Change project began in 2023 on land that forms the upper catchment of the River Wansbeck. The project is intended to explore and measure scientifically a variety of interventions to help store carbon and increase biodiversity while being fully compatible with real farming. This is one of only a few such experiments, the results of this ten year study will be used to form national government policy and advice on combating manmade climate change and species extinction.



Jim Sharp

Wildflowers buzz with life.



Maureen Johnson



L-R: the Upper Wansbeck catchment includes large parts of the old Wannie Railway Line; welcome return of meadow flowers, buttercups and clover; flood plain and footbridge at Little Harle; Middleton North's ethos includes making space for nature with the planting of new trees, work able to continue under this project.



Background: a map showing some of the active areas within this project



Dick Thompson

Farming in the shadow of the Simonside Hills



Kevin Wharf spreads meadow seed.



A view over Ralphshield with fencers at work in the distance.



Joseph Anderson farming at Fairnley

©Unless otherwise stated photographs are by Christine Woodcock - learn photography with Chris at www.WhiteOakStudios.org

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THE SCIENCE

As the Upper Wansbeck pilot sites undergo land-use change and habitat creation, repeated measurements and surveys will allow us to assess the net carbon losses or gains as well as differences in biodiversity.

Scientific methods are being used in existing habitats of different ages, on pilot sites and elsewhere, to assess the build-up of carbon and changing gas fluxes over time.



Paul Hewitt of the National Trust measures the depth of peat. The loss of peat contributes to flooding and carbon release.

Core Sampling

Below: three 30 cm soil cores from 5 plots in each survey field are taken. A laboratory then measures carbon, nitrogen and density. This will show which type of habitats is able to store the most amount of carbon.



Gas flux monitoring



Gas flux monitoring across different types of habitats such as peatland, woodland and grassland will show which of these are able to store the most amount of carbon.

Vegetation Sampling



A series of 2 metre and 10 metre quadrats is set up at each monitoring point. The square patch of ground is carefully checked and a record made of every type of plant present, including what percentage of the area each takes up. This helps measure species richness and diversity.

“The success of the project is dependent on high quality data collection. This will give a high level of confidence in the evidence base that we are building. This will prove which habitats store the most carbon and yield good biodiversity and which interventions are most cost effective and useful for the farmer involved.

Lesley Silvera, Groundwork NE

How can photography help combat climate change?

“Fixed point photography, where images are repeatedly taken from the same spot, can be used by scientists to measure and demonstrate changes. We have performed fixed point work in the Upper Wansbeck catchment.

FIXED POINT IMAGES

Before...



Before...



After...



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IMPORTANCE

“How can photography help improve biodiversity?”



Photography is a wonderful tool to focus your attention on very particular subjects. When we get a clear image of an insect or flower we have the chance to appreciate the fine details. We observe how it differs from similar organisms. We begin to notice the variety all around us - the biodiversity.

Studies show the UK has already lost half of its species. This county scores in the lowest 10% - below much of western Europe and even industrial giants like China.

Beautiful photographs can help to inform and inspire us to become invested in the many wonderful creatures we share the world with. Without knowing about the vivid lives of the many species on our doorstep it can be hard to engage with the fight to conserve them.



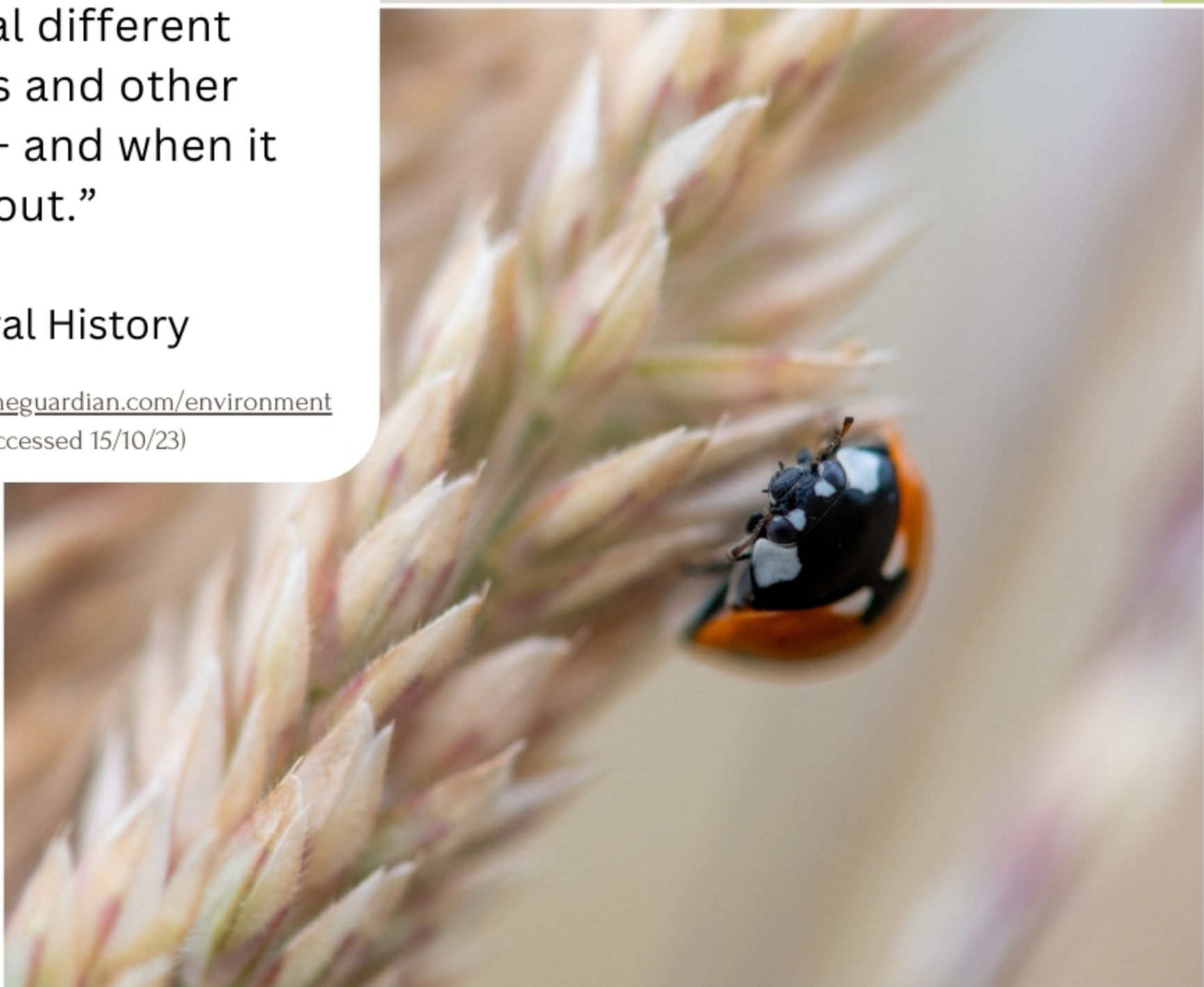
Waxcaps at Fairnley farm. Waxcaps are often a sign of long established grassland. They can be delicate, adding fertiliser or ploughing can remove them from the habitat. Waxcap images by Gabi Recknagel, pictured (L) taking the photo (R).



“Many people think of biodiversity as a luxury – as nice-to-have, charismatic, beautiful species. They are good for the soul but no more than that...but biodiversity is so much more than that. It is the engine that produces everything that we consume. You can think of it like a wild supermarket that provides us with food and other gifts without us doing anything. The fact that we have several different varieties of apples, tomatoes and other foods is down to biodiversity – and when it is diminished we lose out.”

Professor Andy Purvis of the Natural History Museum, London

Excerpt from [theguardian.com/environment](https://www.theguardian.com/environment) (accessed 15/10/23)



New fencing increases the size of the field margins at Ralphshield allowing native wildlife space to live.

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PAST CHANGES

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For a long time Government incentives rewarded farms for increasing food production above all else. We have since come to realise the downsides e.g. loss of species, increased flooding, soil erosion. Also, we now know that intensely produced food often lacks the minerals important for good health.

One reason this project is so important is that future decisions can be led by the hard data collected during these trials. This avoids asking farmers to make unnecessary changes.



“We moved into Gallowshill when I was seven and to be honest, and rather embarrassed about it, I can remember little about the wildlife from those times – somehow environmental issues just weren’t a thing. We certainly didn’t rip any hedges out – but then again we didn’t plant any either. Times change and it is certainly a great thing that more attention is given to improving the long term prospects of the environment in general and restoring the balance between farming productivity and nature’s needs. People ask what my father (pictured above) would have made of having fields fenced off for beavers – well he was an ‘environmentalist’ at heart even though he may never have heard the word, with a great sense of humour and I’m sure he would have welcomed them with open arms!

Richard Thompson,
whose family farmed at Gallowshill for 30 years until 1991

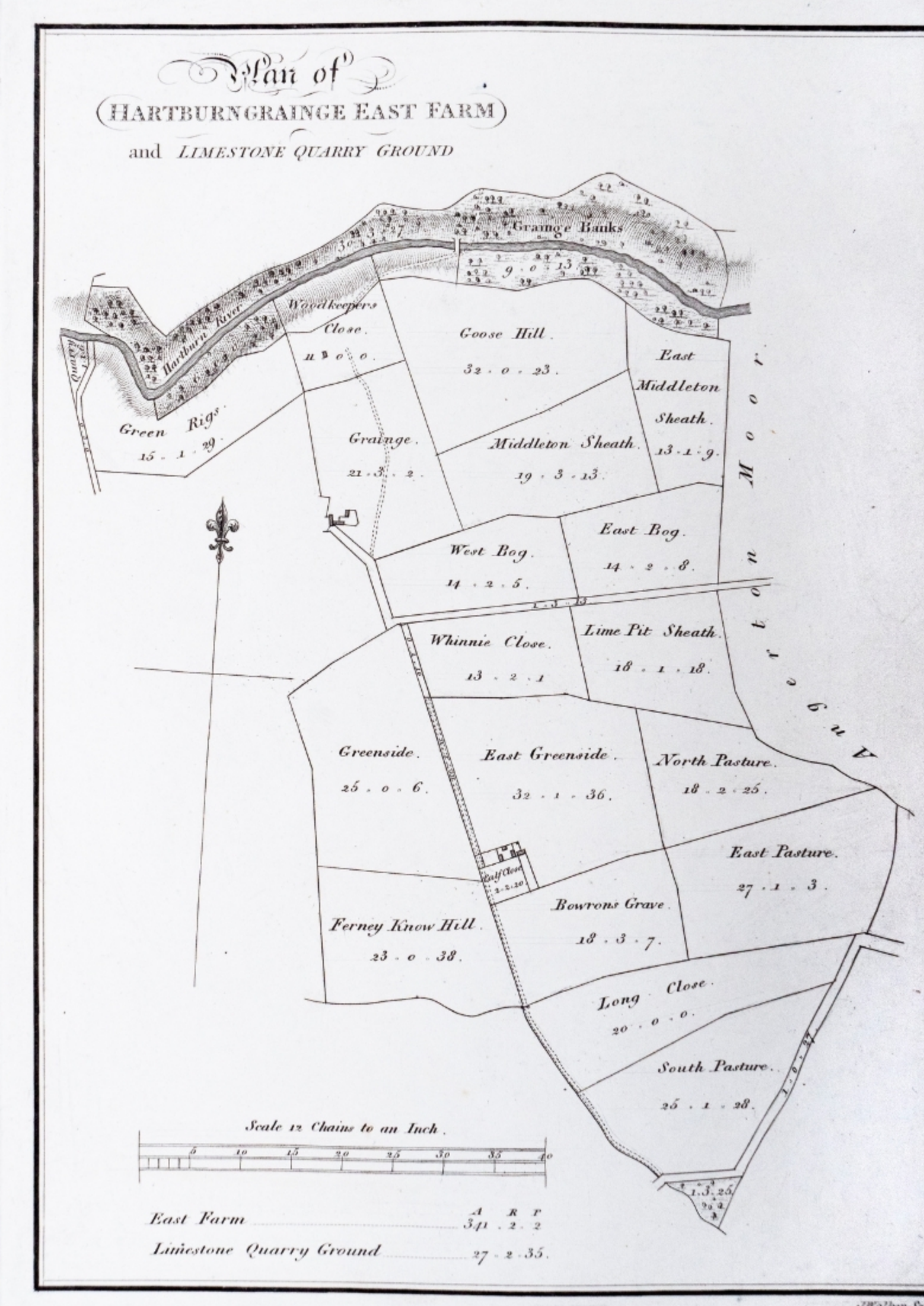


Lime Kilns are left over from one of many industrial scale process introduced to ‘improve’ the land.

Fields used to be a lot smaller before industrialisation encouraged making room for large vehicles. The long grasses, bushes, trees and dry stone walls which form field boundaries are mini havens for wildlife. They provide safe routes for animals to travel along. The WRCC project will restore many of these low maintenance passageways, giving a bit more of the land back to nature while allowing farming to thrive alongside. The pictures below show new fencing being added to widen field margins.



Field names taken from old maps give hints of what the habitat was like. Charlie Bennet explains “My favourite field is Bowron’s Grave, not the resting place of a wonderful pig but in old English a ‘Grave’, was a grove or wood. This might be a good place to plant new trees as the Mycorrhizal fungi could still be there. Oh and the Strawberry field, a more modern name from the time of the railway. The train would be stopped to allow passengers to pick strawberries in mid summer and blackberries later on!”
Learn more at charliebennetauthor.co.uk



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SAVOURING THE PRESENT

& ENGAGING ALL THE SENSES

This project includes around £100,000 being spent on fencing. In only a few years the hedgerow species that have been planted inside these fences should flourish into huge 10m wide wildlife corridors.

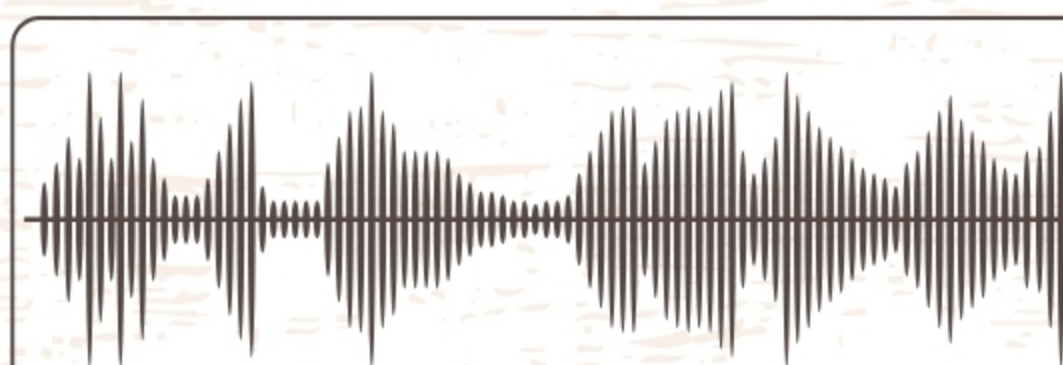
It is expected that, in time, species from elsewhere in Northumberland, perhaps red squirrel and pine marten, will move into this wildlife friendly area.

Being able to relocate is going to be extremely important for the resilience of our native species in the face of a changing climate.

One threat to planting new hedgerows is public perception. People tend to favour an unobstructed view and a tidy appearance.



Encouraging nature's abundance by not being too tidy can pay off with bumper fruit crops



Alongside thick hedgerows or deep in the wild woods it can be tricky to see any animals at all. Why not try a bird song identification app, such as Merlin. Among the medley of songs it can be hard to appreciate how many different birds there might be, just out of sight.



Often requiring deadwood to thrive, many fungi spring to life from dark 'untidy' corners

When Middleton North began to allow their hedges to flourish, Yellowhammers (a species of great concern on the red list) returned in droves, with one ornithologist counting 300 in one day.



Happy Hedgerows



Annual pruning disrupts the cycle of many native hedgerow plants and often prevents blossom or berries forming.



A RICH NATURAL HABITAT CAN BE A FEAST FOR ALL THE SENSES



Unlabelled images © Christine Woodcock

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PLANNING FOR THE FUTURE

Water is hugely important in this project.

Several techniques have been used on the Wansbeck and its tributaries.

Broadly speaking, the goal is to slow the flow of water.

Benefits of this include:

- creating wetland, an important habitat for a range of wildlife
- keeping the land wet during droughts
- holding back water at times of heavy rain
- smoothing out the peak high and low river levels

The Wansbeck has seen major flooding events in recent years. This has had a big impact on those living alongside the river. Elsewhere in the UK, slowing water in the uplands has been shown to help minimise extreme floods downstream.

READ MORE ABOUT THIS PROJECT AT

WHITEOAKPHOTOGRAPHY.CO.UK/WANSBECK-RESTORATION-FOR-CLIMATE-CHANGE/



Below are time lapse images taken at a wetland restoration site, Harwood Burn. The installation of leaky dams will encourage the water to spread over a wider area of the floodplain and will create valuable habitat for wading birds and invertebrates. Other interventions at this site include re-shaping of drains and planting of willow. This natural flood management will help slow the flow and thus hopefully contribute to eventually reducing flooding further downstream.

Channels and Scrapes

A paleochannel is an old, inactive channel showing where a stream once flowed. As part of this project areas of the Wansbeck will be restored to their former winding paths, this helps slow the water in times of flood and creates a larger variety of habitat thus supporting a more diverse range of species. In some places fences will be added to stop farm animals trampling the riverbanks, this reduces soil erosion and allows wildflowers to recover.



Grip (drain) Blocking

Drains built in the 1800s have led to rapid run-off in heavy rainfall and increased flooding downstream. Adding small dams or infilling the trenches, can hold back water flows for a few hours and take peak flows off the River Wansbeck.



The National Trust's Beavers



A dam made by Beavers released as part of the ambitious Wilder Wallington National Trust project.

Read more about it or get involved via their webpage:



Measuring Quality

The project's monitoring team will be making use of a highly technical water quality monitoring device called a Sonde. Comprising of various detachable probes, the device can be calibrated to measure different things including nitrate levels, water turbidity or ammonia.

