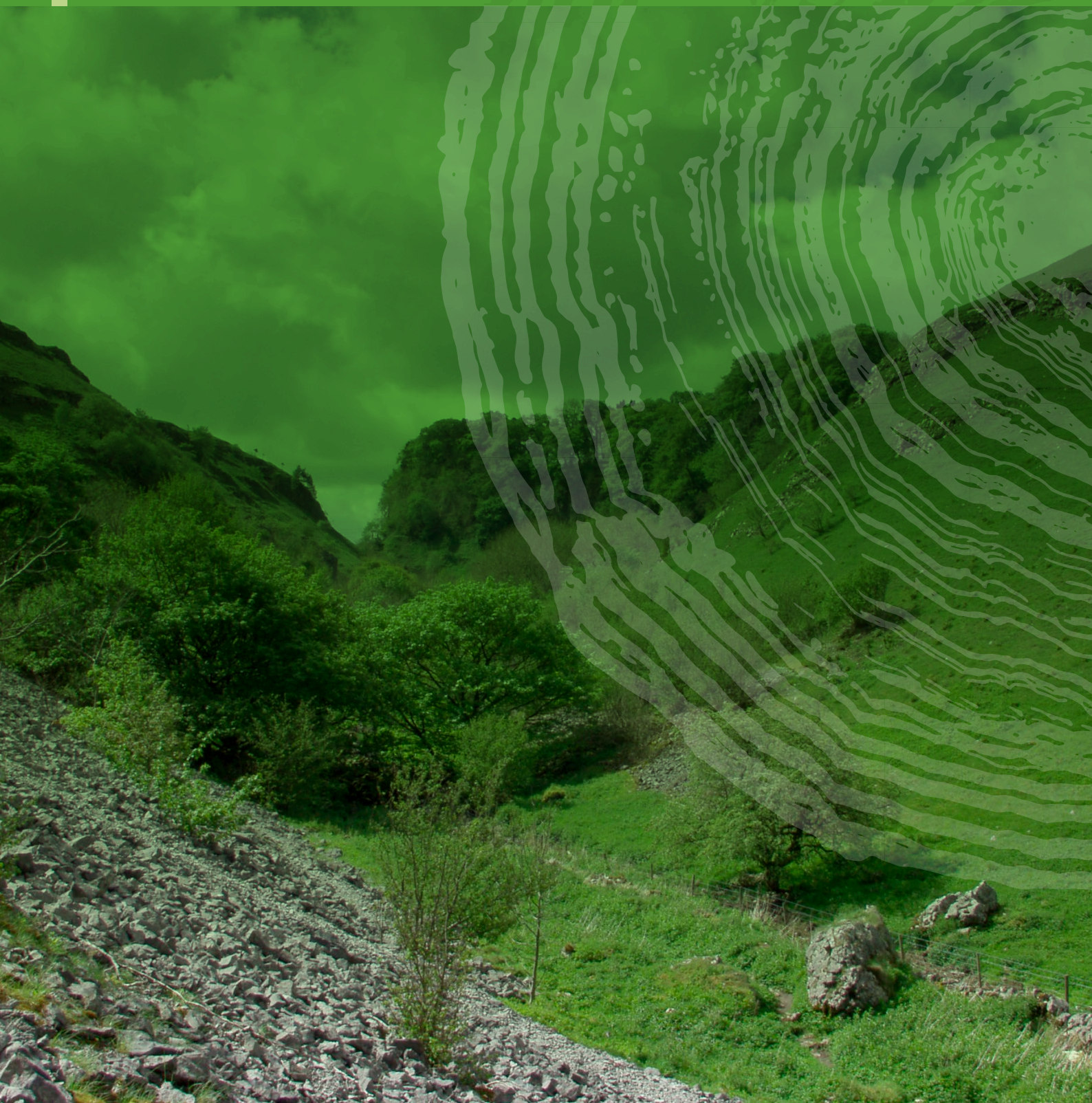
Derbyshire Wildlife Trust

Guiding Principles for WOODED HABITAT CREATION in the White Peak



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1. INTRODUCTION

1.1 RATIONALE FOR WOODED HABITAT EXPANSION IN THE WHITE PEAK NATIONAL CHARACTER AREA

The White Peak is a raised limestone plateau, with undulating and steeply-sided limestone dales[1]. The landscape is well known for its human features such as the many miles of drystone walls dividing the landscape, archaeological features, and historic settlements on the plateau, in the dales and valleys. A map showing the outline of the NCA is provided in Appendix 2. The historical landscape is well preserved in places and the area is part of the Peak District National Park. A map showing the outline of the NCA is provided in Appendix 2. Creation of new wooded habitats would contribute towards objectives within the UK Government's Environment Improvement Plan (2023) including:

- **Increasing woodland cover**
- **Creating wildlife-rich priority habitat**
- **Improving water quality**
- **Safeguarding and enhancing natural beauty**

There are sites with huge value to wildlife, particularly the dales with calcareous grassland, ash woodland, with clear streams and rivers flowing through them. However, these represent relatively isolated hotspots of biodiversity amongst a landscape dominated by intensive agriculture, with improved grassland divided by dry stone walls and small, scattered pockets of woodland. Biodiversity hotspots are fragmented and isolated, with the land between them difficult for species to disperse through and lacking biodiversity value. The White Peak is also under considerable pressure to intensify agricultural production, provide affordable housing, continue quarrying for valuable natural resources, and provide recreation for the major cities of Derby, Manchester and Sheffield. This all contributes to a landscape which is lacking in wild spaces and habitats of high value generally and where biodiversity is in decline. Ash dieback disease is prevalent in the existing ash dominated woodlands of the dales, and presents a considerable threat to the already limited wooded habitat value across the NCA.

1.2 WHAT IS A 'WOODED HABITAT'?

Wooded habitats can refer to a range of different habitats. This can mean closed canopy woodland, but also refers to wood pasture and parkland, hedgerows, traditional orchards, scrub and individual and boundary trees – essentially any habitat where woody trees and shrubs are an important component. DWT's Derwent Living Forest programme aims to deliver 30,000ha of new wooded habitat within the Derwent catchment by 2050, and the term 'wooded habitat' is therefore used throughout this document to incorporate the wide range of habitat types that this can incorporate.

An increase in wooded habitats and ecological connectivity would provide myriad ecosystem services to the White Peak NCA, including:

Biodiversity

All wooded habitats provide valuable habitat for a wide range of flora and fauna. Well managed and maintained wooded habitats can provide connective corridors enabling species to move more easily through the landscape, linking fragmented pockets of other habitats and enabling species to respond to climate change by migrating to areas with more favourable conditions.

Support for Rural Communities

Restored hedgerows and well-managed woodlands have direct and indirect benefits for farming such as shelter for livestock, reduced soil erosion and potential for additional income streams through productive woodlands and emerging ecosystem service markets. Agroforestry offers an additional opportunity for landowners to simultaneously diversify their businesses and increase production whilst restoring wooded habitats through silvopasture and silvoarable practices – combining tree and shrub cover with crop and livestock farming.

Climate Change and Air Quality

Trees and shrubs help to mitigate human-induced climate change through sequestration of atmospheric carbon and can reduce particulate pollution.

Water Quality & Nutrient Reduction

Woodland helps to filter water which runs off from fields, removing excess nutrients such as phosphates and other pollutants before they reach rivers and streams, as well as intercepting sediments to keep rivers clean and clear. Eutrophication from nitrogen and phosphorus is a major issue in the Peak District Dales Special Area of Conservation (SAC).

[1] NCA Profile: 52 White Peak - NE534 (naturalengland.org.uk)

1.3 WHY ARE GUIDING PRINCIPLES NEEDED?

The White Peak is a culturally rich landscape which has been heavily influenced by human society over thousands of years, resulting in a layered landscape with a range of cultural, ecological and geological value. As a result, there are a significant number of European and national nature conservation, geological and heritage designations (Special Areas of Conservation, Special Protection Areas, Sites of Special Scientific Interest, World Heritage Sites and Scheduled Monuments) to be considered. The unique character of the NCA the presence of the Peak District National Park means that wooded habitat creation should be carefully planned to conserve the character of the NCA. Wooded habitat creation must therefore follow the principle of "the right habitat in the right place" and respect the cultural sensitivity of the landscape.

The Peak District National Park Authority has developed a comprehensive *Wooded Landscapes Plan*, offering guidance on the creation of wooded habitats within the national park. This *Guiding Principles* document builds upon the key principles of the *Wooded Landscapes Plan* while also extending its scope to include areas of the White Peak NCA beyond the national park's boundaries.

The UK government has set ambitious targets for increasing tree cover in England, and as such there will be numerous stakeholders looking for opportunities to deliver on this target. This document is intended to provide guidance to landowners, land managers and advisors and other stakeholders which will complement existing resources and provide a consensus approach to meet environmental and nature recovery targets whilst respecting the unique character of the White Peak.

There are myriad opportunities for creation and expansion of wooded habitats, and it is important to note that increasing tree cover does not mean replacement of open habitats with extensive closed canopy woodland. Rather, the emphasis on creation of wooded habitats gives the flexibility to increase the tree and scrub cover in combination with other land uses. Key opportunities are in areas around the dales and slopes which have the potential to provide valuable transitional areas between the more open plateau and neighbouring landscapes and biodiversity hotspots. Existing woodlands on the plateau could be expanded and ecotones created around the edges, creating a more natural transitional habitat between isolated patches of woodland and open habitats like grassland, and new woodlands could also be an option which would provide opportunities both for biodiversity and for shelter for livestock. Individual trees along field boundaries or in-field trees, increasing wood pasture, and increasing the size and connectivity of isolated woodlands would enhance ecological connectivity and enable continued agricultural productivity, supporting rural communities to continue to provide food whilst supporting nature recovery.

2. KEY FEATURES AND DESIGNATIONS

Where designations are present it is critical that these are identified at an early stage so that they can be incorporated into any habitat creation plans. It is important to note that most of the White Peak lies within the Peak District National Park. These features may relate to ecological, geological, historic landscape or access and habitat creation should account for their presence in accordance with the principles outlined in Table 1 at the end of this document. A list of relevant organisational stakeholders is included in chapter 5 – these should be consulted in relation to new woodland design to ensure that sensitive sites and designations are protected.

PEAK DISTRICT NATIONAL PARK

Most of the White Peak NCA is within the Peak District National Park (31,688ha in total). The Peak District is designated as a national park due to its natural beauty and cultural heritage. The Peak District National Park Authority (PDNPA) have statutory obligations to conserve and enhance the natural beauty, wildlife and cultural heritage of the area and to promote opportunities for the understanding and enjoyment of the parks' special qualities by the public. Considerations specific to the White Peak include:

- Elevated, gently undulating limestone plateau with occasional knolls and crags dissected by steeply cut dales and gorges
- Steep-sided dales with a mosaic of flower-rich limestone grassland, ash woodland and scrub
- Grassland enclosed by drystone walling with small, narrow medieval strip fields around villages and larger regular geometric field patterns away from settlements
- Widespread features of archaeological and historical interest including Neolithic and bronze-age ritual monuments

The National Park's key principles are to:

- Conserve and enhance the natural beauty, wildlife and cultural heritage
- Promote opportunities for the understanding and enjoyment of the special qualities of the national park by the public

Whenever there is a conflict present between these two purposes, conservation takes priority. All activities within the National Park strategy aim to foster the economic and social wellbeing of local communities within the Peak District[2].

There are seven special qualities for which the park is designated for, habitat creation plans need to consider the special qualities of the area and be designed sympathetically with the culture of the landscape[3]:

- Beautiful views created by contrasting landscapes and dramatic geology
- Internationally important and locally distinctive wildlife and habitats
- Undeveloped places of tranquillity and dark night skies within reach of millions
- Landscapes that tell a story of thousand of years of people, farming and industry
- Characteristic settlements with strong communities and traditions
- An inspiring space for escape, adventure, exploring and quiet reflection
- Vital benefits for millions of people that flow beyond the landscape boundary

DERWENT VALLEY MILLS UNESCO WORLD HERITAGE SITE (DVMWHS)

There is approximately 374ha overlap between the White Peak NCA and the Derwent Valley Mills UNESCO World Heritage Site (core area and buffer zone combined). This is at the western extent of the WHS, surrounding Cromford. The WHS is of international significance owing to its role as the birthplace of England's industrial revolution. It includes Matlock and Derby and features of note are primarily concentrated along the River Derwent, including historic mills and weirs and structures associated with the Cromford Canal. The purpose of the designation is to prevent the loss of sites of international significance, and the responsibility to protect and enhance the characteristics of the World Heritage Site lies with the local planning authorities.

Derwent Valley Mills UNESCO World Heritage Site runs along the river Derwent from Cromford to Derby, and overlaps with the White Peak NCA just on the margin at Cromford, with a 374ha crossover. The World Heritage site is awarded to the area due to its "Outstanding Universal Value". Significant buildings and features related to the WHS include (but are not limited to):

[2]Our purposes: Peak District National Park
[3]Special Qualities | Peak District National Park Management Plan 2023-28

- Watermills, warehouses, counting houses, offices, chimneys, mill workers' houses
- Water courses, aqueducts, culverts, weirs, canals, reservoirs, flood bunds
- Tramways, railways, turnpike roads
- Enclosure field boundaries, traditional 18th/19th century field patterns, ancient woodland, pastoral farmland, designed landscapes and tree plantations

Objective 1.8 of the 2020-2025 Management Plan for DVMWHS is:

"Promote the appropriate stewardship of the relict 18th century rural setting and 'natural environment' of the Derwent Valley Mills World Heritage Site and its Buffer Zone to ensure conservation of functionally linked attributes and elements and promote biodiversity within this framework."

"Act 1.8.1. Promote the production of a land management framework that builds on established Landscape Character Areas and the historic landscape characterisation to inform the appropriate land management of the 'natural' relict 18th century landscape and promote biodiversity."

PEAK DISTRICT DALES SAC

This SAC makes up 1837ha of White Peak NCA and is a mosaic of habitat types but primarily comprises semi-natural dry grassland and broadleaved woodland.

The following habitat types are listed as a primary reason for designation within the SAC:

- Semi-natural dry grasslands and scrubland facies on calcareous substrates – important orchid sites
- *Tilio-Acerion* forests of slopes, screes and ravines

Other habitats present as qualifying features but not listed as primary reasons for designation:

- European dry heaths
- Calaminarian grasslands of the *Violetalia calaminariae*
- Alkaline fens
- Calcareous and calcshist screes of the montane to alpine levels
- Calcareous rocky slopes with chasmophytic vegetation

The SAC also has the following species present with are listed as a primary reason for designation:

- White-clawed crayfish *Austropotamobius pallipes*

And other species present but not listed as a primary reason for designation:

- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*

BEES NEST & GREEN CLAY PITS SAC

This is a 14.7ha area designated SAC near to Brassington, Derbyshire. The site is has a mosaic of habitats, majority of which is dry grassland, with further scrub, heath, humid grassland, standing water, inland rock, and other land. The following habitat is a qualifying feature:

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)

The SAC also has the following species present that are a primary reason for the selection of the site:

- Great crested newt *Triturus cristatus*

GANG MINE SAC

Gang Mine is an 8.26ha SAC nearby to Middleton and Cromford, Derbyshire. The site is on limestone and is an ancient lead mine, as a result there are large deposits of lead spoil intermixed with specialised dry and humid grassland habitats. Gang Mine contains the most floristically rich anthropogenic calaminarian grassland in the UK, with abundant spring sandwort *Minuartia* verna and alpine penny cress *Thlaspi caerulescens*. Many of the species growing there are likely to be distinct genotypes adapted to soils rich in heavy metals.

SITES OF SPECIAL SCIENTIFIC INTEREST

There are 47 SSSIs that are wholly or partially within the NCA, comprising a total of approximately 3530ha. These sites are designated for a range of features which may be biological or geological and may include rare or notable habitats and/or species reliant on the specific conditions found at these sites. There are several extensive areas of SSSI within the NCA, particularly large SSSIs in the area include:

- Monk's Dale
- The Wye Valley
- Lathkill Dale
- Dove Valley and Biggin Dale
- Via Gellia Woodlands
- Castleton

SSSI's can be viewed using Defra's MAGIC map resource.

NATIONAL NATURE RESERVES

National Nature Reserves (NNRs) were established in order to protect important habitats, species and geology, as well as to provide a space dedicated to outdoor research. There are two NNRs designated within the White Peak NCA, though they may be fragmented across the landscape they make up a total of approximately 864ha. These include:

- Derbyshire Dales NNR
- Dovedale NNR

PRIORITY HABITATS AND NON-STATUTORY DESIGNATED SITES

There is over 7000ha of priority habitat identified or predicted within White Peak NCA. Over 1,969ha of this is deciduous woodland, which is found lining the steep sided dales and in pockets across the farmland landscape on the plateau. The following priority open habitats are found across the NCA and require consideration when planning woodland creation projects (figures given are approximate):

- Blanket bog (5ha)
- Calaminarian grassland (19ha)
- Good quality semi-improved grassland (727ha)
- Grass moorland (62ha)
- Limestone pavement (0.33ha)
- Lowland calcareous grassland (2,298ha)
- Lowland calcareous grassland, Limestone pavement (1ha)
- Lowland dry acid grassland (260ha)
- Lowland fen (1ha)
- Lowland heathland (7ha)
- Lowland meadows (506ha)
- No main habitat but additional habitats present (877ha)
- Purple moor grass and rush pastures (5ha)
- Traditional orchard (3ha)
- Upland calcareous grassland (162ha)
- Upland flushes fens and swamps (0.05ha)
- Upland hay meadow (10ha)
- Upland heathland (88ha)

Most of these habitats can co-exist with wooded habitat and a valuable mosaic of wooded and open habitats can be developed. However, careful planning and design will be required to protect them and in some situations creation of new wooded habitats may not always be the most appropriate course of action.

Non-statutory designated sites are sites selected by the local planning authority to provide a degree of protection to local sites of substantive nature conservation value.

- These are known as Local Wildlife Sites (LWS) in Derbyshire, where there are 96 LWS and 74 potential Local Wildlife Sites (pLWS) within the NCA. LWS occupy 509.76ha (1.37%) of the NCA, while PLWS occupy 473.6ha (1.27%). LWS are wildlife-rich sites selected for their local nature conservation value and can be designated for a broad range of reasons including the presence of locally important and distinctive habitats and species. pLWS are sites which have been shortlisted for their potential nature conservation value but which have not yet been formally surveyed and assessed by the relevant review group.
- In Staffordshire the local wildlife sites are divided into two tiers based on their habitat quality and condition. These are known as Sites of Biological Importance (SBIs) which are higher quality, and there are a total of 74 of these in the White Peak. The second level are Biodiversity Alert Sites (BAS') which are considered of more local importance, of which there are 12 in the White Peak[4].

[4]Staffordshire Wildlife Trust & Staffordshire Ecological Record Centre.

ARCHAEOLOGY AND HISTORIC ENVIRONMENT

There are 172 scheduled monuments within the White Peak NCA which form key characteristics of the landscape and mark historical points of value. It is imperative that woodland creation plans design sympathetically when scheduled monuments are present, honouring their designation and complimenting the surrounding landscape that they form. There is a wide range of scheduled monuments with designations, most notably:

- Bowl barrows
- Cairns
- Caves
- Lead mines and rakes
- Mills
- Quarries
- Standing crosses
- Stone circles (such as Arbor Low Henge)
- Medieval settlements and field patterns
- Roman settlements and ruins
- Motte and bailey castle remains

Also within the White Peak NCA are eight registered parks and gardens covering approximately 52ha in total, including:

- Derwent Gardens
- Haddon Hall
- Heights of Abraham
- High Tor
- Lovers Walks
- Pavilion Gardens, Buxton
- The Slopes, Buxton
- Thornbridge Hall
- Willersley Castle

Given the significance of the cultural heritage of the area it is essential that habitat creation proposals within or adjacent to these areas or any listed buildings or structures should consult with relevant stakeholders listed in section 4. This is especially important with ancient monuments like barrows, cairns and stone circles as intervisibility within the landscape is a key element to the importance of these features, so proposals should consider this.

LANDSCAPE AND ACCESS

The Peak District National Park is described as a 'living landscape', with 20 million people living within an hour's drive it is a highly accessible landscape that many members of the public enjoy each year.

Wooded habitat creation has been identified as a specific ambition in the Peak District National Park's Landscape Strategy 2022-2032 across the national park which stated aims to create and maintain 'high quality habitats in better condition, better connected and wildlife rich through nature recovery networks'. A Key Performance Indicator within the strategy relevant to this is KPI16:

- *"Increase the area of new native woodland created. Identify new opportunities for new native woodland, scrub, wood pasture, small plantings and individual trees based on the approach of the right trees in the right places for the right reasons."*

This was supported by the adoption of the PDNP's 'Wooded Landscape Plan' in 2022, which provides a clear vision for a 'wooded landscape' with a diversity of blocks of plantation woodland, wood pasture, scrub, scattered trees, parkland, hedges and boundary trees as a part of a mosaic of habitats to deliver public goods across the national park. The most pertinent key principles[5] of wooded landscape creation set out by the PDNP in this document are:

1) *Where change respects or enhances the overall character or diversity of the landscape this should be welcomed.*
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.*
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.*
6) *Managing land to encourage 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.*
7) *A 'wooded landscape' is more than just woodland. A wooded landscape 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.*
8) *Wooded landscapes elements are a valuable part of a wider sustainable land management system.*
9) *Increased tree cover in the landscape can deliver multiple public goods.*
12) *Appropriate species selection. New wooded landscape elements should include a diverse range of tree and/or scrub species.*

Wooded habitat creation would also support the delivery of the following Statements of Environmental Opportunity (SEO) within the White Peak NCA profile:

- *SEO 1: Protect and enhance clear limestone rivers, streams and springs, limestone aquifer and karst geology to provide a clean water source, support strong populations of fish and other wildlife, enhance recreational and educational opportunities and contribute to the white Peak's strong sense of place and history.*
- *SEO 2: Safeguard the unique character and tranquillity of the limestone dales, and enhance their limestone grasslands, woodlands and scrub of European importance, to protect sense of place, water quality, biodiversity and recreational opportunities.*

Within the NCA the landscape character has been further subdivided into six distinct Landscape Character Types (LCT):

- Limestone plateau pastures
- Limestone village farmlands
- Limestone dales
- Limestone hills & slopes

These are broad descriptions which outline key features of the local landscape that contribute to its local character. Although these are mapped with clear boundaries[6], in reality there are transitional zones between each of the LCTs. Outside of the National Park, DCC have produced planting and management guidelines for each LCT, designed to give stakeholders an overview of tree and woodland character and which species are most typical in that landscape.

Dry stone walls are an important aspect of the character of the White Peak and usually represent ancient field boundaries. Habitat creation should be sympathetic to existing field patterns and understand the importance of the local landscape character. Further details on appropriate types of wooded habitat creation within the NCA are provided in Section 6: Design Principles.

[5]The key principles most pertinent to this document have been included. The remaining principles can be viewed in the PDNP's Wooded Landscapes Plan.

[6]Peak District National Park (2009). 'Landscape Strategy and European Landscape Convention Action Plan'.

3. LANDOWNERSHIP AND TENANCY

The White Peak NCA is not a densely settled region, though has signs of historic settlements from Romano-British farmsteads to Neolithic ritual monuments and Bronze Age monuments. Today the White Peak has a nucleated pattern of small rural villages with medieval origins with open fields and isolated farmsteads beyond. Many of the existing farms reflect post-medieval enclosure of previous common land. Urban areas are very limited in White Peak, with the larger towns of Buxton and parts of Bakewell, Matlock and Wirksworth within the NCA, and is otherwise populated by much smaller towns and rural villages such as Illam, Wetton, Tideswell, Bradwell and Monyash. Large landowners in the NCA include Peak District National Park Authority, National Trust, Forestry Commission and Derbyshire County Council. Most of the land comprises owner-occupier family farms with an average size of approximately 100ha, with formal and informal tenancies in place on some estate lands.

All relevant landowners and occupiers should be consulted on habitat creation proposals, and graziers and tenants should be consulted on all woodland creation proposals to understand their potential impact on livestock management, including provision of drinking water and field access.

4. ORGANISATIONAL STAKEHOLDERS AND CONSULTEES

4.1 STATUTORY CONSULTEES

The following organisations are agencies responsible for regulating the administration of some of the types of wooded habitat creation outlined in this document in the White Peak NCA.

4.1.1 ENVIRONMENTAL IMPACT ASSESSMENTS FOR AFFORESTATION

The Forestry Commission are the agency responsible for regulating the creation of new woodland in England. All woodland creation proposals over 0.5ha will require some level of consultation with the Forestry Commission and may require Environmental Impact Assessments[7] depending on their location and size. Wooded habitat creation which is not woodland (e.g. hedgerow planting, wood pasture creation) does not require consent from the Forestry Commission.

4.1.2 WATERCOURSES AND LAND DRAINAGE

Habitat creation works in proximity to watercourses may require consent. The following authorities should be consulted:

- Environment Agency – for works within 8m of a Main River[8] or within its floodplain
- Lead Local Flood Authority – Derbyshire/Staffordshire County Council – for works within or adjacent to an Ordinary watercourse[9]

4.2 OTHER RELEVANT CONSULTEES

4.2.1 CULTURAL HERITAGE & LANDSCAPE

- Derbyshire County Council's Conservation, Heritage & Design Team
- Staffordshire County Council's Historic Environment Service
- Historic England
- PDNPA Cultural Heritage Team

4.2.2 ECOLOGY

- Natural England
- Forestry Commission
- Derbyshire Wildlife Trust
- Peak District National Park Authority
- Staffordshire Wildlife Trust
- Derbyshire Biological Record Centre
- Staffordshire Biological Record Centre
- Woodland Trust
- Royal Society for the Protection of Birds (RSPB)
- Life in the Ravines

4.2.3 ACCESS

- Derbyshire County Council
- Staffordshire County Council
- Peak District National Park Authority
- Derby and Derbyshire Local Access Forum
- Staffordshire and Stoke-on-Trent Local Access Forum
- Peak District Local Access Forum

4.2.4 GEOLOGY

- East Midlands Geological Society

[7]Further information on EIA requirements: **https://www.gov.uk/guidance/environmental-impact-assessments-for-woodland**

[8]EA's Statutory Main River Map: **https://environment.maps.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386**

[9]Any private ditch, pipe, culvert, sough, drain etc. not managed privately or by a water company is classed as an ordinary watercourse

5. DESIGN PRINCIPLES

The purpose of this document is to provide broad guidance on the most appropriate methods, location and type of habitat creation in the context of the White Peak NCA. Therefore, detailed information on exactly how to create these habitats falls outside of the scope of this document. Links to suitable advice on planting and management of new habitats have been included where necessary.

New habitat creation should wherever possible prioritise areas which are currently generally low in their biodiversity value within sites, particularly where these areas are adjacent to existing woody habitats that would benefit from expansion and increased connectivity. Good examples of these types of habitats within the context of the White Peak could include poor quality acid grassland, matt grass, poor semi-improved pasture, bracken slopes and improved grassland.

Derbyshire Wildlife Trust advocate prioritising natural regeneration of wooded habitats wherever this is possible. However, it is recognised that due to the nature of the landscapes which have been heavily modified and managed by humans for centuries, that this may not always be viable. Therefore this guidance also covers creation of habitats through planting such as hedgerows and lone trees.

5.1 WOODLAND & SCRUB

Creation of new woodland and scrub habitats should wherever possible seek to follow the Lawton Principles of bigger, better, more and joined up, whilst remaining mindful of archaeological, geological, cultural and historic constraints which are unique to the White Peak NCA. On the limestone plateau, a good starting point for new woodland would be seeking to expand existing copses and plantations, as well as increasing their naturalness through increasing woody species diversity and creating ecotones to provide greater connectivity between the wooded and open habitats of the plateau.

Expansion of existing woodland could also focus on the edges of the limestone dales, which are a unique feature of this landscape and which are under pressure from intensification of agriculture and disease (primarily Ash dieback). Expansion of woodland over the edges of the dales would provide a more gradual transition between these isolated habitats and the open grasslands of the plateau, and again there is an opportunity to increase naturalness here through creation of ecotones and edge habitats, as well as increasing the resilience of existing woodlands through diversification of native tree species which are more resistant to disease. The limestone slopes at the edges of the NCA are already seeing recolonisation by scrub species due to the difficulties associated with farming these slopes and this presents an opportunity to create a better transitional habitat between adjacent landscapes like the Peak Fringe, Dark Peak and Southwest Peak and the more open White Peak plateau.

The methods of creation below may include just one technique, but a mix of different methods is encouraged e.g. prioritising natural regeneration, but with supplementary planting and/or direct seeding where necessary to support the faster establishment of a diverse habitat.

The preferred method of woodland creation should be natural colonisation[10] wherever possible. Although this method takes longer than planting, in the long-term this tends to result in a more natural woodland structure, as self-seeded plants will be better adapted to local environmental pressures and conditions. The distribution of trees will be more random than with planted schemes, leading to better structural diversity and creating a more complex ecosystem. The suitability of this woodland creation method will rely upon a suitable seed source being present in close proximity to the site, and some ground preparation such as scarification may be required to create a suitable substrate for seeds to germinate in even adjacent to existing woodland where the sward is dense.

Direct seeding should be considered as a secondary option where seed sources are not present. This will result in a similarly natural woodland structure to natural colonisation but does not rely on a the presence of a seed source nearby to be successful, and tree species can be selected to achieve more species diversity. This method may be particularly effective in upland situations where the substrate is not deep enough for widespread tree planting, although it may require sowing at a high density to counteract seed predation by small mammals and may require protection from browsing herbivore pressure during early stages of tree development. Direct seeding will require ground preparation, similar to natural colonisation. Another advantage of this method over natural colonisation is that the success can be evaluated within 2-3 years following seeding, enabling further woodland establishment interventions at an earlier stage where necessary.

Planting of trees enables more rapid establishment, species composition can be selected specifically and can help with community engagement, with voluntary support during the planting phase. A planting density of 1,600-2,500 is usually recommended to aid early canopy closure, however schemes should avoid planting in regimented rows and should seek to plant in a more random pattern to develop a more natural woodland structure. When planting, trees should be of local provenance to the site and should be sourced from UK-based tree nurseries to minimise biosecurity risks such as importing new diseases to the UK.

To mimic natural colonisation it can be useful to focus on pioneering tree species such as silver birch *(Betula pubescens)*, hawthorn *(Crataegus monogyna)*, blackthorn *(Prunus spinosa)* and rowan *(Sorbus aucuparia)*, or native willows *(Salix spp.)* in wetter sites which will grow quickly, help to restore soil fertility where required and help to establish the site as young woodland. This can them be supplemented by thinning and planting with other canopy species such as oak *(Quercus spp.)*, which will be better protected from the elements by the pioneer species which will eventually give way to long-lived canopy species, particularly if working on exposed sites.

During early establishment in all of these methods it will likely be necessary to protect young trees from browsing pressure. This could be through using individual tree tubes, or by fencing the perimeter of the new woodland (either temporarily or permanently) to exclude herbivores and grazing livestock. Fencing should account for existing access to fields and should be carefully planned to avoid negative impacts to protected species, archaeological features and landscape character.

Woodlands should be planned in accordance with UKFS[11] guidance and be designed according to the principles set out in the Woodland Trust's Woodland Creation Guidance[12] to maximise their benefits to nature recovery.

Soils should be a key consideration when designing woodland, and design should reflect the local geological conditions and check resources such as the UK Soils Observatory[13]. Much of White Peak NCA has similar geology and soils, underlaid by the limestone plateau, the most frequently recorded soil types in the NCA are:

- 7 - Freely draining slightly acid but base-rich soils
- 3 - Shallow lime-rich soils over chalk or limestone
- 8 - Slightly acid loamy and clayey soils with impeded drainage
- 17 - Slowly permeable seasonally wet acid loamy and clayey soils
- 18 - Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils

In areas where soil types transition this should be reflected to some extent in planting design e.g. transitional areas between alkaline limestone dominated valley soils through to acid brows and base-rich caps on the White Peak plateau. These types of transitional areas occur at a small scale and are often missed by national mapping resources.

[10]https://assets.publishing.service.gov.uk/media/6181586d8fa8f5297cc02cd4/FC_Natural_Colonisation_Report_HP_1_Nov.pdf
[11]https://www.gov.uk/government/publications/the-uk-forestry-standard
[12]https://www.woodlandtrust.org.uk/plant-trees/woodland-creation-guide/
[13]https://www.ukso.org/

When planting or direct seeding a site, species selection should be appropriate to the site and to the Landscape Character Type and be informed by the planting and management guidance set out by PDNPA and Derbyshire County Council. Plans should also take into account National Vegetation Classification (NVC) classifications which are appropriate to the site – the UK Soils Observatory (UKSO) has an online map showing how woodland NVC classes relate to local soil types through the 'Soil Biodiversity'. Suitable NVC categories for this NCA include:

- W8 - Lowland mixed broadleaved woodland with dog's mercury
- W11 - Upland oak-birch woodland with bluebell
- W18 - Scots Pine woodland with heather

The Forestry Commission's Ecological Site Classification (ESC) Tool[14] can be used to inform appropriate species mixes for sites. This tool takes into account local conditions such as soil type, moisture and exposure, and also includes likely suitability in a range of future climate scenarios so that woodlands can be designed that are resilient in the face of a changing climate. Analysis of the ESC tool outputs should be used in conjunction with local site knowledge and management objectives.

It is important to remember that species choice must be appropriate to the site and local conditions, so although use of southerly provenance plants and seeds may help to improve resilience to future climate change this must not be used as a justification for planting non-native species in semi-natural habitats outside of their natural range.

5.2 WOOD-PASTURE & AGROFORESTRY

Agroforestry is a land management approach which combines trees with crop and livestock agriculture. This enables land to produce food whilst also delivering additional ecosystem services. Wood pasture and hedgerows are examples of traditional agroforestry, as are more modern systems like strip-planting and shelter belts.

In the White Peak NCA most of the land is used for grazing livestock, and therefore habitats like wood/scrub pasture, shelter-belts, silvopasture strips and individual trees along field boundaries would be well-suited to the landscape and enable grazing with livestock to continue. Mature individual trees can often be found across the White Peak including on the plateau at field boundaries, and existing trees may be at significant risk from ash dieback. Boundary trees respect the open nature of the landscape and enable a continuation of land use, whilst increasing the ability of species to move through the landscape between isolated woodland copses and limestone dales. Existing focal points in the landscape are a good place to start to provide continuity and connectivity with existing tree cover, expanding the habitat network whilst respecting historic field patterns (e.g. medieval strip fields). Wood and scrub pasture are good options to provide a transitional habitat between areas of woodland and open grassland, for example around the dales.

Wood pasture is also an opportunity for combining trees and shrubs with enhancements of grasslands to provide additional biodiversity benefits. Improving the botanical diversity of grassland in planned wood pasture areas can be achieved through re-seeding with appropriate species mixes, or through application of green hay (ideally from a local site). Naturalistic grazing can continue after trees are planted, provided that they are effectively protected from livestock. One method of doing this is through creation of 'silvopasture roundels' – fenced areas within the pasture planted with a mix of broadleaf species with future 'feature' trees in the centre (e.g. oak/beech/lime) surrounded by a combination of thorny species to protect the centre and browsable species that provide additional forage for livestock as well as nectar for pollinating insects.

To maximise their benefit as shelter for livestock, shelter-belts or silvopasture strips should be planted north-south, as the prevailing wind direction in the UK is generally westerly. Larger trees should be placed centrally (e.g. oak), with smaller tree species alongside (e.g. silver birch). Around the outside of shelter belts, clusters of shrubs such as willow, hazel and elder can be planted. Hawthorn shrubs should then be planted around 'standard' trees like oak to protect them from grazing during the early years.

Species selection should be informed by species present in the surrounding landscape, and by consulting Derbyshire County Council's planting and management guidelines. Suitable tree species for wood pasture creation include long-lived species such as pedunculate oak, lime and beech, or fruit-bearing varieties such as apple or pear. In wetter situations, alder, willow or birch may be more appropriate. Woody scrub is an important component of many wood pastures and species such as hawthorn and blackthorn can be chosen to surround the 'standard' trees as in time these will provide protection for tree regeneration as well as a source of nectar for invertebrates.

[14]http://www.forestdss.org.uk/geoforestdss/

5.3 PROTECTION

To ensure the successful establishment of young trees and shrubs, it is essential to implement protective measures both against livestock and wild deer. Livestock should be excluded from habitat creation areas through appropriate fencing, at least during the initial establishment period. Fencing must be carefully planned to maintain access to fields while minimizing any potential negative impacts on protected species, archaeological features, and the broader landscape character. When creating new wood pasture, where grazing of the surrounding field will continue, more heavy-duty tree protection will be needed e.g. galvanised welded mesh tree guards supported with fencing posts, purpose-built guards such as Cactus Tree Guards, or using a roundel design as described above.

While individual tree tubes may provide some level of protection, they should only be used when absolutely necessary. Tree tubes alone are insufficient for safeguarding plants from livestock and offer only limited protection against browsing by larger wild deer species, such as red and fallow deer. Where these species are present, tubes must be of adequate height to protect the growing tops of trees. Additionally, small mammals, such as voles, can cause damage to newly planted trees. Encouraging natural predators—such as birds of prey—through the strategic placement of perches can be an effective means of managing small mammal populations during the early establishment phase.

A landscape-scale approach to wild deer management would benefit successful regeneration of wooded habitats. While site-specific protective measures can be effective, long-term success will require collaboration with neighbouring landowners and local groups to assess population dynamics and the associated risks to newly established wooded habitats. Best practices in deer management should always be followed, and guidance is available from The Deer Initiative.

5.4 MAINTENANCE

During the first 3–5 years, ongoing maintenance will be necessary to support successful establishment. In areas designated for natural colonisation or direct seeding, regular monitoring is essential to assess the effectiveness of these methods and determine whether supplementary planting is required.

For planted schemes, maintenance should include routine inspections of newly planted trees, replacement of any failed specimens, and assessment of browsing pressure from deer to ensure it does not impede plant growth. Additionally, tree protection measures should be regularly checked and maintained. Once plants have become sufficiently established and no longer require individual protection, all protective materials should be responsibly removed, recycled, or disposed of in accordance with best environmental practices.

6. FURTHER USEFUL RESOURCES

6.1 DERBYSHIRE WILDLIFE TRUST

Derbyshire Wildlife Trust (2023) *Woodlands: A practical guide for landowners in the Derbyshire Derwent catchment.* Available from: **https://www.derbyshirewildlifetrust.org.uk/sites/default/files/2022-10/landowners%20handbook-woodland%20creation.pdf**

Derbyshire Wildlife Trust (2023) *Natural Flood Management Measures: A practical guide for landowners in the Derbyshire Derwent catchment.* Available from: **https://www.derbyshirewildlifetrust.org.uk/sites/default/files/2022-10/landowners%20handbook_NFM.pdf**

6.2 WOODLAND TRUST

Herbert, S., Hotchkiss A., Reid C. & Hornigold, K. (2022) *Woodland Creation Guide, Woodland Trust.* Available from: **https://www.woodlandtrust.org.uk/plant-trees/woodland-creation-guide/**

6.3 FORESTRY COMMISSION

Forestry Commission (2024). *The UK Forestry Standard 5th edition*, Forestry Commission, Edinburgh. Available from: **www.forestry.gov.uk/publications**

Forestry Commission (2021). *Using natural colonisation for the creation of new woodland.* Forestry Commission, Edinburgh. Available from: **https://www.gov.uk/government/publications/using-natural-colonisation-for-the-creation-of-new-woodland**

Rodwell, J & Pattinson, G. (1994) *Bulletin 112: Creating New Native Woodlands.* (ARCHIVED) Forestry Commission, Edinburgh. Available from: **https://cdn.forestresearch.gov.uk/1994/03/fcbu112.pdf**

Woodland Creation Hub including information on current funding opportunities. Available from: **https://www.gov.uk/guidance/tree-planting-and-woodland-creation-overview**

6.4 DEFRA

Working with Natural Processes to Reduce Flood Risk. Available from: **https://assets.publishing.service.gov.uk/media/6036c730d3bf7f0aac939a47/Working_with_natural_processes_one_page_summaries.pdf**

Defra, Forestry Commission, Natural England (2023) *Guidance to help inform when an upland breeding bird survey is needed and when woodland creation is appropriate.* Available from: **https://assets.publishing.service.gov.uk/media/64c242c382738800145a3f19/July_2023_Trees_and_Wader_Guidance__V5_.pdf**

6.5 INNOVATIVE FARMERS

Silvopasture design: How to design shelter belts, also known as living barns: **https://www.innovativefarmers.org/knowledge-hub/silvopasture-design-how-to-design-shelter-belts-also-known-as-living-barns/**

Silvopasture design: how to design open grazed clustered wood pasture: **https://www.innovativefarmers.org/knowledge-hub/silvopasture-design-how-to-design-open-grazed-clustered-wood-pasture/**

How to design regular spaced silvopasture strips on your farm: **https://www.innovativefarmers.org/knowledge-hub/silvopasture-design-how-to-design-regular-spaced-silvopasture-strips-on-your-farm/**

6.6 THE DEER INITIATIVE

Best practice guidance on wild deer management: **https://thedeerinitiative.co.uk/guides-landing-basc/**

7. ACKNOWLEDGEMENTS & CITATIONS

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- Peak District National Park Authority
- Forestry Commission

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Derbyshire County Council. (2014) *The Landscape Character of Derbyshire (4th ed.) Part 1.3 Derbyshire Peak Fringe and Lower Derwent.* Available from: **https://www.derbyshire.gov.uk/environment/conservation/landscapecharacter/landscape-character.aspx**

Derbyshire Wildlife Trust (2024) *Guiding Principles for Wooded Habitat Creation in the Peak Fringe and Lower Derwent.* DWT, Middleton

Derwent Valley Mills World Heritage Site Management Plan 2020-2025. Available from: **https://managementplan.derwentvalleymills.org/**

Natural England (2014) NE541: *National Character Area Profile: 50 Derbyshire Peak Fringe & Lower Derwent.* Available from: **https://publications.naturalengland.org.uk/publication/5048261324832768**

Natural England (2014) *European Site Conservation Objectives for South Pennine Moors SAC (UK0030280)* Available from: **https://publications.naturalengland.org.uk/publication/4973604919836672**

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Peak District National Park Authority (2022) *Landscape Strategy 2023-2032.* Available from: **https://democracy.peakdistrict.gov.uk/documents/s49687/Appendix%201-%20Landscape%20Strategy%202022%20-%20FINAL%20COLLATED.pdf**

Peak District National Park Authority (2022). *The Wooded Landscapes Plan: increasing tree and scrub cover in the Peak district National Park landscapes (2022-2032).* Available from: **https://democracy.peakdistrict.gov.uk/documents/s45197/Appendix%201%20-%20Draft%20Wooded%20Landscapes%20Plan.pdf**

South Pennine Moors Designated Special Area of Conservation (SAC). Available from: **https://sac.jncc.gov.uk/site/UK0030280**

8. LIST OF ACRONYMS

- DBRC – Derbyshire Biological Record Centre
- DVMWHS – Derwent Valley Mills World Heritage Site
- DWT – Derbyshire Wildlife Trust
- EIA – Environmental Impact Assessment
- ESC – Ecological Site Classification
- LCT – Landscape Character Type
- LWS – Local Wildlife Site
- NCA – National Character Area
- NFM – Natural Flood Management
- NVC – National Vegetation Classification
- PDNP – Peak District National Park
- PDNPA – Peak District National Park Authority
- SAC – Special Area of Conservation
- SPA – Special Protection Area
- SSSI – Site of Special Scientific Interest
- UKFS – UK Forestry Standard
- UKSO – UK Soils Observatory
- WHS – World Heritage Site

APPENDIX 1: MITIGATION

Table 1: How protected and special features in the White Peak will be conserved during the creation of new wooded habitats

Feature	Impact of new wooded habitats	Survey requirements	Mitigation	Management Plan
Grass Moorland	Reduction of open moor and breeding/ foraging habitat for red list bird species	Expert advice to be sought from Natural England where this priority habitat is present	• Local advice should be sought from Derbyshire Wildlife Trust or Moors for the Future • Woodland edges should comprise widely spaced trees (<20% cover) to reduce impact of predators on ground-nesting birds • Hedgerows should not be planted in open moorland	• Management plan to consider impact of increased predator shadow on breeding waders • Monitor nearby breeding wader hotspots to ensure no unacceptable impacts upon these species.
Floodplain Grazing Marsh Semi-improved grassland Calcareous/limestone grassland Lowland dry acid grassland Lowland meadows Upland hay meadow Calaminarian grasslands	Potential for loss of existing species-rich grasslands	Areas of species rich grasslands should be mapped	• Exclude areas of species-rich grassland from closed canopy woodland creation. • Creation of wood pasture and hedgerows may be appropriate – contact appropriate consultees for advice	Monitor key indicator species for the habitat
Lowland fens Purple Moor Grass and Rush Pastures Upland flushes, fens and swamps	Increases in tree and scrub cover	Area of these habitats to be mapped	• Local advice should be sought for planting schemes in these areas. • Native tree and scrub cover should not exceed 20% • Any tree planting should be widely spaced – minimum 15m spacing • Tree planting should avoid wet flushes and acid flushes, and maintain these habitats as open space within woodlands/wood pasture • Hedgerows should not be planted across open habitats • 20m buffer from woodland to be established around acid flushes • Light grazing may be an acceptable method of ensuring open habitats are maintained.	Habitat monitoring should be undertaken prior to and following habitat creation works, including: • Baseline surveys in Y1 • Annual monitoring of sites 3-5 years after habitat creation to identify priority areas for maintaining open ground. Targets to ensure that buffer zones are maintained as open habitat through ongoing management
Lowland heathland Upland heath Limestone heath	Increases in tree and scrub cover	Area of these habitats to be mapped	• Local advice should be sought for planting schemes in these areas. • Native tree and scrub cover should not exceed 20% • Any tree planting should be widely spaced – minimum 15m spacing	Habitat monitoring should be undertaken prior to and following habitat creation works, including: • Baseline surveys in Y1 • Annual monitoring of sites 3-5 years after habitat creation to identify priority areas for maintaining open ground. Targets to ensure that buffer zones are maintained as open habitat through ongoing management

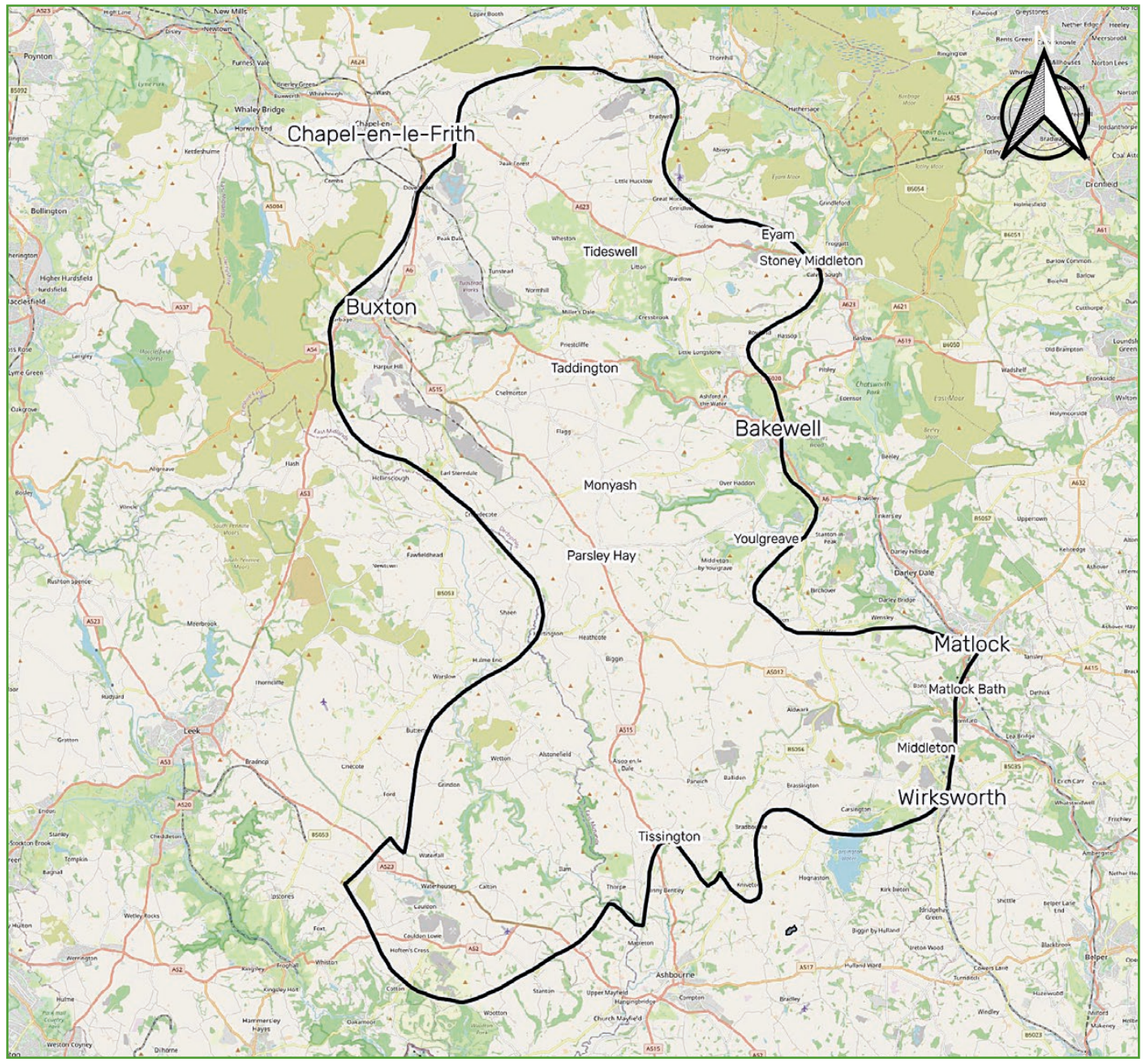
Table 1: Continued

Feature	Impact of new wooded habitats	Survey requirements	Mitigation	Management Plan
Upland breeding waders e.g. curlew, lapwing, golden plover	Loss of open grassland for nesting Increase in 'predator shadow'	Consultation with LERC and assessment of site under Defra/Forestry Commission/ Natural England guidance Breeding bird survey and ecological impact assessment to determine potential impact of woodland creation on breeding waders	• Woodland design will need to account for presence of breeding waders and be designed to prevent increase in predation or loss of suitable breeding habitat	Targets to ensure that areas suitable for breeding waders are maintained as open habitat through appropriate habitat management
Archaeological and other cultural heritage features	• Encroachment of tree and shrubs potentially obscuring and damaging features of interest and negatively impacting intervisibility • Negative effects on views and significant aspects of the setting	Consultation with local historic environment expert to map all known heritage assets within proposals and undertake impact assessment where necessary	• Establish a minimum 20m buffer around features • Incorporate features into open ground • Fences must avoid archaeological features and be sited over 10m away	Targets to ensure that buffer zones are maintained as open habitat through ongoing management
Geological features Limestone pavement	Encroachment of tree and shrubs potentially obscuring and damaging features of interest	Consultation with local geological expert to map all known features within proposals and undertake impact assessment where necessary	• Geological features to be incorporated into open space within proposals • Where trees are considered appropriate these should be widely spaced at a minimum 15m	Targets to ensure that buffer zones are maintained as open habitat through ongoing management

APPENDIX 2: MAP OF THE NCA

WHITE PEAK NATIONAL CHARACTER AREA

Location Map



Legend

White Peak

0 2.5 5 km

Basemap: © Map data ©2024 OSM

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