Major new investment in conserving and enhancing our stock of natural capital is not only good for nature but good for business too

NORTHERN UPLAND CHAIN
Local Nature Partnership

The purpose of this document

The principal purpose of this document is to stimulate new investments in creating native and mixed woodland - currently a relatively small part of our natural capital in the northern uplands, but one that has the scope to significantly expand. Through this we aim to sustain the goods and services that woodland provides for society, and on which many businesses depend. This is one of a series of natural capital investment cases which are being produced for the area covered by the Northern Upland Chain Local Nature Partnership. Major new investment in conserving and enhancing our stock of natural capital is not only good for nature but good for business too, and is essential in improving the health and well-being of society.

The Natural Capital Committee's Third Report on the State of Natural Capital identifies that this great asset to society is in long-term decline:

"Successive natural capital deficits have built up a large natural capital debt and this is proving costly to our well-being and economy. If economic growth is to be sustained, natural capital has to be safeguarded".

Successive Governments, and society at large, have failed to halt the decline in our stocks of natural capital. Our natural capital has been seen as being limitless and free. It has, therefore, been viewed as something which has little or no value to business yet at least 40% of global GDP is dependent on it (OECD 2012). We have failed to account for our impacts on natural capital, to the point where we have depleted it to such an extent that it will not be capable of supporting society into the future. For example, in China no-one valued the role played by pollinating insects in the pear-growing industry, until those pollinators were gone and the industry had to meet the massive cost of hand-pollinating fruit trees.

We need greater investment in natural capital, targeted in the right places, if we are to realise the economic, social and environmental opportunities that it can bring to us all and at the same time conserve nature for its own sake. This is vital from a business perspective, when wise natural capital investment will help to reduce the risk of future failure driven by lack of attention and investment in the 'natural supply chain' on which businesses depend.

The public sector can benefit too, when instead of only making investments in hard engineering, investments in natural capital may be part of cheaper, more effective, integrated and longer-lasting solution, and bring multiple benefits to society.

There is little doubt that we are 'overdrawn at the bank of nature'. Unless we start re-investing, quickly and significantly, the decline in natural capital will continue and the services on which business and wider society depends will be lost to us.

What is Natural Capital?

We recognise several different kinds of 'capital' in society: Economic Capital, the most familiar to people, is the stock of resources (equipment, premises, money etc.) used to carry on a business, whilst social capital is the working relationships and trust available in our communities that make change possible. Natural Capital refers to the stock of resources from the natural world that supports our society. So, woodland, species rich grassland, wetlands, peatland and other soils are all elements of our natural capital because they provide society with food, fuel, clean air, clean water, and opportunities for recreation.

These 'natural services' also depend on economic and social capital, but at their root is the natural capital that makes their delivery possible. We know that undermining natural assets such as woodland (and its loss over decades) leads to climate change, soil depletion, poorer health, reduced well-being and loss of key ecosystem services.

The Northern Upland Chain

The Northern Upland Chain Local Nature Partnership was established in 2012. It covers five Protected Landscapes — Northumberland National Park, North Pennines Area of Outstanding Natural Beauty (AONB), Yorkshire Dales National Park, Forest of Bowland AONB and Nidderdale AONB – plus Kielder Water & Forest Park and part of the Tyne Valley. Together this is nearly three-quarters of a million hectares of land. The partnership includes representatives from farming and land management; the conservation sector; statutory environmental bodies and the wider community. To find out more visit www.nuclnp.org.uk

Investment Vehicles

The UK Woodland Carbon Code

The UK Woodland Carbon Code is a Government-backed voluntary standard for woodland creation projects allied to calculations of the carbon dioxide they sequester. It provides the metrics and the accreditation that makes investments easy, transparent and productive, providing reassurance for the investor about the carbon savings that their contributions may realistically achieve and about how the woods they help create will be managed in the future. To date, it has attracted around £15 million to woodland creation across the UK.

Other payments for ecosystem services might include

- Payments by water utilities, as part of catchment management schemes to reduce pressures on raw water quality and quantity especially around water sources, and to address flood mitigation.
- Central Government through re-direction of agricultural/rural development funds e.g. through better alignment of Pillar I subsidies with environmental improvements in farming.
- Local Enterprise Partnerships from Growth Fund monies linking urban development with regional-scale environmental improvements.
- Payments for woodland creation through a natural capital credit market made available for corporate businesses.
- Crowd funding opportunities to support particular investments in woodland cover to generate public benefit

Case Study
The Woodland Carbon Code - Moorside Wood, Cumbria

A motor insurer provided the carbon finance to help plant a 34 ha native broadleaved woodland on previously grazed land. This planting locked up the CO^2 emissions equivalent to the annual emissions from the vehicles it insures. Woodland carbon models predict it will lock up more than 18,000 tCO^2e over 100 years. The scheme will also provide the many other multiple benefits that new native woodland offers.

The Code works for everyone involved:

- Investors have reassurance that they have invested in a responsible scheme and can see the benefits that will be provided.
- Those developing woodland creation programmes have recognised procedures and standards to work to, and can use the verified status as an attractive selling point for potential investors.
- Woodland managers have clearly set out standards of forest management to follow

You can find out more about the UK Woodland Carbon Code at: www.forestry.gov.uk/carboncode

Are you interested in investing?

To find out how to invest in woodland creation for the benefits it brings to your business and to wider society, and to find live projects in which you can invest, please contact: Northern Upland Chain LNP, c/o North Pennines AONB Partnership, 1 Martin Street, Stanhope, County Durham. DL13 2UY.

Tel: 01388 528801

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A Natural Capital Investment Prospectus
for woodland in the Northern Upland Chain

For farmers and landowners, new woodlands can help supplement agricultural income.

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Natural Capital Investment Case

New native and mixed woodland creation

Introduction

The valuations and investment cases presented in this document have been compiled with the support of professional economists with significant experience of providing such material for public and private sector clients, including the UK Government[1]. The work has been done in line with the Treasury Green Book methodology for public policy appraisal, and is based on existing accepted metrics and methodologies for calculating natural capital values established in recent years. The case for restoring the habitat is that this change in its extent generates a range of natural services.

Benefits of trees and woodland

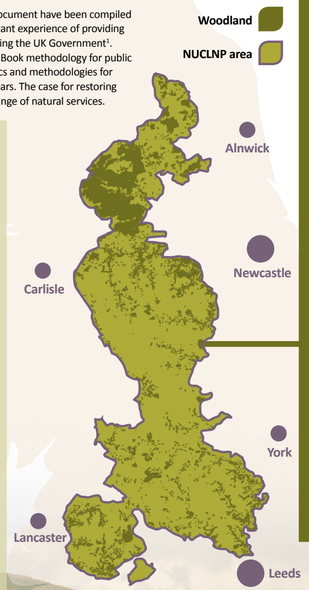
Trees and woodlands have many distinct roles in the uplands.

By large-scale planting of 'the right tree in the right place' (including avoiding areas of deep peat) and creating landscapes richer in trees and woodland, we would:

- encourage wildlife to flourish, especially through reconnecting fragmented woodlands by creating corridors of woodland at a landscape scale - trees provide roosts, breeding sites, shelter and food for wildlife
- increase the carbon storage and sequestration capacity of the uplands
- help to stabilise soils and slow water flow, contributing to reduced impact of flooding further downstream, as well as mitigating soil and nutrient loss from fields
- moderate river water temperature by planting along watercourses, keeping rivers cool and providing a rich source of invertebrates, both of which benefits fish populations
- greatly diversify upland landscapes, bringing greater texture, colour and depth and adding much to their beauty.
- create places which people love to explore and enjoy and which contribute to our physical and mental well-being.
- increase opportunities to create jobs, stimulate the local economy and tackle fuel poverty through the management of woodlands for timber and wood fuel.

For farmers and landowners, new woodlands can help supplement agricultural income. There is support for establishment costs, along with the potential to gain future income from sequestered carbon or from a range of timber products.

Native and mixed woods matter because they contribute to the environmental, social and economic well-being of the uplands, but they could deliver so much more. There is the space if there is the will and the incentives.



Our woods

Within the LNP boundary there are 85,852 hectares of woodland (81% conifer and just 19% native broadleaved) covering 11.6% of the land area[2]. The average for Great Britain is almost 13%. Leaving aside the 27,500 ha of Kielder Forest, then woodland covers only 8.4% of the rest of the area, with only 2.3% cover of native broadleaves.

The small fragments of ancient semi-natural woodland that remain are now a vital part of our landscape and natural heritage. Whilst the original woodland cover would have been quite dense over most areas, for the last thousand years or so grazing and management patterns have changed the woodland characteristics. Throughout the northern Pennine uplands, in addition to large relatively modern conifer plantations, we are now more likely to see open grazed woodlands, known as wood pasture, on lower slopes, and scrubby low density moorland woods higher up. Native broadleaved woodlands are often found spreading along and out of ghylls, whilst some of our watercourses both large and small can have extensive tree cover. Some large areas of woodland are part of designated Sites of Special Scientific Interest, Special Areas of Conservation[3] or Special Protection Areas[4].

What is meant by woodland in this context isn't simply large blocks of planting - we are seeking a landscape richer in trees, woods and hedgerows. Our landscape thrives on complexity and we would like to see tree cover of varying types and densities. This document is concerned with creating new woodlands to connect existing wooded areas and expanding existing woods to improve their habitat value and make them more resilient in the face of a changing climate, disease and other threats.

[1] Natural Capital Investments, Northern Upland Chain Local Nature Partnership. eftec (2015)
[2] National Forest Inventory (2014)
[3] under the EU Habitats Directive [Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora]
[4] under the EU Birds Directive [Directive 2009/147/EC on the conservation of wild birds]

The case for investment

Summary

- Planting approximately 35,000 ha of new native or mixed woodland in the area covered by the NUCLNP will provide net benefits to society estimated at £20 – 30 million over 50 years.
- The target of 35,000 ha is feasible while avoiding designated nature conservation sites, peat soils and disproportionate take of agricultural land.

Baseline

There are 85,852 hectares of woodlands within the boundary of the Northern Upland Chain LNP, approximately 11.6% of the land area. However, without the vast woodlands of Kielder Forest, the figure drops to only 58,319 ha or 8.4% woodland cover. The average for Great Britain is almost 13%. The woodland within the LNP boundary is predominantly (81%) conifer, with just 19% being native broadleaved woodland. Even after taking out Kielder Forest, that figure only rises to 28%. This is very different from the GB figures of 43% broadleaved woodland and 57% conifer. Native broadleaved woodland covers only 16,312 ha, or 2.3% of the LNP area.

For the LNP area, outside Kielder, to reach the national average (total) woodland cover for Great Britain it would require a further 31,810 ha of new woodland creation; using the GB figure and allowing for change over time, the 35,000 ha target over 50 years is appropriate and there is a strong case for planting new mixed [but predominantly broadleaved] woods across the landscape.

Threats

Our existing stock of woodland can regenerate itself provided it is free from grazing by sheep, but grazing pressure, added to pressure from deer and goats in some places, makes widespread natural regeneration of woodland cover highly unlikely in the present circumstances. The widespread impact of Ash die-back is a reminder of the constant threat from disease. The climate space for some species is likely to change in the coming years.

Value of investments

Planting 35,000 ha of new native or mixed woodland in the area covered by the NUCLNP will provide net benefits to society estimated at £20 – 30 million over 50 years. The case is made with reference to national studies on the costs and benefits of substantial increases in tree cover and is in line with the Natural Capital Committee's analysis of investment options for protection and improvement of natural capital.

The *monetized* benefits are improvement to ecosystem services, namely carbon storage (and avoided emissions from livestock) and recreational value. Further benefits will be derived from improved air quality, improved raw water quality (from reduced pesticides, sedimentation), reduced downstream flood risk and from habitat gains for a wider range of birds and animals, but these have not been converted into a financial value here.

The cost of not investing?

The potential costs of not investing in woodland creation include loss of valuable carbon storage provision, loss of water regulation and flood management provision, loss of biodiversity and loss of opportunity to derive goods and services such as timber and wood fuel. These losses are considered to be so substantial that future generations will be unable to afford the major restorations needed to re-build this natural capital asset base (where that is possible) and will therefore be significantly poorer as a result.

Key assumptions/uncertainties

The presence of huge areas of deep peat (which need to be avoided), and the nationally-important landscapes that make up most of the LNP area, mean it is vital to plant the 'right tree in the right place'. This principle is especially important here given the additional benefits (to water quality and flood risk) that would arise from targeted planting. These improvements in water regulating services are potentially significant, but are not financially valued here. Additional benefits from providing managed woodlands for woodfuel are not quantified or monetised and are set against the costs of transporting heavy materials to market.

Impact on natural capital assets

The specific natural capital assets associated with this investment are species (e.g. woodland birds, plants and invertebrates), ecological communities (woodland) and water / soils. The investment would improve both the extent and quality of these assets. These vary according to the type of woodland proposed.

Woodland Value Chain

This value chain highlights the business case for investing in woodland, showing some of the likely beneficiaries and potential investors:

Woodland creation - Creating 35,000 ha of new native/mixed woodland

Beneficial Impacts
Combination of landscape, water management and carbon storage services suggest targeted planting could have a net benefit to society of £20-£30million over 50 years. This does not take account of potential benefits from timber and woodfuel production, or benefits associated with enhanced biodiversity. Woodland created close to settlements has high value associated with recreation

Opportunity Costs
Loss of agricultural / shooting output from land under planting

Woodland Creation
Creating 35,000 ha of new native/mixed woodland

Beneficiaries
Global population (re carbon benefits); Water customers; Insurance industry and local population (associated with potential flood mitigation benefits); Users of upland landscapes for recreation; General public holding non-use value for biodiversity. Landowners and farmers benefitting from alternative income streams and potential increased asset value of the estate through higher landscape quality

Potential Investors
Private industry through UK Woodland Carbon Code/carbon credits; Corporate investors engaged in natural capital accounting. Water and waste water companies; Insurance industry;. Private landowners; Local/Central Government; Local Enterprise Partnerships Charitable Trusts and Philanthropists

Technical underpinning of the case
Woodland targeting based on opportunity cost of the land and potential catchment and recreational benefits.

Planting is identified in and spreading out from ghylls and along watercourses, working with the slope of the fells, enhancing existing wooded areas and aiming for different densities of tree cover. In the right places even relatively small areas of planting can deliver significant benefits.

Drawing by Phil Gibson Design ©Yorkshire Dales National Park Authority

Investment opportunities

The partners in the LNP have a strong track record of working with landowners to identify new planting opportunities and creating new woodlands.

Finding the right sites is important, as there are many other valuable features to avoid including deep peat, UK Priority Habitats and sites of archaeological significance. Using detailed opportunities mapping, we can help link potential investors with specific owners and locations to enable new planting to take place, in locations that will deliver maximum benefits for carbon, water and biodiversity.

Over the next five years, private sector investment could add value to funding from Countryside Stewardship and proposals we are developing with the Heritage Lottery Fund and others and could see several thousand more hectares of woodland created.

What might be the scale of change?

35,000 ha of new woodland across the whole LNP equates to just under 5% of the land area.

The drawing below shows how a typical upper dale in the northern uplands might benefit from planting new native and mixed woods that work with the grain of the landscape to strengthen its character.