The Wooded Landscapes Plan: increasing tree and scrub cover in the Peak District National Park landscapes (2022 – 2032)

Contents

1. Introduction

The **Wooded Landscapes Plan** forms part of the Peak District **Landscape Strategy and Action Plan** and provides strategic direction on future wooded landscape creation in the Peak District National Park over the next 10 years.

Wooded landscapes can support increased biodiversity, help to mitigate the effects of climate change, store flood water, enhance landscape character, and provide places where people can increase their physical and mental wellbeing through the enjoyment of nature and their relationship with the natural environment.

Woodlands, trees and scrub are an important component of landscape and scenic diversity and as features of local distinctiveness. Elements of wooded landscapes can also enhance the composition of other landscape features and add visual definition to geological features.

The **aim of the Wooded Landscapes Plan** is to facilitate an increase in tree and scrub cover (as 'woodland' and also 'trees outside woods') for the delivery of a range of public goods within the National Park landscape. The Plan is based on the core principle of '**right place with the right outcome**': the outcome could be woodland but may equally be field corner planting, scrub, wood pasture, shelter belts, an increase in the network of hedgerows or riparian buffer planting depending on the landscape character of the place.

Woodland, scrub and tree cover should be seen as part of a **landscape 'mosaic' of different habitats and land covers.** Increasing tree / scrub cover should not be seen as mutually exclusive with other habitats; for example, it is not a case of **pastureland or trees**, but **pastureland with additional tree cover**.

The term '**wooded landscape**' is therefore used throughout this document to cover the full potential range of tree and scrub cover forms in the landscape - not just closed-canopy woodland but also forms such as wood/scrub-pasture, parkland, copses, shelterbelts, individual trees, linear tree features, hedgerows, areas of scrub, commercial woodland and 'agro-forestry'.

This Plan aims to demonstrate **where the different elements of wooded landscape creation can be realistically achieved** while complementing other land uses within the park and not conflicting with landscape character.

There are a number of existing published detailed guidance documents for woodland creation (such as the UK Forestry Standard). This Plan **does not aim to duplicate guidance and policies** within these existing documents, but to provide **additional specific landscape principles and guidance appropriate for the landscapes of the Peak District National Park**.

Relevant existing guidance includes:

Create woodland: overview https://www.gov.uk/guidance/create-woodland-overview#woodland-creation-quick-guides-and-case-studies
The UK Forestry Standard: The governments' approach to sustainable forestry The UK Forestry Standard (publishing.service.gov.uk)
Design techniques for forest management planning Design_techniques_for_forest_management_planning.pdf (publishing.service.gov.uk)
Tree Species and Provenance guidance https://www.forestresearch.gov.uk/tools-and-resources/tree-species-and-provenance,
Forest Research tool for selecting native species appropriate to particular sites Ecological Site Classification Decision Support System (ESC-DSS) - Forest Research
Keepers of Time: ancient and native woodland and trees Policy in England, Defra May 2022Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)
The Woodland Trust woodland Creation Guide Woodland Creation Guide - Woodland Trust

The UKFS (Forestry Commission, 2017)

2. The Objectives of the Wooded Landscapes Plan

The plan will:

1. define the National Park Authorities **vision for increased tree cover within the Peak District**. This **vision** will **inform, guide and promote partnership working** to deliver wooded landscape creation within the Peak District, including a framework for how wooded landscapes might contribute to the development of Nature Recovery Networks.

2. refine **landscape policy guidance and support** towards wooded landscape creation based on principles of landscape character.

3. define **principles of wooded landscape creation** and provide **guidance** (based on principles of landscape character) to deliver the Vision and guide wooded landscape creation **objectives** at a landscape and landholding scale by landowners/managers.

4. define and help the targeted delivery of **KPI6** (native woodland creation) and **KPI2a** (Net enhancement of Natural Beauty) in the **National Park Management Plan and Corporate Strategy**. The plan will help to deliver future corporate targets for 'woodland creation' and increased tree cover that complements other land uses and enhance the landscape character of the National Park.

5. inform the **implementation of local schemes** (outside the national woodland creation and agricultural support schemes) aimed at the creation of small scale wooded landscape features. Such schemes currently include the PDNPA Grant and the Woodland Trust/PDNPA Small Woodland Creation Scheme.

3. A 'Wooded Landscape' Vision for the Peak District National Park

We want to provide future generations with a healthier, sustainable and better-connected wooded landscape, while simultaneously enhancing the landscape character of the National Park. This is informed by our understanding of how the landscape in the Peak District has evolved over time and how we would like to see the landscape continue to evolve in the future. As part of this evolution, we would like to see the creation of new managed woodlands and lone or hedgerow trees – the **ancient woodlands and veteran trees of future generations.**

A **wooded landscape** is not one composed solely of woodland. A 'wooded landscape' is one that can include blocks of woodland / plantation, but also one which has more open characteristics but contains wood pasture, scrub, scattered trees, parkland, hedges and boundary trees as part of a 'mosaic' of woody elements in a wider land use, such as farmland or moorland. Large blocks of woodland are not necessarily the right outcome for a place.

A Peak District 'wooded landscape mosaic'

Supporting woodland, trees outside woodlands and scrub creation is a key part of enhancing the mosaic of habitats and land uses that make up the landscape. It is important that these wooded landscape elements should be the ***'right places with the right outcomes'*** and that wooded landscape creation does not compromise other important habitats, species, cultural heritage sites and landscapes or public access. These new and inspiring **wooded landscapes can complement and support agriculture, positive moorland management and peatland restoration** objectives.

We therefore aim to **promote and support the creation of new wooded landscape mosaics that complement other land uses and enhance landscape character and quality.** We aim to achieve this by increasing the priority for appropriately-located wooded landscape creation in our landscape policy, providing wooded landscape design guidance to landowners and will work with partner organisations and stakeholders to facilitate wooded landscape enhancement objectives.

This plan forms landscape policy guidance and provides a **framework for delivery of positive land use change**, based on the principle of working with landscape character, not against it. It has the starting point that **wooded landscapes are positive features, and many areas of the park can support greater levels of tree cover.**

New woodland planting

4. Background

The importance of trees and woodland in the landscape

We are at a time of unprecedented interest in woodland and woodland creation. There is increasing recognition of the historic and ongoing loss of trees from our landscapes and the significant contribution that trees and woodland make to a wide range of public goods and ecosystem services. These include carbon sequestration and storage, natural flood management, improvements to water quality, biodiversity and natural beauty/landscape character. The global pandemic helped people to recognise the role our landscapes play in society's health and wellbeing.

How has the landscape evolved over time?

The high levels of forest clearance that we are now seeing in the tropics occurred in the UK over a relatively long period in our prehistory. Woodland clearance began at the end of the Mesolithic era and increased during the Bronze Age to its probable height in the early Iron Age. Rackham estimates that about half of England had ceased to be 'wildwood' by 500BC. It is worth noting that the common perception of 'wildwood' is of closed canopy tree cover – it is likely that 'natural' forest cover at this time was a more open 'mosaic' landscape rather than dense closed-canopy woodland. It is also likely that large areas of natural peatlands existed, but these would not look like the managed grouse moors we are familiar with today.

By 1086 only about 15% of England was defined 'woodland'. However, Rackham reports that Derbyshire at Domesday was 26% woodland. 22% of this was Silva Palustris (wooded pasture) with 2% Silva minima (underwood, mostly in the White Peak) and another 2% unpastured woodland (possibly remnants of wildwood?) with large areas in Longdendale. The post-Domesday landscape was likely a mosaic of meadows, pasture, heath, coppice woods, wood-pasture and woody commons/wastes, with areas of managed productive woodland. Wood pasture was valued as part of this land cover mix as it provided both grazing and wood production.

Subsequently, wood pasture / woody commons were gradually lost from the landscape with the Georgian and Victorian eras having the greatest loss (Rackham, 2003). Since then, tree cover has continued to be lost on a piecemeal basis and now the UK is one of the least wooded countries in Europe, with only 13% woodland cover nationally, compared with about 32% in Germany and 31% in France.

What is the current level of tree cover in the Peak District?

The landscape we see today is dynamic and has changed considerably over time, primarily in response to how we have managed land. The modern Peak District landscape is a patchwork of fragments of semi-natural habitats mixed with extensive areas of modern land uses, primarily agriculture.

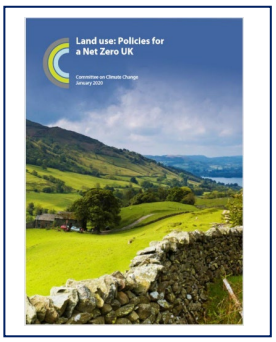
There is 12,005ha of woodland cover (as defined by Forestry Commission National Forest Inventory) within the Peak District National Park as of March 2017. Of the overall 1,437km^2 area of the park, woodland therefore covers approx. **8.35%**. This is significantly lower than the national average of 13% and the average for all English National Parks of 16.7%. Of the English National Parks, the Peak District has the lowest woodland cover of any of the parks except the Yorkshire Dales. For comparison, the Lake District National Park has 12.6% and the North York Moors 22.2% woodland cover.

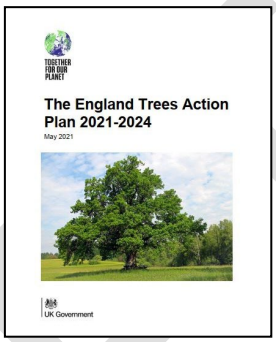
While the Peak District contains many areas of deep peat (which are not suitable or appropriate for woodland creation) and some 'cultural' landscapes within the park are more open (such as the 'open moors'), other landscape types could support significantly more trees without damaging their cultural, landscape or agricultural value, while providing significantly greater 'public goods' or ecosystem services.

5. Opportunities and drivers for change

There is increasing recognition that modern land management systems are not delivering their potential for the 'public good'. At the time of writing this plan the details of new systems of agricultural support for the UK farming and land management sector are still not finalised, but this Environmental Land Management support may provide the opportunity for a more integrated land use system which encourages wooded landscape creation as one of its outcomes.

The desire to plant trees and create woodland is rising up the national political agenda, primarily led by climate change. This is reflected in several recent key policy documents and is starting to be backed up by government funding:





Recent government policy documents

- **A Green Future: Our 25 Year Environment Plan to Improve the Environment** (Defra, 2018) which is looking to improve the way land is managed, including designing and delivering a new Environmental Land Management scheme, increasing tree planting by creating new forests, and incentivising extra planting on private and the least productive agricultural land where appropriate. It includes a target of planting 180,000 hectares of woodland in England by the end of 2042;

- **Land use: Policies for a Net Zero UK** (Committee on Climate Change, 2020) which identifies that 20% of agricultural land should be released by 2050 for actions that reduce emissions and sequester carbon, such as afforestation and agro-forestry.

- **England Trees Action Plan 2021-24** (Defra, 2021) sets out policy priorities to deliver the government's ambitious tree planting commitment of planting 30,000 hectares of trees a year across the UK by 2025. The plan focuses on expanding, protecting and improving woodlands, and how trees and woodlands can connect people to nature, support the economy, combat climate change and recover biodiversity. This will ensure that trees are established and managed for the many benefits they provide for people, the economy, the climate and nature itself.

  Policy actions include: encourage National Parks to include net zero and tree establishment targets in their statutory management plans; support for catchment partnerships and utility companies to deliver on the strategy; targeted support for landowners to deliver woodland creation and agroforestry.

  It is supported by funding to deliver trees: The **England Woodland Creation Offer** (EWCO) is a flagship new grant scheme for farmers and landowners that supports the creation of a range of woodland types and sizes, including through natural colonisation, and from applications of small areas of land from 1 hectare upwards. The grant will cover standard capital costs for tree planting (up to a per hectare cap), as well as rewarding farmers and landowners for providing public and/or wider environmental benefits.

Woodland creation schemes that clearly demonstrate they will deliver environmental or social benefits can receive additional contributions, for example where they will support nature recovery, provide new public access, or reduce flood risk.

The **Woodland Carbon Code** (WCC) is the UK's voluntary carbon standard for woodland creation projects. It provides reassurance about the carbon savings that woodland projects may realistically achieve. This government-led scheme provides:

- a high quality, robust voluntary carbon standard
- a transparent UK Woodland Carbon Registry
- robust science to predict and monitor carbon sequestration
- independent validation and verification of projects

- **Nature Recovery Network policy paper** (Defra, 2020) includes an objective to support work to increase woodland cover, as part of an ambition to establish a national network of wildlife-rich places.

- **Landscapes Review** (Defra, 2019) called for radical new approaches to biodiversity loss and climate change. This recognised that trees play a vital role in combatting climate change, acting not only as a carbon sink, but offering a myriad other benefits, like habitat connectivity, biodiversity improvement, help with preventing soil erosion, and reducing flood risk. It identified that '*the pace needs to step up*' for increasing tree cover in protected landscapes. It also recognised that '*new woodland should make use of appropriate trees, allowed to regenerate naturally, with respect for the landscape and look and traditions of the places in which they grow*'.

- **The Northern Forest** is an initiative led by the Woodland Trust covering an area from the Mersey to the Humber and encompassing a wider 'halo' of interest which includes the northern section of the Peak District. The aim is to plant 50 million trees by 2032 which would provide a timber industry, leisure opportunities and environmental benefits.

- **National Character Area Profiles** produced by Natural England are a subdivision of England based on landscape, biodiversity and geodiversity character, rather than administrative boundaries. The Peak District is covered by three NCA profile areas (The White Peak, Dark Peak and South West Peak). These profiles have provided a valuable background to this Plan and to the wider Landscape Strategy.

- **Agri-environment schemes** provide funding for land management. The Sustainable Farming Incentive, Local Nature Recovery & Landscape Recovery schemes are currently being developed by Defra. The SFI will reward farmers for producing public goods on their land – farmers will be paid to carry out a set of actions, which will include farm woodland, increasing hedgerows and riparian buffering. The Local Nature Recovery and Landscape Recovery schemes will pay for actions that support nature and landscape recovery, such as large-scale woodland creation and restoring wilder landscapes.

Within the Authority, woodland creation is one of our identified targets in the Corporate Strategy:

- **KPI 6 'At least 400ha of new native woodland created by 2024'** and **'2,000ha by 2040'**
- Tree and woodland cover also implicitly plays a role in **KPI 2a 'Net enhancement of natural beauty'.**

What do these policy 'drivers' mean for the landscapes of the Peak District?

This national policy and local policy shift focused on land use change is taking place against a backdrop of:

- **uncertainty for farmers and land managers** (with the development of a new system of farming and land management support moving towards a public benefits model that covers a wider range of ecosystem services);
- **climate change** mitigation and adaption (developing resilient habitats and the potential for carbon sequestration); and

- the ongoing impact of **tree diseases**. Ash Dieback *Hymenoscyphus fraxineus* will significantly adversely affect the population of ash trees within the park over the next 10 years. Other tree diseases, such as *Phytophthora ramorum* are starting to have significant effects on other species, such as Larch.

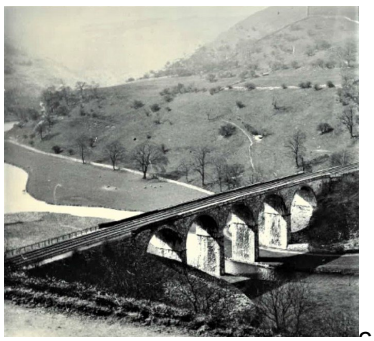
Within the next 10 years there will be:

- continuing **landscape evolution as a result of climate change**
- **extensive loss of ash woodland, farmland, roadside, village and townscape trees** due to Ash Dieback. **Larch** will likely also be significantly affected by *Phytophthora,* while new pests and diseases may potentially affect other tree species.
- potential opportunities to accommodate 'wooded landscape' creation opportunities as part of the **Sustainable Farming Incentive, Local Nature Recovery and Landscape Recovery** schemes.
- opportunities to accommodate woodland as part of **woodland creation schemes to mitigate and offset carbon emissions (WCC)**.
- potential **reduction in intensity of agricultural management** in some areas (which could lead to opportunities for nature and landscape recovery).
- potential **pressure for agricultural intensification** in some areas (which could lead to the further loss of trees and scrub).

6. Wooded Landscape Principles in the Peak District

Historically, the overall level of 'closed canopy woodland' in the Peak District landscape has not significantly changed over the last 1000 years. While some areas have greater tree cover now than in other historic periods (the change in tree cover Monsal Dale over the last 100 years is a good example), what has changed significantly over a longer period of human history is a general reduction in the level of tree cover in the wider landscape, and the subsequent erosion of diversity and ecological interest.

Landscape character has evolved over time – what we see in the landscape now is not what we would have seen 100 years ago or what we would see 100 years in the future. **Change in landscape character over time is inevitable.**



Monsal Head 1905

Monsal Head 2019

Some landscape changes will be slow and incremental, others will take place in a shorter timescale and may be dramatic:

Landscape change as a result of Ash dieback (*__Morph__ images so the change can be seen*)

Given the landscape is not static, and elements within the landscape will shift and change over time, how do we want to see the landscape change? Some change will be inevitable (such as Ash dieback and effects of climate change), but other forms of change we can potentially influence. Where change can be influenced, how can we guide and positively influence that change?

PRINCIPLE 1: Future landscapes and change in landscape character

Where change respects or enhances the overall character or diversity of the landscape this should be welcomed.

For example, in the moorlands increased areas of scattered trees and scrub would potentially be dynamic new elements, forming intricate habitat mosaics with other non-woodland habitat types and enhancing landscape character. In other cases, wooded landscape creation or large areas of new woodland may

alter the character of the landscape – this may be positive in many locations, but may be inappropriate in some others.

Woodland regeneration on moorland dwarf shrub

The landscape we see today is a function of its past uses and how it is used today. Positively managing and understanding the tree resource we have in the landscape today - and planning for what we pass on to future generations - is vital.

PRINCIPLE 2: Protect ancient and veteran trees

Ancient and veteran trees are particularly valuable for their cultural heritage, their contribution to the landscape and the amount of species they are able to support, hosting thousands of types of plants, fungi, invertebrates, birds and mammals. Mapping ancient and veteran trees helps us to better protect these icons of biodiversity, landscape history and cultural heritage. To this end, the Woodland Trust has produced an open access, interactive and participatory Ancient Tree Inventory. Using this inventory, data can be accessed on these significant ancient, veteran, heritage trees and notable trees within the Peak District National Park and, working with landowners, we aim to **promote their sustainable management**.

In addition to existing veterans, positive outcomes for wooded landscape creation will promote the creation of new managed woodlands and lone or hedgerow trees – the **ancient woodlands and veteran trees of future generations.**

Veteran trees **Images**: Steven Bell

Our existing tree cover has often taken generations to develop – it is vital that we ensure the **continuity and enhancement of existing tree cover through positive and proactive management** by landowners / land managers (which may include felling and replanting, gapping up and the repair of enclosure boundary walls).

PRINCIPLE 3: Sustainable management of the existing tree resource

Sustaining existing woody assets which already make significant contributions to ecosystem services and the 'public good' will be essential to ensure that landscape character is maintained and the landscape can continue to deliver additional value and benefits in the future.

- Generally, existing woodland, trees and scrub (including hedgerows) should be sustainably managed to maintain their condition with the aim of achieving a high diversity of structure, age and species.
- Restore PAWS sites to a semi-natural state.
- encourage under-managed woodland to be brought into profitable and sustainable management, including opportunities for local woodland products and wood fuel supplies.
- encourage the maximisation of carbon sequestration through efficient management, consistent with timber production outputs.
- Positive hedgerow management should include laying and the promotion of hedgerow trees.
- Existing trees should be adequately protected from new development through good design and protection of their Root Protection Areas (RPA).

A layed hedgerow

Protecting and sustainably managing the Peak District's current tree resource will not deliver the multi-functional 'public goods' that trees and woodlands will be required to provide in the future. New wooded landscape creation is necessary to achieve this.

Where should wooded landscape creation happen in the Peak District?

PRINCIPLE 4: the 'right place' – enhanced wooded landscapes can be an essential and positive element of landscape character and value

The management, creation, diversification and connection of wooded landscape elements will often strengthen and enhance existing landscape character and help to reverse the historic - and ongoing - fragmentation of field boundaries and loss of tree and woodland cover.

However, there are areas where wooded landscape creation may not be appropriate – where wooded landscape creation outcomes are in the **'wrong place'**.

In addition to agricultural production, the National Park contains a wide range of open habitats important for the wildlife they support, the jobs they provide and the wider ecosystem services they deliver. These include farmland (providing habitat for various bird species and species-rich grassland) and peatland (essential for storing carbon and habitat for various bird species).

Sometimes these different priorities can come into conflict.

PRINCIPLE 5: the 'wrong place' - managing potential conflicts with Ecology, Access or Cultural Heritage priorities in the landscape

The PDNPA support the natural recolonisation and appropriate creation of new wooded landscape elements where the impact on other important and sensitive elements of the landscape (including species, habitats, cultural heritage and access) can be managed.

Ecology

Wooded landscapes should generally not be created on species-rich grassland or moorland priority habitats in good ecological condition and which form part of nature recovery networks. For example, the vast majority of species-rich grasslands and meadows have been lost over the past century in the UK as a result of agricultural intensification. While agriculture continues to be the main threat, the remaining fragments of unimproved and semi-improved grasslands can be vulnerable to poorly located woodland creation projects.

However, an increase in tree and scrub cover may be acceptable on some sites of wildlife importance alongside appropriate management and where it is compatible with the existing interest. Where there are existing guidelines these must be respected (e.g. NEs SSSI Common Standards Monitoring).

Important habitats for populations of priority (national or local) species must be protected and incorporated into any woodland design, and may mean increased tree and woodland cover is not appropriate in some areas. As an example, 'hotspot' areas that support key active populations of wading birds would not generally be considered appropriate for increased tree and woodland cover without sensitive design and compromise. As outlined in the UKFS, there is a presumption against forest establishment on deep peat (such as raised and blanket bogs) and we would not support woodland creation on deep peat.

Conversely, existing ecology may support wooded landscape creation objectives – for example, some areas of open habitat may support relic woodland species (e.g. bracken stands with bluebells, cloughs with woodland ferns or wetlands with wet woodland species) and sensitive management or planting may provide both landscape and ecological benefits.

Access

Large areas of the Peak district are 'access land' and the principle of maintaining public access to the landscape is important.

Any temporary fenced exclosures (for planting or recolonisation) should respect existing access routes and not obstruct existing public rights of way. On public rights of way and other identified routes, a suitable stand-off should be provided to reduce the encroachment of over-hanging branches and leaf litter.

People enjoying the landscapes of the Peak District

The cumulative impacts of fencing should be monitored and potentially fencing may not be appropriate if fences are already numerous in the area. Wooded landscape creation opportunities should be designed to not interfere with / block vantage points and iconic views.

Cultural Heritage

Wooded landscape creation should be designed and managed to take account of the historical character and cultural values of the landscape.

Where heritage features or historic landscapes are designated or are assessed as being significant, very careful consideration must be given as to how the heritage assets can be incorporated into creation proposals, and how the assets can help inform the design of the proposals.

Magpie Mine, a Scheduled Monument

In some cases it will not be possible to design a wooded landscape scheme which respects and protects significant heritage features, and in these cases protection of designated heritage features would generally take priority over wooded landscape creation.

How should we increase tree cover in the Peak District?

PRINCIPLE 6: Managing land to encouraging natural recolonisation

Natural recolonisation is our preferred approach to wooded landscape creation, though it is acknowledged that natural regeneration (as opposed to 'planting') may be difficult to achieve and can be difficult to fund.

A change of management practice may be required to allow natural recolonisation to take place– to allow scrub to naturally regenerate in places while allowing scrub to mature into woodland in others as part of a process of natural succession.

It may be possible to adopt a 'hybrid approach' (assisted regeneration) whereby natural recolonisation is supplemented by some planting to diversify species composition, or to 'kick-start' the process of natural recolonisation where a seed source is largely absent.

Hawthorn scrub recolonisation

Trees are important in the landscape for a number of reasons – the '**right outcome'**. Trees can provide biodiversity, carbon storage, prevent soil erosion, slow water flow and are objects of beauty in their own right and as elements in the wider landscape.

PRINCIPLE 7: A 'wooded landscape' is more than just 'woodland'

A wooded landscape is not one composed solely of woodland. A 'wooded landscape' is one that can include blocks of woodland / plantation, but also one which has more open characteristics but contains wood pasture, scrub, scattered trees, parkland, hedges and boundary trees as part of a 'mosaic' of woody elements in a wider land use, such as farmland or moorland.

Examples of wooded landscape mosaics within the Peak District

Much of the current Peak District landscape is farmland or managed moorland, with scattered pockets of remnant semi-natural habitats. It is a cultural landscape which is full of evidence of our relationship with the landscape throughout prehistory, history and modern times.

PRINCIPLE 8: Wooded landscapes elements are a valuable part of a wider sustainable land management system

Enhancement of wooded landscapes should form part of a sustainable land management system capable of supporting the farming and land management sector and enhancing climate resilience while protecting the existing network of habitats, species, access and cultural heritage features.

It is important to note that **wooded landscapes are not mutually exclusive with other land uses**. Sustainable land management that delivers multiple benefits is not one of **'trees or'**, but one of **'trees and'**. Increased tree cover can co-exist with agricultural landscapes, historic features, access and recreation, moorlands and remnant habitats.

Given the high proportion of the Peak District which is farmland or managed moorland, and the likely national financial incentives for different land use management methods, encouraging the creation of wooded landscapes on farmland while **balancing food production, carbon storage, biodiversity and an enhanced landscape with farm / land use economics will likely be a key issue in the future.**

Examples of farmland landscape mosaics within the Peak District

PRINCIPLE 9: Increased tree cover in the landscape can deliver multiple public goods

Increasing wooded landscapes, trees and scrub cover in targeted areas can deliver multiple public goods, including landscape enhancement, climate change mitigation and adaptation, water quality and flood mitigation, wildlife habitat, recreational opportunities, human health and wellbeing benefits, livestock welfare, economic benefits and scenic enhancements. Increasing tree and scrub cover can contribute to enhanced 'Nature Recovery Networks' in the Peak District.

Example: wooded landscapes as part of nature and landscape recovery

The concept of "wilder" landscapes in appropriate locations, where trees and scrub are likely to form a more significant but dynamic component of the landscape, should be welcomed. Opportunities should be sought to develop landscape-scale transitions from wet valley-bottom woodland, through wooded valley slopes to scattered scrub and open moorland on the highest ground.

In new woodland, open space should be included to create and enhance networks of open-ground habitats. Wetland features such as springs, flushes and bogs should remain unplanted, and opportunities should be taken to restore degraded habitat features. Develop graded Edges should be graded to create a diverse structure and transitional areas between habitats.

Examples of wooded habitat / landscape mosaics

Example: wooded landscapes as part of catchment management

Wooded landscape enhancements can provide and maintain buffer areas along watercourses, creating valuable new habitat, reducing surface water flows and improving water quality.

- Catchment woodland which intercepts, slows, stores and filters water in the headwaters, particularly clough woodlands, can help reduce flood peaks, flood flows and flood frequency.
- A cross-slope woodland (planted across hill slopes) intercepts the flow of water as it runs down the hill reducing rapid runoff and encouraging infiltration and storage of water in the soil.
- Interventions such as large woody debris dams in channel can have a positive impact in terms of trapping sediment and modest flow attenuation.
- With respect to the wider agricultural landscape, hedgerows can perform a Natural Flood Management (NFM) function by intercepting rainfall, slowing overland runoff and increasing infiltration. Planting new hedgerows across slopes in appropriate locations or restoring historic hedgerow boundaries still evident in the landscape can enhance NFM and provide water quality benefits.

A 'leaky dam' designed to 'slow the flow' in higher tributaries and prevent downstream flooding incidents.

Example: wooded landscapes as part of climate change mitigation and adaption measures

The need to plant trees in response to climate change has been articulated at both an international and national level. If woodland is managed in a sustainable way, it performs a vital role both as carbon store and sink. A new native woodland can capture 300-400 tonnes of CO^2 equivalent per hectare by year 50 (Forestry Commission, 2017). The Woodland Carbon Code (WCC) is the UK standard for afforestation projects planted for climate change mitigation. Landowners can approach a project development group as a broker between landowners and companies wishing to acquire carbon credits and be paid for the carbon the woodland stores.

Managed woodland can also supply products used in place of energy-intensive construction materials which is likely to be fundamental to net zero building construction in the future.

Much of the Peak District is farmland. Given that, increasing tree cover on our farmland (as opposed to converting farms to forestry) is very important for wooded landscape creation and delivery of 'public goods'.

PRINCIPLE 10: Support for additional tree cover on agricultural land

Increasing tree cover in agricultural landscapes – either as a well-located economic crop (through small scale productive forestry) or as complimentary wooded landscape elements (such as field corner planting, trees along linear features or widened hedgerows) integrated into the farmed landscape – can deliver essential ecosystem services and are vital for maintaining and enhancing landscape character.

This principle supports the promotion of additional trees as part of farm enterprises, and is not about replacing farmland with forestry – increased tree cover forms part of the '**trees and**', not '**trees or**' scenario.

Additional tree cover / wooded landscape elements on productive farmland can take three main forms:

1. Gapped up/widened hedgerows, additional hedgerow trees, creation of shelterbelts, low density wood pasture on marginal grazing land, planting on around farm buildings, field margins and along ditches and streams
2. Woodland planting on whole/part fields (for example, where EWCO / WCC woodland or small-scale productive forestry responds to field pattern and landform)
3. 'true' agroforestry, where trees become part of an integrated inter-cropping system.

Within the largely pastoral landscape of the Peak District, there is great potential for increasing tree cover through the increased use of shelterbelts and hedgerows. New hedge planting - or increasing the width of existing hedgerows and incorporating more hedgerow trees – could make a significant contribution to an increased level of tree cover in the landscape, while balancing increased public goods / ecosystem services with agricultural productivity.

There is also significant scope to re-establish wood/scrub pasture on grazing land. An expansion of wood/scrub pasture (trees growing at a very low density within agricultural grasslands) would deliver significant ecological and landscape benefits within the Peak District. The biggest potential carbon reduction benefits are likely to be through tree establishment (woodland or wood-pasture) on more intensively managed land. Some land managers may choose this route on parts of their landholdings where there is sufficient financial incentive, and the PDNPA will look to promote/support this option.

Elements of 'Wooded landscape' creation can play an important role in connecting habitats throughout the farmed landholding and will have direct biodiversity impacts as well as adding to the scenic value / landscape quality of agricultural land. Increased tree cover can also providing wooded settings / screening for farm buildings and in river valley landscapes riparian woodlands and buffer strips can provide 'slowing the flow' measures and increased flood storage.

In addition to other public benefits, increased farmland tree cover can also help provide 'risk management' against climate change and extreme weather events (for example by providing livestock shelter or reducing soil erosion). Increased tree cover can be integrated with management practices such as pollen and nectar strips, margins/buffer strips on watercourses, field corners and hedge planting.

The promotion and expansion of tree cover will hopefully form part of the future Sustainable Farming Incentive scheme and could potentially become a key element of land use change as part of the Governments agenda to deliver 'public goods'. This could include farm woodlands, buffers to existing woodland, planting in field margins, riparian buffers around watercourses, in-field trees, hedges and wood pasture.

A pastoral upland farm landholding

The same landholding with cross-contour shelterbelts and hedges, field-corner planting, wood pasture, conservation grazing and riparian buffers

(*MERGE both images so the change can be seen*)

Commercial conifer / broadleaf plantations on landholdings may fit with landscape character in some locations, as can woody bio-energy crops. Some Landscape Character Types may be able to more successfully accommodate commercial forestry than others without diminishing the quality of the landscape. For example, locally native species should predominate in unenclosed landscapes but other species - particularly ones that have been widely planted in the past such as Beech and Sycamore - may be acceptable in more managed and enclosed landscapes. Smaller blocks of commercial woodland have

the potential to be successfully accommodated into the landscape where they form an element of a wider, more diverse mosaic.

Commercial woodland accommodated into the landscape as part of a wider mosaic.

The principles in the UK Forestry Standard should be adopted for all new commercial woodlands and they conform with Environmental Impact Assessment regulations where appropriate.

PRINCIPLE 11: Positive landscape management and integration of commercial forestry

Restoration of Planted Ancient Woodland Sites (PAWS) should be a priority to re-establish species and habitat diversity. Consideration should be given to the re-shaping and diversification of existing conifer plantations to create softer outlines that respond to topography including an increased broadleaf component, a range of stand structures, the retention of veteran trees, the incorporation of scrub and open ground along cloughs and watercourses and scrub margins.

We encourage the consideration of alternatives to clearfell systems, such as continuous cover forestry, where suitable sites and species combinations allow and where management objectives are compatible. This is particularly important in visually sensitive views and on sites with high landscape value.

Top: poor design of forest blocks, not responding to landform and character
Bottom: geometric felling coupes again not responding to the landscape (Source: UKFS, FC 2017)

Different landscapes with the Peak district contain both a range of environmental conditions and a range of different characters. Tree/scrub species should be selected to be appropriate for both. There is also a need to consider future threats to tree health by encouraging a range of species in woodland planting to increase resilience. Where planting (as opposed to promoting natural recolonisation through a change in management – see **Principle 6** above) is proposed, the most appropriate species and establishment method should be considered in the design of schemes. **A list of appropriate tree/scrub species for use in different situations in different landscape types within the park is included in Section 7 below**.

PRINCIPLE 12: Appropriate species selection

New wooded landscape elements should include a diverse range of tree and/or scrub species. Single species dominance should be avoided, with multiple species being specified to build resilience to future tree diseases / climate changes.

Defra has published a Tree Health Resilience Strategy (2018) to improve the extent, condition, diversity and connectivity of our trees, woods and forests, and enhance protection to minimise the risk of new threats occurring. The strategy promotes four environmental goals to build resilience:

1: Extent: a continued increase of trees, woods and forests
2: Connectivity: enhancing the linear forest and matrix of trees within other habitat settings
3: Diversity: increasing the genetic diversity and increasing the structural diversity of our treescape
4. Condition: encourage healthier trees and thriving woodlands and forests.

Important considerations for species selection are soil type, site conditions, exposure, moisture, disease tolerance. Useful tools for species selection, provided by the Forestry Commission, are the Ecological Site Classification Decision Support System, which matches key site factors with the ecological requirements of different tree species and woodland communities, and the Climate Matching Tool, which 'gives an indication of the climate that trees are likely to experience in the future' in the UK.

While we would like to see natural / assisted regeneration to be the primary means of wooded landscape creation, we recognise that this will not be possible in many cases. Planting is therefore likely to be the predominant means of creation. Given that, traditional tree planting methods can have their own issues (in terms of sustainability of plastic guards, establishment maintenance and the visual impact of lines of stakes/guards).

Principle 13: Woodland establishment

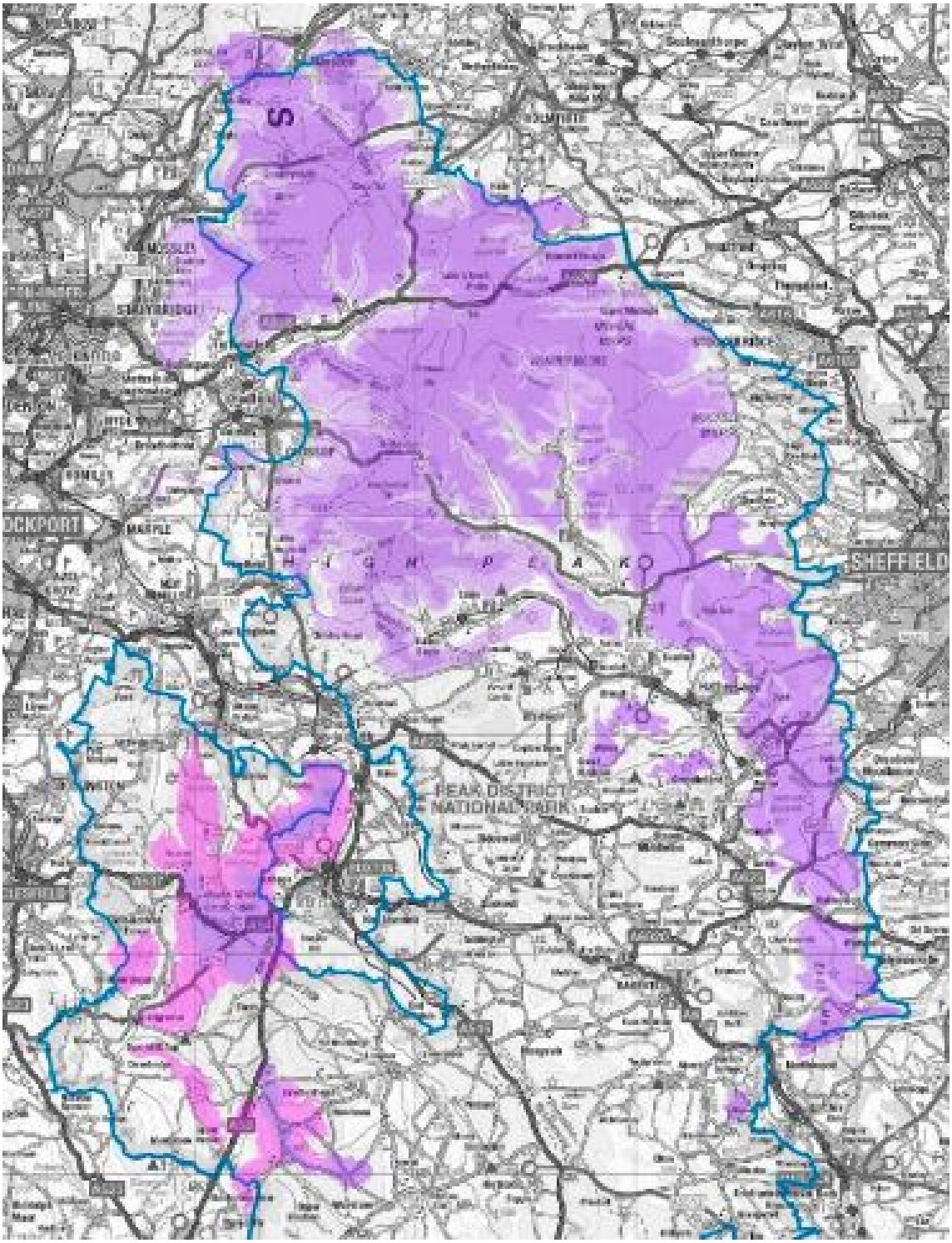
When planning new woodland it is crucial to consider what pests (such as deer) are present in the area and what protection (or management protocols) needs to be put in place. Deer fencing may be required in some areas but should only be used where deer numbers would severely affect establishment and the fencing would not have a disproportionate impact on the landscape. As ongoing squirrel and **deer control** may also be required, the PDNPA will support a collaborative approach to managing deer grazing across the park.

7. LANDSCAPE CHARACTER AND WOODED LANDSCAPE CHARACTER PRIORITIES IN THE PARK

Moorland Landscapes

This character area is located in the Dark Peak, Eastern Moors and South West Peak LCAs. It is comprised of the **Open Moors, Moorland Slopes & Cloughs and Moorland Hills & Ridges** LCTs. These LCTs have been grouped based on their similar landscape characteristics and potential for wooded landscape creation.

Link to online map



The moorlands – despite being important cultural landscapes – are not entirely natural landscapes. They have been heavily modified and expanded through historic climatic changes, historic industrial pollution and historic/prehistoric woodland clearance. They have subsequently been significantly influenced by subsequent management activities including drainage, grazing and burning. This has created their open - and relatively treeless - character but has also caused vegetation loss and erosion, the gullying of underlying peat, negative impacts on water quality and the release of carbon dioxide into the atmosphere.

Existing wooded landscape character of the Moorlands

The high moors are generally an open landscape with expansive views and relatively limited tree cover. Where there is tree cover, it consists primarily of scattered scrub and small trees, with some clough woodland in the shallow incised valleys on the moorland tops and the occasional conifer plantation. In some areas, most notably lower-lying moorland in the South West Peak and Eastern Peak District Moors, patches of willow scrub and areas of open birch woodland can occur within the mosaic of more open moorland.

The fringes of the open moor are generally steep hill slopes and ridges with numerous cloughs. Scattered trees and patches of scrub and woody heath often occur within the cloughs, with larger native clough woodlands in some areas. The slopes below gritstone edges vary significantly, with some being open and valued for the dramatic views of the rock faces, others being extensively wooded with birch or oak woodland or, less commonly, coniferous plantations.

Our often treeless, degraded and intensively managed moorlands.

Fragmented linear trees are found along some watercourses and lanes with occasional groups of trees around farmsteads. Thorn bushes mark the course of some former hedgerows and there are occasional patches of willow scrub. There are occasional sizeable blocks of commercial forestry and mixed plantations and small mixed plantations elsewhere.

Wooded Landscape outcomes for the Moorlands

Increase appropriate native woodland, scrub and scattered tree cover as part of an enhanced moorland landscape mosaic. In tandem with other moorland management operations (such as re-wetting) this will achieve a stronger ecological network, reduce habitat fragmentation and increase the resilience of the moorlands to environmental change / wildfires.

Look to retain extensive core areas of largely open moorland, with increasing tree/shrub cover on lower ground and around the moorland periphery.

promote flexible land management operations, including less intensive grazing regimes and a reduction of burning, to allow a more diverse range of habitats and vegetation types and structure to develop (including

scrub and trees), thus enabling habitats to respond to climate change effects and species to move into more suitable locations.

Maintain open views of iconic features (e.g. Stanedge Edge), but consider opportunities for increasing scattered tree/scrub cover and small groups of trees. Consider the encouragement of denser woodland/scrub on other less dramatic slopes.

Woodland creation / tree planting is considered inappropriate on deep peat areas, upland flushes of particular ecological importance, blanket bogs, active wader hotspots and areas of particular archaeological importance and sensitivity.

It should be noted that increased wooded landscape elements should form **part of a wider management strategy for moorland management,** including re-wetting etc.

Wooded landscape outputs at a landscape scale include promoting and supporting:

M1 the extension, linkage and creation of new **clough woodland** (in the Slopes and Cloughs LCT and into the Open Moors LCT) through creation in unwooded cloughs and extending existing clough woodlands further upstream, particularly where fragmented relic woodland species occur. This could be achieved through a mix of planting and natural recolonisation (through stock exclusion).

If areas are planted, regularity in shape and layout should be avoided – planting design should include natural and organic shapes, with varied densities, open space and scrub edges to allow transition into adjoining open habitats. In general, tree and scrub spacing should be less dense as it extends higher up clough sides. Planting should be restricted to locally native species (see species list).

M2 the rolling of **less-dense woodland, scrub and scattered trees over the top of cloughs** onto the edges of less-sensitive open moorland areas **where appropriate**, generally through natural regeneration (temporary fencing) or a reduction in management intensity.

M3 the **regeneration/planting of low density scattered scrub surrounding sensitive blanket bogs** to aid peat stabilisation.

M4 the **regeneration/planting of scrub and scattered trees** on **eroded slopes or slipped areas of peat** to aid slope stabilisation.

M5 the creation, expansion and linkage of areas of **existing fragmented woodland on the moorland fringes and lower valley sides**. This could be achieved through increasing tree cover in areas of low-value habitats or areas of uneconomic former pasture:

- areas of **dense bracken stands** and **species-poor acid grassland** may be able to accommodate increased tree cover. Bracken should be controlled (mechanical cutting potentially supported by cattle grazing/trampling in preference to chemical control) to prevent the saplings being out-competed and once trees become established the canopy should start to supress the bracken
- areas of low-quality open wetland habitat, such as **species poor rush-dominated areas** may be able to support the development of scattered wet clough/open woodland or willow scrub
- areas of **upland heath** may be able to accommodate additional limited tree/scrub cover (where there are no other significant constraints)

M6 the diversification and management of **existing conifer plantations** in line with **Principle 11** (Section 6).

M7 the **appropriate management of moorland and clough woodlands**, which may include the absence of any active management, to deliver the full range of potential ecosystem services available.

M8 the creation of **natural flood management measures** (such as woody debris dams in watercourses) in existing clough woodlands, new clough woodlands and areas fenced off from grazing.

Appropriate moorland tree/scrub species & planting densities

Woodland / clough woodlands	**Trees**: sessile oak, sycamore, field maple, silver/downy birch, rowan, scots pine **Scrub layer/margins**: hazel, hawthorn, blackthorn, guelder rose, holly **Wetter sites**: willow (goat, grey, white), bird cherry, alder **Density:** 600 – 1,200 stems per ha, incorporating edges, scrub areas and open space
Scattered trees and scrub	Sessile oak, silver/downy birch, rowan, willow (goat, grey, white), hawthorn, holly **Density:** 100 – 900 stems per ha

Typical existing Moorland landscape (above)

Typical Moorland Landscape after wooded landscape creation objectives implemented

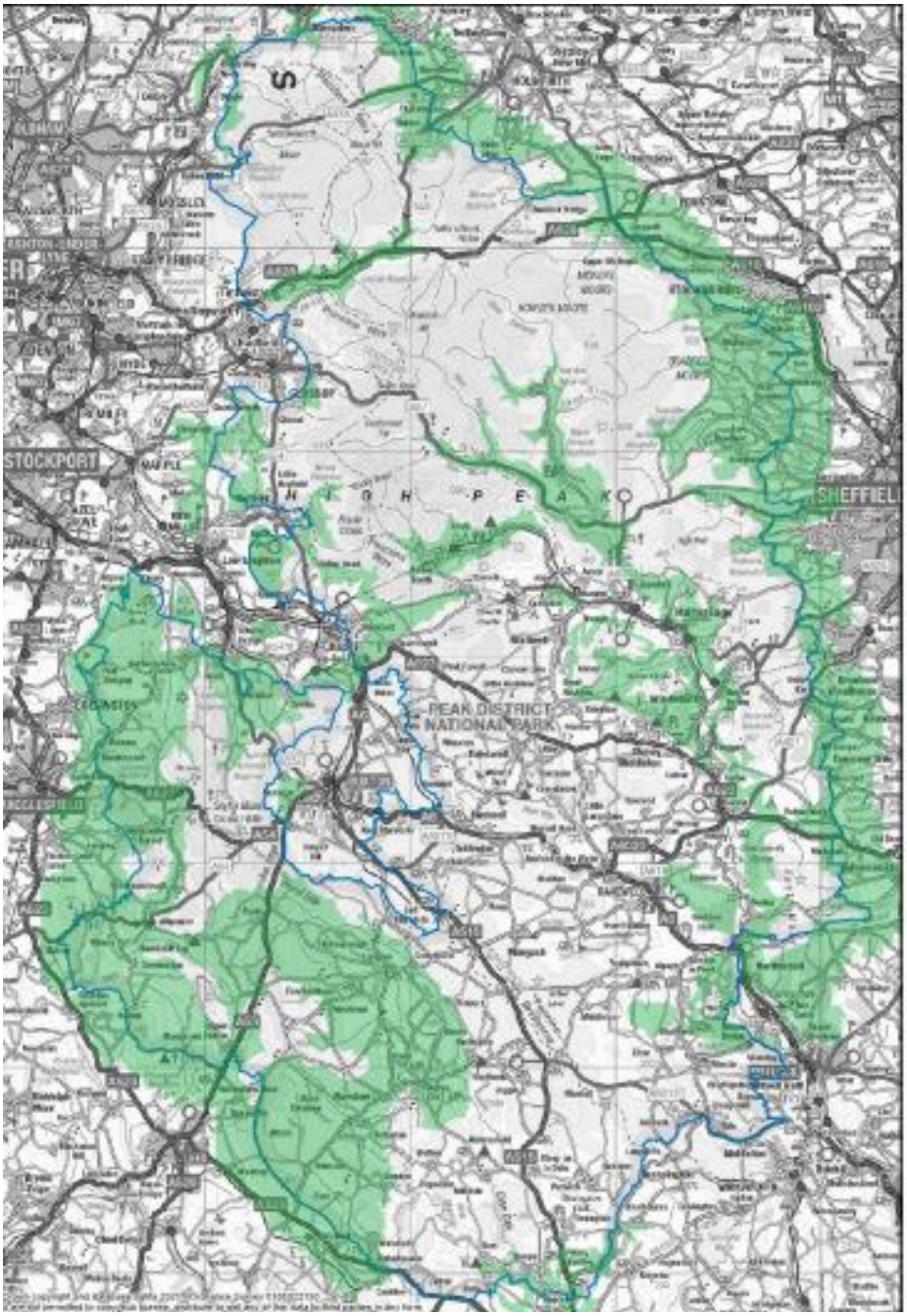
(NOTE: This is an 'indicative' image for illustrative purposes only, and is not representative of an actual scheme or of the landowners intentions)

(Can the two images above be merged so the existing 'morphs' into the after?)

Upland landscapes

This character area is comprised of landscapes on the fringes of the moorlands and is located within the Dark Peak, Dark Peak Western Fringe, Dark Peak Yorkshire Fringe, Derwent Valley and South West Peak LCAs. It is comprised of the **Enclosed Gritstone uplands, Densely Enclosed Gritstone Uplands, Upper Valley Pastures, Upland Pastures, Slopes and Valleys with Woodland, Reservoir Valleys with Woodland and Gritstone Village Farmlands** LCTs. These LCTs have been grouped based on their similar landscape characteristics and potential for wooded landscape creation.

Link to online map



Existing wooded landscape character of the Uplands

In the **Enclosed Gritstone Uplands** and **Densely Enclosed Gritstone Uplands** LCTs, the level of existing tree cover is relatively low - there are occasional broadleaf tree groups, generally adjacent to farmsteads and along field boundaries and small patches of thorn scrub and woodland on rough ground. There are

also broadleaf shelterbelts and occasional blocks of 19th or 20th century coniferous woodland. Small areas of relic broadleaf woodland and scrub occur occasionally where small gullies/cloughs occur within the enclosed farmland. There are numerous linear tree features associated with watercourses, boundaries and tracks, and some areas of small and medium sized coniferous plantations.

The **Slopes and Valleys with Woodland** LCT is generally an undulating pastoral landscape, with a strongly wooded character, defined by hillside woodlands, wooded cloughs, scattered trees along field boundaries and watercourse trees. 20th century plantation woodlands are often planted on slopes above reservoirs, some of which are extensive, such as Macclesfield Forest.

In the **Upland Pastures** and **Upper Valley Pastures** LCTs, tree cover is generally well represented due to the scattered hedgerow and watercourse trees. Tree cover is generally densest adjacent to watercourses and associated cloughs. Scattered trees also exist adjacent to settlements and along field boundaries. There are scattered ancient woodlands throughout such as around the western side of Shire Hill, Glossop; these further contribute to the wooded nature of the landscape. Most woodlands are broadleaved and contain species such as oak, ash and sycamore. There are some coniferous plantation woodlands, for example around Dovestones Reservoir in the north of the area.

The **Reservoir Valleys with Woodland** LCT is a landscape of generally steep sided valleys, often dominated by large reservoirs. It is extensively wooded, mostly recent conifer plantations, some of which were planted on the site of cleared ancient woodlands. In places, patches of ancient semi-natural woodland are now linked by the areas of plantation woodland to create a heavily wooded landscape.

The **Gritstone Village Farmlands** LCT is a generally open landscape with trees confined to small groups around settlements and as mature trees within field boundaries. On higher ground (for example around Abney), the walled landscape is generally devoid of tree cover, while on lower-lying ground (for example around Birchover), boundary trees and hedgerows are an extensive and significant feature.

A typical upland pastoral landscape on the fringe of the moors

Wooded Landscape outcomes for the Uplands

Land use in the uplands is primarily pastoral and opportunities should be taken to **enhance, link and create wooded landscape elements and areas of woodland** where possible. Linear tree features and shelter belts should be enhanced and linked, areas of wood pasture should be expanded and restored, areas of woody scrub/heath should be created and linked and small-scale, appropriately located productive forestry on economically marginal grazing land should be supported where appropriate.

Wooded landscape outputs at a landscape scale include promoting and supporting:

U1 the **expansion and connection of existing wooded landscape elements** (areas of broadleaf woodland, scrub/woody heath and wood pasture) **along valley floors and sides, on moorland fringes and ridges** through planting or regeneration. This should ideally link to existing woodland/scrub where possible (particularly where these are fragmented) and enhance the connectivity between existing semi-natural wooded areas. This could be achieved through increasing tree cover in areas of low-value habitats (such as bracken areas or less diverse acid grasslands) or areas of uneconomic former pasture:

- areas of **dense bracken stands** and **species-poor acid grassland** may be able to accommodate increased tree cover, wood pasture or woodland. Bracken should be controlled (through mechanical cutting, possibly supported by cattle grazing / trampling in preference to chemical control) to prevent the saplings being out-competed and once trees become established the canopy should start to supress the bracken
- areas of low-quality open wetland habitat, such as **species poor rush-dominated areas** may be able to support the development of scattered wet clough/open woodland or willow scrub
- areas of **upland heath** may be able to accommodate more limited tree/scrub cover (where there are no other significant constraints)

U2 the **extension of clough woodland upslope** (into the **Moorland landscapes** character areas) through creation / recolonisation in unwooded cloughs and extending existing clough woodlands further upstream, particularly where fragmented relic woodland species occur.

U3 the diversification of **existing conifer woodlands** to create a more semi-natural structure and composition and the **restoration of Planted Ancient Woodland** sites (PAWS). These are woodland sites which contain evidence of former ancient woodland, or for which there is recorded evidence of former ancient woodland, and which have subsequently been planted with coniferous or broadleaved trees.

Wooded landscape outputs at a farm scale include promoting and supporting:

U4 the **expansion, linkage and creation** of well-designed and located **wooded landscape elements** (which respect existing field pattern, landform, remnant habitats and historic features and the condition/layout of field boundaries) **in the largely pastoral farmed landscape** units on the fringes of moorlands, through:

- expanding / creating **wood pasture** on marginally economic grazing land
- planting scrub, wood pasture or woodland on areas of bracken
- creating, extending and linking **linear native tree/scrub cover** (along field boundaries, lanes, ditches & watercourses)
- increasing **scattered tree/scrub cover** - along boundaries, field corners and watercourses. This can include extending clough woodlands upslope (into the moorland fringes)
- planting **new hedges**, gapping up, buffering and widening **existing hedgerows** and restoring **relict hedgerows** in valley bottoms and up valley sides
- managing **existing historic shelterbelts** and maintain **drystone enclosures**
- creating new **cross-contour hedges and shelterbelts**

- creating **new small woodlands set within the existing field pattern** that link and connect existing wooded elements
- extending and linking **valley-side riparian woodland, linear tree cover, scrub, hedgerows and scattered trees**
- increasing **tree cover associated with farmsteads/new farm buildings/small clusters of built form** and the **promotion of new trees as part of planning decisions**

In terms of settlements and their setting, promote and support:

U5 the **protection and management of individual trees or groups of trees within/on the boundaries of settlements** which contribute to village character and landscape setting. These should be protected, positively managed and promoted as part of the planning process, aiming to secure a net increase in trees within/around settlements.

Appropriate upland tree/scrub species include:

Woodlands	**Trees**: sessile oak, rowan, silver/downy birch, sycamore, field maple, scots pine, aspen **Scrub layer/margins**: cherry, hazel, hawthorn, blackthorn, guelder rose, holly **Wetter sites**: willow (goat, grey, white), bird cherry, alder **Density:** 600 – 1,200 stems/ha, incorporating edges, scrub areas and open space
Boundary / infield trees	Sessile oak, sycamore, birch, rowan, field maple, aspen
Wood / scrub pasture	Sessile oak, sycamore, birch, rowan, field maple, hawthorn, hazel, alder (wetter sites) **Density:** typically 9 – 40 stems per ha
Scrub / hedges / shelterbelts	Field maple, birch, rowan, cherry, hazel, hawthorn, blackthorn, guelder rose, gorse, dog rose, holly **Density:** 100 – 600 stems per ha (scrub); 7 whips per lin m (hedge planting), plus hedgerow trees at 10 – 20m spacings; 900 – 1,200 stems per ha (shelterbelts)

Typical existing Upland landscape

Typical Upland landscape after wooded landscape creation objectives implemented

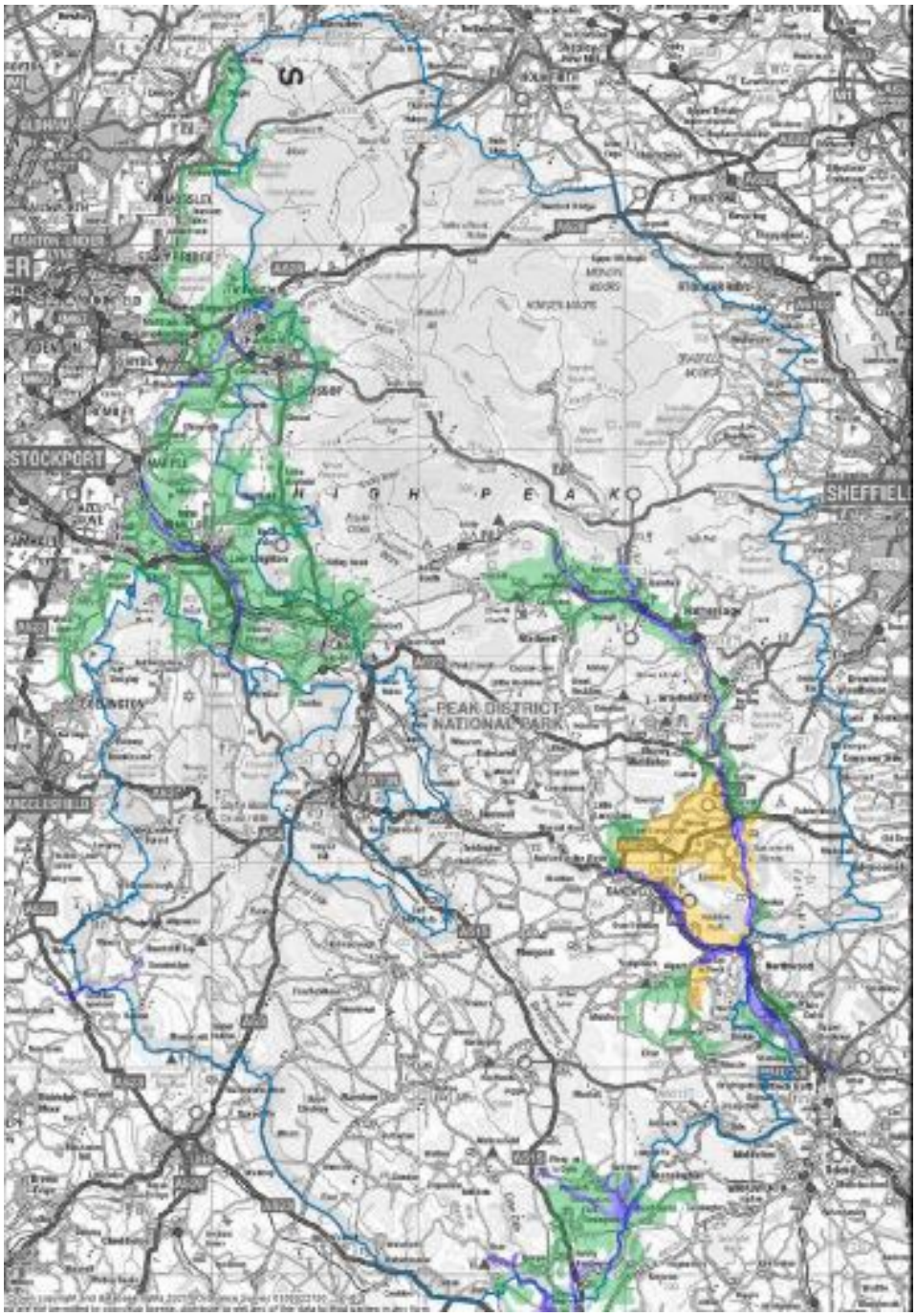
(**NOTE**: This is an 'indicative' image for illustrative purposes only, and is not representative of an actual scheme or landowners intentions)

(Can the two images be merged so the existing 'morphs' into the after?)

Transitional Upland landscapes

This character area is located primarily within the Derwent Valley LCA and is comprised of the **Riverside Meadows, Estatelands, Valley Farmlands with Villages, Valley Pastures with Industry** and **Village Farmlands on Shale Ridges** LCTs. These LCTs have been grouped based on their similar landscape characteristics – these are lower lying, transitional landscapes between the uplands and limestone landscapes to the north and west and the rural lowlands of Derbyshire to the south and east.

link to online map



Existing woodland character in the Transitional Uplands

The **Village Farmlands on Shale Ridges** LCT is a small scale, settled pastoral landscape associated with gently rolling uplands and small to medium sized fields and strip fields, enclosed by hedgerows. This is an enclosed landscape where views are often filtered through densely scattered hedgerow trees in field

boundaries. Tree cover is largely dominated by boundary trees, shrubs and hedges, which are an extensive and characteristic feature within much of this area, and there is linear tree cover along parts of the Tissington Trail. Woodland is generally scarce, and confined to small broadleaf or mixed plantations.

The **Riverside Meadows** LCT are pastoral landscapes, generally characterised by a meandering river channel in a relatively flat floodplain. Despite the agricultural nature of these landscapes, they generally appear to have a well-wooded character. River banks are often densely lined with alder and willow which creates an intimate landscape where views are filtered by watercourse trees and framed by the adjacent wooded slopes. In places there are small copses of willow carr and poplars.

A typical wooded streamside

A typical flat, well-treed floodplain

The **Estatelands** LCT are generally a mix of estate woodlands, pasture (with some veteran trees), historic plantation coniferous woodlands, discrete linear shelter belts and scattered mature boundary trees. There are significant areas of parkland, most notably at Chatsworth but also at Haddon, Thornbridge, Stanton and Hassop, which are an important component of the landscape in this area. Linear tree cover along the Monsal Trail also contributes to the relatively wooded 'feel' of this LCT.

A view over the Chatsworth estate landscape

The **Valley Pastures with Industry LCT** is a small scale, settled pastoral landscape on undulating lower valley slopes. There are filtered views through scattered hedgerows and dense streamside trees which gives the impression of a well-wooded landscape. There are scattered ancient woodlands throughout the character type such as around the western side of Shire Hill; these further contribute to the wooded nature of the landscape. There is some coniferous plantation woodland such as around Dovestones Reservoir in the North of the area.

The **Valley Farmlands with Villages LCT** is a settled pastoral landscape, often with a low lying topography associated with a network of streams and damp hollows. This is an enclosed landscape, with views filtered through scattered hedgerow and streamline trees.

Wooded Landscape outcomes for the Transitional Uplands

Land use is primarily pastoral and opportunities should be taken to **enhance, link and create wooded landscape elements and areas of woodland** where possible. Linear tree features and shelter belts should be enhanced and linked, areas of wood pasture should be expanded and restored, areas of woody scrub/heath should be created and linked and small-scale, appropriately located productive forestry or broadleaf woodland on economically marginal grazing land should be supported where appropriate.

The Riverside Meadows, Valley Pastures with Industry and Valley Farmlands with Villages LCTs can support an increased appropriate native woodland creation as part of an enhanced riparian landscape mosaic (with scrub, linear/scattered trees, wood pasture and wet woodland) on pastoral farmland and remnant habitats. Wooded areas and linear tree cover along the valley floor and up lower valley sides can link upslope into adjacent Upland LCTs.

Protect and enhance estate landscapes, veteran trees and the setting of historic features. Consider extension of parkland landscapes through increased establishment of field and boundary trees on adjacent enclosed land. Ensuring the longevity and continuity of the landscape through positive management of the tree stock in parklands and along the trails, and creating conditions for the development of 'future veterans'.

Wooded landscape outputs at a landscape scale include promoting and supporting:

T1 the creation, expansion and linking of areas of **riparian woodland** on the lower valley sides and valley bottoms. In combination with other 'slowing the flow' measures, this would strengthen landscape character while providing substantial amenity and flood prevention benefits to downstream communities.

T2 increased appropriate native wooded landscape elements as part of an **enhanced riparian landscape mosaic** (with scrub, linear/scattered trees, wood pasture and wet woodland) on pastoral farmland and remnant habitats:

- extending and linking **valley-bottom riparian woodland, wet woodland, linear tree cover, scrub, hedgerows and scattered trees**, particularly along watercourses
- extending and linking **linear tree cover and restoring relict hedgerows** in valley bottoms and lower valley sides, upslope into adjacent Upland LCTs
- managing and restoring **existing wooded areas**
- encouraging **natural flood management** where appropriate, such as natural floodplain woodland and 'slowing the flow' measures e.g. woody dams in watercourses

T3 the expansion, creation and connection of **wooded landscape elements** (areas of broadleaf woodland, scrub/woody heath and wood pasture) **along valley sides and on upland/moorland fringes** through planting or regeneration. This should ideally link to existing woodland/scrub where possible (particularly where these are fragmented) and enhance the connectivity between existing semi-natural wooded areas. This could be achieved through increasing tree cover in areas of low-value habitats (such as bracken areas or less diverse acid grasslands) or areas of uneconomic former pasture:

- areas of **dense bracken stands** and **species-poor acid grassland** may be able to accommodate increased tree cover, wood pasture or woodland. Bracken should be controlled (through mechanical cutting, possibly supported by cattle grazing / trampling in

preference to chemical control) to prevent the saplings being out-competed and once trees become established the canopy should start to supress the bracken
- areas of low-quality open wetland habitat, such as **species poor rush-dominated areas** may be able to support the development of scattered wet clough/open woodland or low density willow scrub
- areas of **upland heath** may be able to accommodate more limited tree/scrub cover (where there are no other significant constraints)

T4 the protection and enhancement of **estate landscapes, veteran trees and the setting of historic features**. Consider the extension of parkland landscapes through increased establishment of field and boundary trees on adjacent enclosed land. Ensuring the longevity and continuity of the landscape through positive management of the tree stock in parklands and along the trails, and creating conditions for the development of 'future veterans':

- managing **existing veteran trees, estate woodlands and historic plantations** and maintaining **enclosure boundaries**
- exploring opportunities for **new additional parkland trees**. There is a need to manage these trees to ensure a balanced age structure while seeking opportunities to ensure the sustainability of the parkland landscapes. Retain old and veteran trees and initiate phased replacement planting and felling when required. Retain trees as standing and fallen deadwood habitats and landscape features wherever possible
- expanding /creating areas of **scrub and scattered trees** to complement and enhance the wildlife and landscape value of existing ancient and veteran trees

Wooded landscape outputs at a farm scale include promoting and supporting:

T5 the **expansion** of well-designed and located **wooded landscape elements** (which respect existing field pattern, landform, remnant habitats and historic features and the condition/layout of field boundaries) **in the largely pastoral farmed landscape** units, through:

- expanding **wood/scrub pasture** on marginally economic grazing land
- extending and linking **linear native tree/scrub cover** (along field boundaries, lanes, ditches / watercourses)
- increasing **scattered tree/scrub cover** - along boundaries, field corners and watercourses
- restoring **relict hedgerows** in valley bottoms and lower valley sides
- creating **riparian native woodlands and productive woodland** of appropriate species, including cross-contour shelterbelts
- increasing **tree cover associated with farmsteads/new farm buildings/small clusters of built form** and promoting **new tree planting** as part of planning decisions

In terms of settlements and their setting, promote and support:

T6 the **protection and management of individual trees or groups of trees within/on the boundaries of settlements** which contribute to village character and landscape setting. These should be protected, positively managed and promoted as part of the planning process, aiming to secure a net increase in trees within/around settlements.

Appropriate transitional upland tree/scrub species include:

Woodlands	**Trees**: Sycamore, field maple, sessile/pendunculate oak, lime, rowan, birch, aspen **Scrub layer/margins**: crab apple, birch, rowan, cherry, hazel, hawthorn, blackthorn, guelder rose, holly **Density:** 600 – 1,200 stems/ha, incorporating edges, scrub areas and open space
Riparian woodlands	Willow (goat, grey, white, crack), bird cherry, alder, downy birch, hawthorn, hazel, blackthorn, guelder rose

	Density: 600 – 1,200 stems/ha, incorporating edges, scrub areas and open space
Boundary / infield trees	Sessile / pendunculate oak, sycamore, birch, rowan, field maple, lime, beech (away from buildings/footpaths/roads)
Wood / scrub pasture	SL/LL lime, sycamore, field maple, sessile/pendunculate oak, hawthorn, alder (wetter sites), rowan/birch (higher sites) **Density:** typically 9 – 40 stems per ha
Scrub / hedges / shelterbelts	Field maple, birch/rowan (higher sites), crab apple, cherry, hazel, hawthorn, blackthorn, guelder rose, dog rose, holly. Hedgerow trees species include sycamore, field maple, sessile/pendunculate oak, birch, rowan, cherry and lime. **Density:** 100 – 500 stems per ha (scrub); 7 whips per lin m (hedge planting), plus hedgerow trees at 10 – 20m spacings; 900 – 1,200 stems per ha (shelterbelts)

Typical existing Transitional Upland Landscape

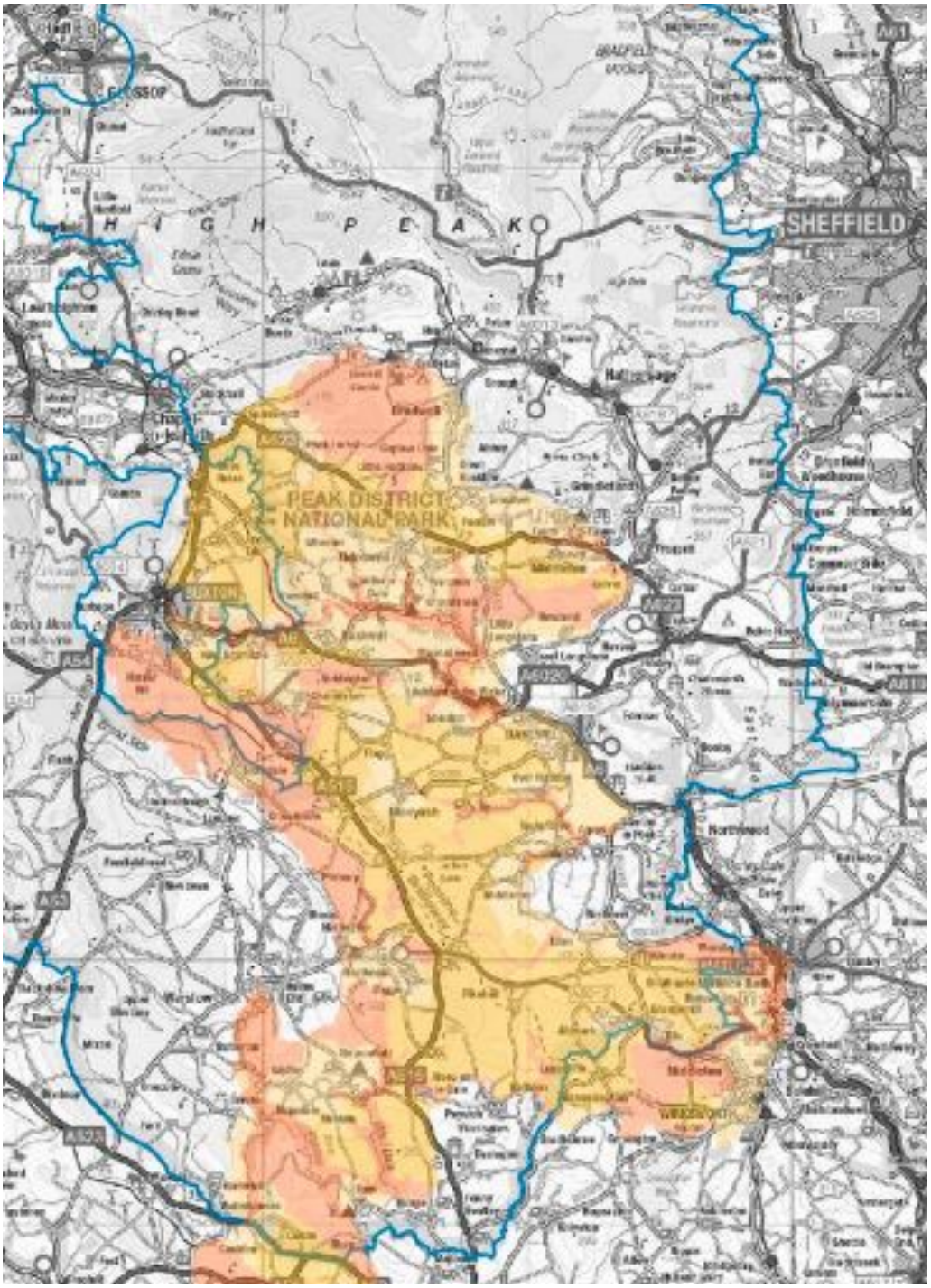
Typical Transitional Upland landscape after wooded landscape creation objectives implemented

(NOTE: This is an 'indicative' image for illustrative purposes only, and is not representative of an actual scheme or the landowners intentions)

(Can the images be merged so the existing 'morphs' into the after?)

Limestone landscapes

This character area is located within the White Peak LCA and is comprised of the **Limestone Village Farmlands, Limestone Plateau Pastures, Limestone Hills and Slopes** and **Limestone Dales** LCTs**.** These LCTs have been grouped based on their similar underlying limestone geology.



Existing woodland character of the limestone landscapes

In the **Limestone Village Farmlands** and **Limestone Plateau Pastures** LCTs, tree cover is largely restricted to small groups of trees and a scattering of trees along boundaries around village margins and farmsteads, often creating quite intimate rural scenes. Individual and groups of linear boundary trees are important landscape features in localised areas e.g. along existing and historic transport routes. In places, larger coverts and occasional belts of sycamore, beech or ash trees, often planted on abandoned lead

rakes, provide a stronger sense of enclosure. These linear or rectangular shelter belts are a distinctive feature of the White Peak landscape. Elsewhere the landscape is often more open, but even here more distant views are typically framed by surrounding hills, or rising ground.

Historically, trees have gradually been lost from this landscape.

Typical limestone plateau landscape – undulating and open with limited tree cover

The **Limestone Hills & Slopes** LCT is a fairly exposed landscape with relatively limited tree cover and open views to distant skylines. In some more sheltered areas with deeper soils, there are small plantations and tree groups associated with farmsteads.

Typical Limestone Hills and Slopes landscape

The **Limestone Dales** LCT is often steeply sloping with limestone outcrops and extensive tracts of largely native semi-natural woodland and scrub intermixed with limestone grassland. In some smaller dales this is an intimate, secluded landscape where views are tightly controlled by landform and tree cover; in others the dales are more open.

More open dale landscape

More wooded dale landscape

Wooded Landscape outcomes for the Limestone Landscapes

In the White Peak, the limestone villages and dales are an important focus for many visitors to the National Park, and wooded landscape creation opportunities should be used to strengthen their character and setting to ensure this focus can continue into the future. The key aim is to **increase appropriate types of tree cover while protecting and managing the distinctive and valued historic character of the settled, agricultural landscapes**.

The **promotion of trees and wooded landscape creation on farmland** (including scrub, linear/scattered trees, wood-pasture and woodland) should be part of an overall objective to enhance the 'landscape mosaic' in this largely pastoral landscape, while maintaining historic field patterns. In particular, opportunities should be taken to **extend and connect wooded landscapes** (native woodland, scrub, parkland, wood-pasture and boundary trees) **over dale brows**, and to re-establish a natural gradation, in places, from wet valley-bottom woodland through daleside woodland to native woodland on the limestone plateau.

In the Dales, opportunities for wooded landscape creation are more limited because of the extent of high quality open habitats, but wooded landscape creation should be part of an enhanced landscape mosaic (including grassland, scrub, linear/scattered trees and woodland), while protecting the internationally important grasslands and cultural heritage features.

Wooded landscape outputs at a landscape scale include promoting and supporting:

L1 the **creation, expansion and connection of existing wooded landscape elements** (broadleaf woodland, scrub and wood pasture) **through the plateau, on dale sides and along hills and ridges** through larger-scale planting/regeneration schemes or productive woodland initiatives. These should ideally link to existing woodland/ scrub where possible and enhance the connectivity between existing semi-natural woodland blocks.

L2 the **expansion of native daleside woodland, scrub and wood-pasture over the dale brow onto the improved grasslands** in adjacent Limestone Village Farmland and Limestone Plateau Pastures LCTs. The visual integrity of historically important landscapes such as strip fields and the settings of village conservation areas should be maintained.

L3 the **protection, positive management and enhancement of linear tree cover, groups of trees associated with farmsteads and scattered trees** (which are important landscape features). Positive management should ensure the creation of a balanced age structure while seeking opportunities to extend and replace boundary trees.

Wooded landscape outputs at a farm scale include promoting and supporting:

L4 the **expansion of** well-designed and located **wooded landscape elements** (which respect existing field pattern, landform, remnant habitats and historic features and the condition/layout of field boundaries) **in the largely pastoral farmed landscape** units, through:

- expanding **wood/scrub pasture** on marginally economic grazing land and along / over the tops of dale brows onto the plateau
- extending, linking and creating **linear and scattered native tree/scrub** cover (along field boundaries/corners, lanes, ditches/watercourses)
- managing **existing historic shelterbelts and traditional plantation woodlands** and maintaining the **drystone enclosures** which historically contained those woodlands. Opportunities should be sought to ensure the continuity and enhancement of their diversity by increasing species diversity, age structure, the retention of dead wood and

enhancement of the shrub layer. On sites of historical importance historic features should be safeguarded and enhanced by retaining open areas where appropriate

- creating new **small native woodlands, productive woodland blocks and wood pasture** (within the existing traditional field pattern) in the Limestone Villages Farmlands and Limestone Plateau Pastures LCTs
- Increasing **tree cover associate with farmsteads/new farm buildings/small clusters of built form** and **promote new trees as part of planning decisions**
- In the Limestone Plateau Pastures LCT (larger scale in terms of field size, topography &/or existing woodland), establishing **larger-scale woodland**, particularly of native broadleaf may be appropriate. Other woodland types (non-native broadleaves, mixed or conifer plantations) may be acceptable if appropriately sited and designed

L5 the **positive maintenance and enhancement of existing woodlands and shelterbelts**, many of which are neglected or would benefit from enhanced management. Ash dieback is becoming an increasing issue in these woodlands and it is likely that a high proportion of canopy trees will die off over the next decade. A variety of mitigation measures, in particular diversification of the existing woodlands with appropriate native species, will be required.

L6 the creation of areas of **scrub and wet woodland along watercourses and dale bottoms**, as part of an overall landscape mosaic.

In terms of settlements and their setting, promote and support:

L7 the **protection and management of individual trees or groups of trees within/on the boundaries of settlements** which contribute to village character and landscape setting as part of the planning process. Planning policy and planning decisions should aim to secure a net increase in trees within/around settlements.

Appropriate limestone tree/scrub species include:

Woodlands	**Trees**: SL/LL lime, wych elm, sycamore, field maple, sessile/penduculate oak, rowan, whitebeam, yew (not on woodland margins or unfenced areas adjacent to grazed areas), beech (away from buildings/footpaths/roads) **Scrub layer/margins**: crab apple, cherry, wild service tree, hazel, hawthorn, blackthorn, guelder rose, holly **Wetter sites**: willow (goat, grey, white), bird cherry, alder **Density:** 600 – 1,200 stems per ha, incorporating edges, scrub areas and open space
Boundary / infield trees	SL/LL lime, sycamore, field maple, sessile/pendunculate oak, beech (away from buildings/footpaths/roads)
Wood / scrub pasture	SL/LL lime, sycamore, field maple, sessile oak, hawthorn, alder (wetter sites) **Density:** typically 9 – 40 stems per ha
Scrub / hedges / shelterbelts	Field maple, birch, crab apple, cherry, wild service tree, hazel, hawthorn, blackthorn, guelder rose, dog rose, European gorse, holly **Density:** 100 – 500 stems per ha (scrub); 7 whips per lin m (hedge planting), plus hedgerow trees at 10 – 20m spacings; 900 – 1,200 stems per ha (shelterbelts)

Typical existing Limestone landscape

Typical Limestone landscape after wooded landscape creation objectives implemented

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APPENDIX 1: UKFS 'Guidelines on Forests and Landscape' Summary

UKFS Guidelines on Forests and Landscape

The table below introduces factors important for forests and landscape. The Guidelines that follow provide more informatio on how to comply with the UKFS Requirements, grouped by the factor headings.

Factor	Importance for landscape
Landscape context	
Landscape character	An appreciation of landscape character helps determine the capacity of a landscape to accommodate new forests and their design with respect to the key landscape characteristics of a particular area.
Landscape and visual sensitivities	Within a valued landscape, new forests, woodlands and trees can have a significant impact on its recognised qualities and on how people experience it.
Historic context	Forests, woodlands and individual trees are key landscape components that can be integral to historic character, but new ones can also detract from historic character if sited or managed inappropriately.
Designed landscapes	Designed landscapes and their woodlands and trees are a valued art form and an important part of the cultural heritage of the British Isles.
Forest design principles	
Shape	The shapes of forests and woodlands within the landscape can be the most striking visual features: both the overall shape, and the patterns of species and felling coupes within.
Landform	In hilly or mountainous areas, landform is usually the dominant and most obvious landscape influence for forest and woodland design.
Pattern of enclosure	In lowland areas, where landform is subdued, field patterns are usually the dominant and most obvious landscape influence for forest and woodland design.
Scale	Scale describes the relative size of visual elements as seen by the viewer. Generally, the scale of forest and woodland shapes should reflect the scale of the landscape.
Diversity	Diversity refers to the number of different elements in a design. Diverse forests are usually more visually appealing, but the level of diversity should be appropriate to the situation.
Unity	Unity is achieved when forests or woodlands integrate well with other features and look as though they belong in the landscape. Unity also applies to the integration of the various elements within a forest design.
Spirit of place	Spirit of place is a term used to describe the intangible qualities, such as wildness, tranquillity and cultural associations, that make a location special or unique.