

Mortimer Forest Plan

2019 - 2029

West England Forest District



The mark of
responsible forestry

Forestry Commission
woodlands have
been certified in
accordance with the
rules of the Forest
Stewardship Council.



Ben Robinson
FCE File Ref: OP10/16 (Old PL30)
FS File Ref: GL1/5/3.19

Declaration by FC as an Operator.

All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)

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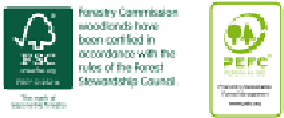
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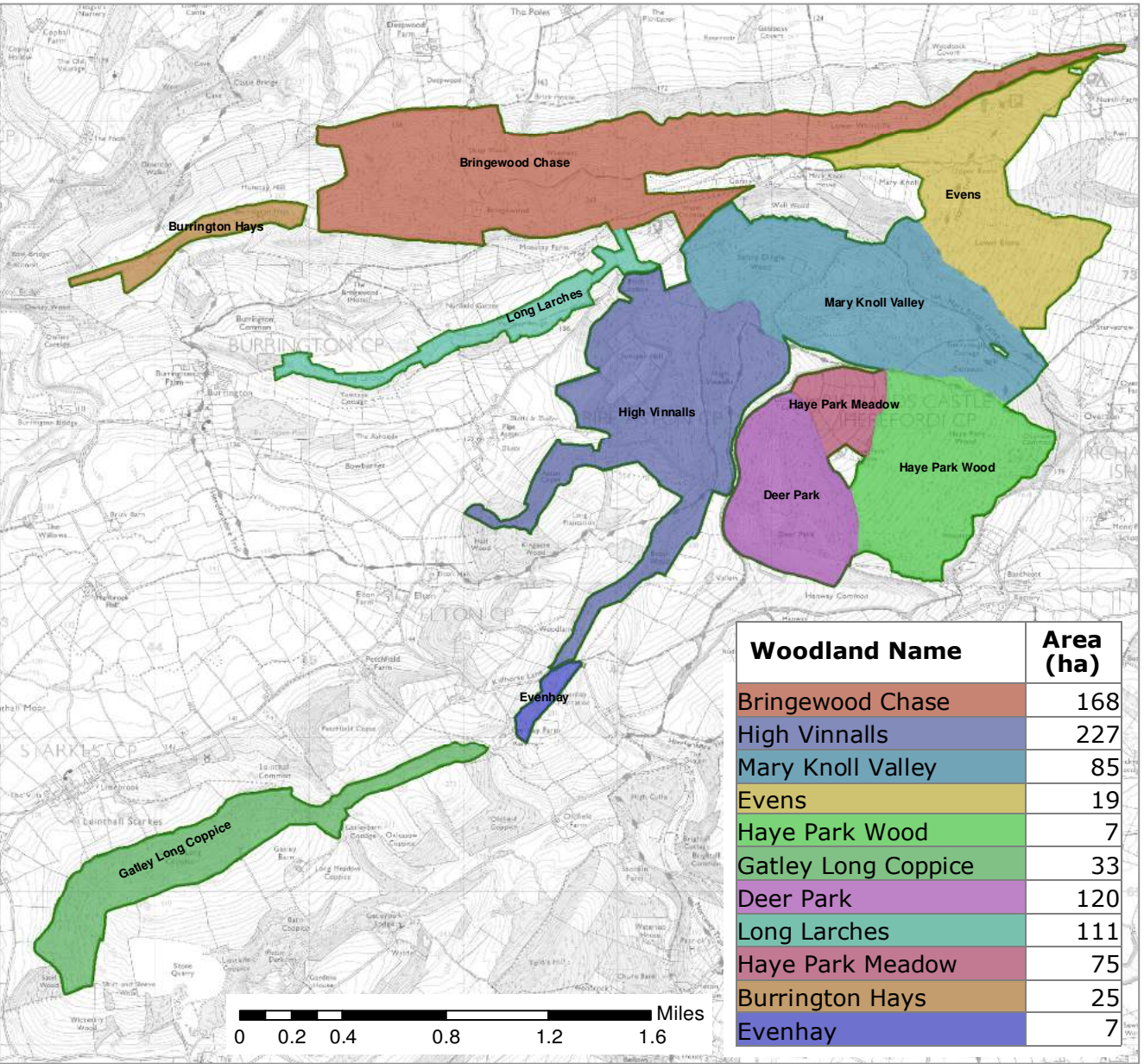
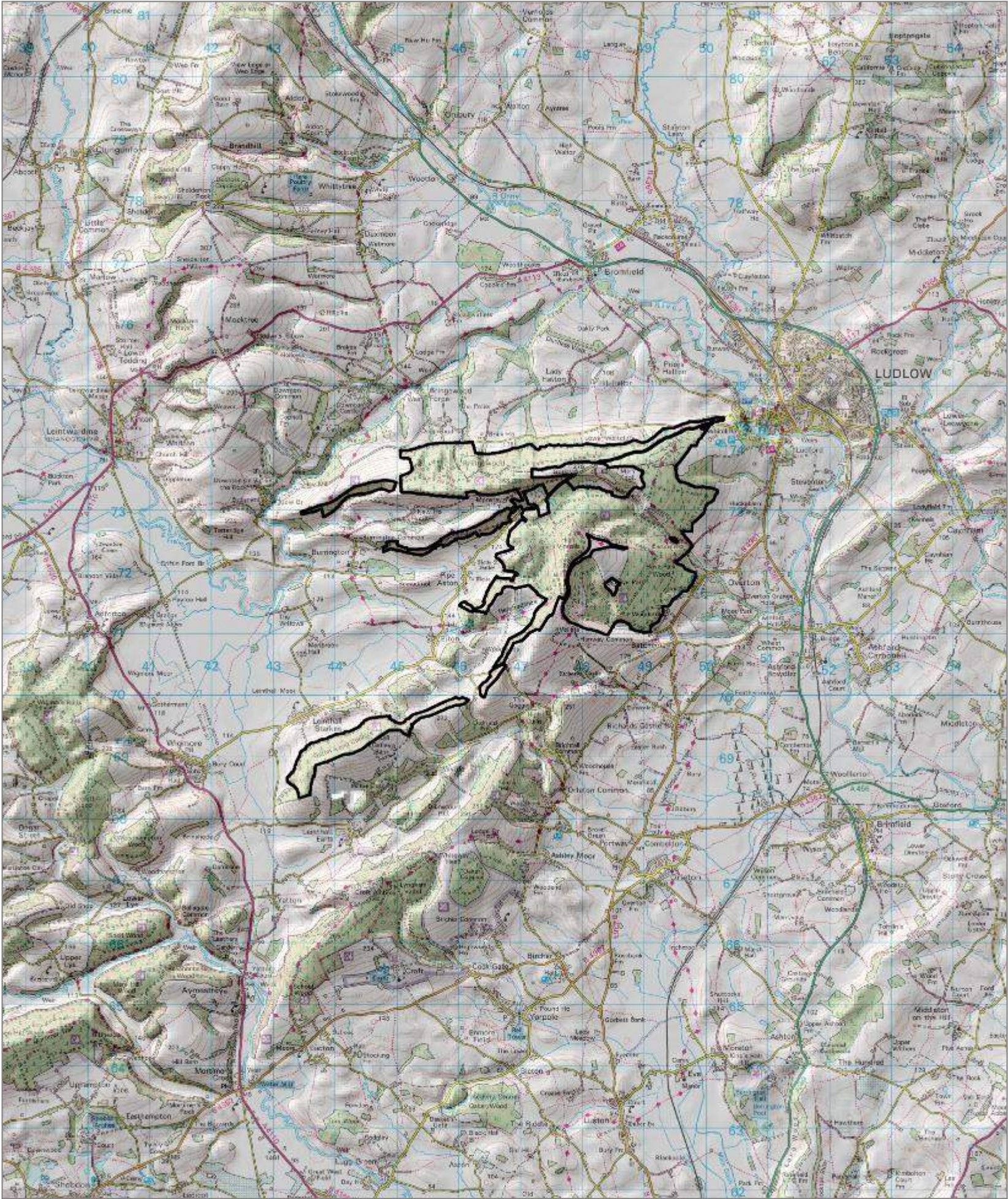


Location

Mortimer Forest and Gatley Long Coppice lie within the county of Herefordshire with only the northern fringe of the main block situated in Shropshire. At its closest point, the Plan area is within one mile of to the town of Ludlow.

The Plan area covers an area of 1029ha that rises up above the surrounding villages and towns and is one of the most prominent features in the local landscape. It is at 220-250m above sea level on a north westerly aspect. The climate is warm and fairly moist with annual rainfall at 750mm, a soil moisture deficit of 120mm, and an average summer temperature of 15.6 °C. The soils are developed over the Silurian Ludlow series and are therefore well-drained brown earths, with some small areas of surface-water gleys, of moderate fertility.

The Plan area can be sub-divided into smaller areas which are known by other names.



About

The Mortimer Forest Plan area is made up of a single large forest block with a number of small outliers totalling 1029 hectares in Hereford, on the border with Shropshire. As a large individual forest block set within the distinctive cultural landscape they have very high natural, social and amenity value.

The forest managed as part of the public forest estate stretches from Bringewood in the north west, through Whitcliffe, Vinnalls and Haye Park to Gatley in the south.

The public forest here is a predominantly conifer on ancient woodland (PAWS) having been planted to address the national timber shortage of the early Twentieth Century. The area is known to produce high quality Douglas fir and larch which makes up the majority of the trees here, supplemented by hemlock and spruce. Areas of remnant ancient semi-natural woodland do remain and are made up of oak and birch with beech. Most of the areas are actively managed to provide timber for local and national businesses, and to improve the quality of the remaining tree crop.

The Plan area contains a rich cultural heritage both as a backdrop to the historical town of Ludlow and the scheduled and unscheduled monuments and trees which are scattered across the forest.

The Plan area is a rich for ecology and includes NVC W10 and W16 Priority Lowland Mixed Deciduous (oak/birch and oak/beech) Woodland which is habitat for dormice, raptor and species associated with veteran trees. The Plan area includes a geological Site of Special Scientific Interest and neighbours the Downton Gorge Special Area of Conservation. The forests are also important for a number of nationally important lepidoptera, including the rare wood white, as well as adders, newts and bats.

The majority of other recreation usage is made up of walkers with some limited amount of usage by horse riders and mountain bike riders usually starting at formal car parks at Vinnalls, Whitcliffe and Haye Park.

Objectives

The core aim of the plan is to produce woodlands with increased conservation and landscape benefits whilst maintaining a viable timber output. The long term aims of management here are to continue the substantial timber production while increasing resilience to climate, pest and disease risks, and to deliver the forest for people and nature.

The social, economic and environmental objectives of management here are:

- The continued production of sustainable and marketable woodland products.
- To conserve, maintain and enhance cultural and heritage assets.
- To protect and restore areas of ancient woodland in line with 'Keepers of Time'.
- The provision and maintenance of recreation facilities.
- Protect and enhance woodland and open habitats and their associated species.
- To deliver well-designed proposals that comply with landscape design principles in keeping with the local landscape character.



Summary

What we'll do

The current plan outlines management proposals including felling and restocking over several decades, with felling licence approval for operations up until 2029.

Areas identified as PAWS will be managed as mixed woodland to maximise their productive potential, with the aim of a gradual return to native woodland.

The Plan makes provision to ensure proposals are in keeping with the neighbouring intimate wooded landscape.

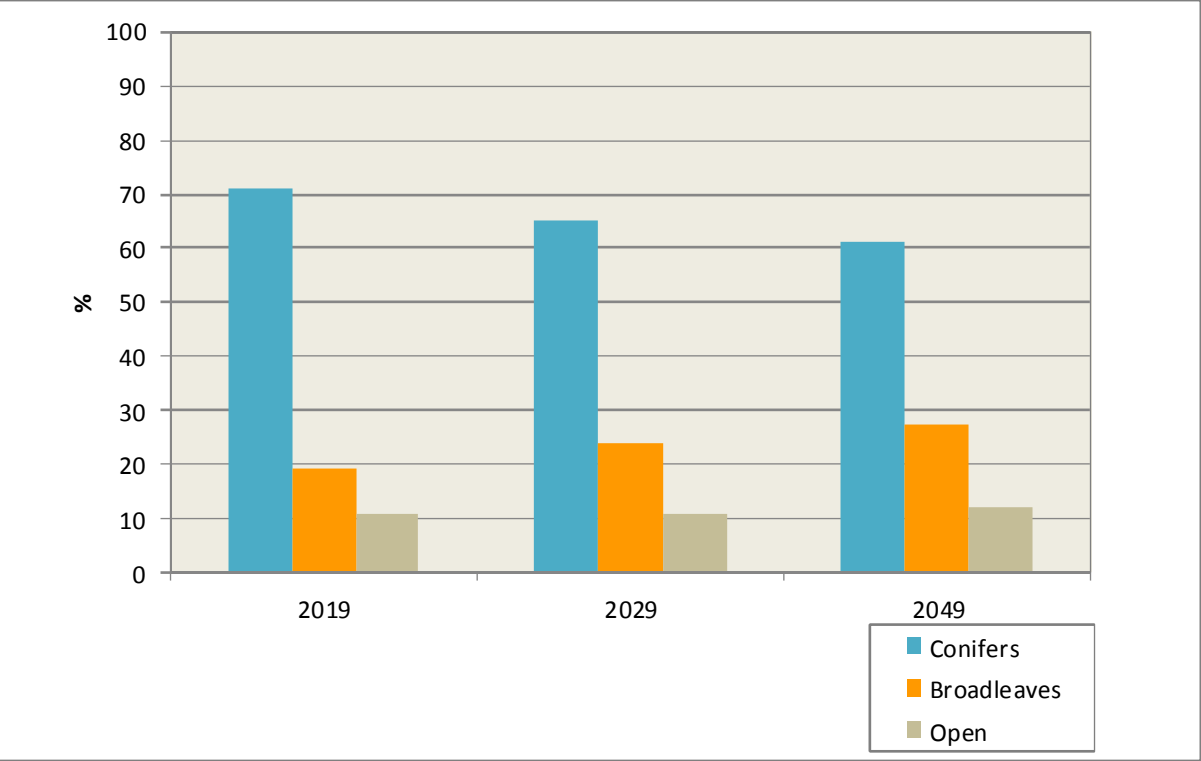
Implementation and maintenance of an environmental corridor system will continue to increase diversity of habitat and internal landscaping.

The planned areas of clearfelling, restocking and permanent open space creation during the ten years to 2029 are summarised in the chart below.

HECTARES	Conifers	Broadleaves	Open space
Clearfelling	41	0	-
Restocking/Regeneration	10	24	7

In addition to these defined operations, ongoing thinning and selective felling of both conifers and broadleaves will be carried out in the plan area at five to ten year intervals.

The proportions of conifer and broadleaved woodland and open space at the beginning of the plan period are shown in the bar chart. The increase in native broadleaves and open space expected within the plan period and over time is indicated in the middle and right hand columns of the chart.





Source: Data provided through www.VisionofBritain.org.uk and uses historical material which is copyright of the Great Britain Historical GIS Project and the University of Portsmouth

History & Cultural Significance

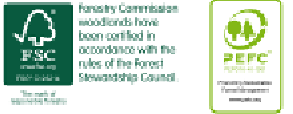
Mortimer Forest has a long and significant cultural history as the site of an ancient hunting forest. It has seen a number land use changes and variations since. Local manor details recorded at the time of Domesday show it to have been much less densely wooded. In the medieval period it was comprised of a combination of woodland, wood pasture and rough pasture. On the crowning of Edward IV (Edward Mortimer) Bringewood, a part of the Mortimer Forest became a royal chase.

The Forest is of significant value in the cultural heritage of the Welsh Marches landscape, providing a backdrop and defence to the historic town of Ludlow and its famous castle.

Many remnants of this landscape remain, particularly in the form of coppice woodlands and veteran trees. These features as well as the historical form of management will be taken into account when considering future management of the Forest. This can be found throughout the Plan and is particularly covered on Page 26.



Tudor map showing Bringewood, Mocktree and Deerfold






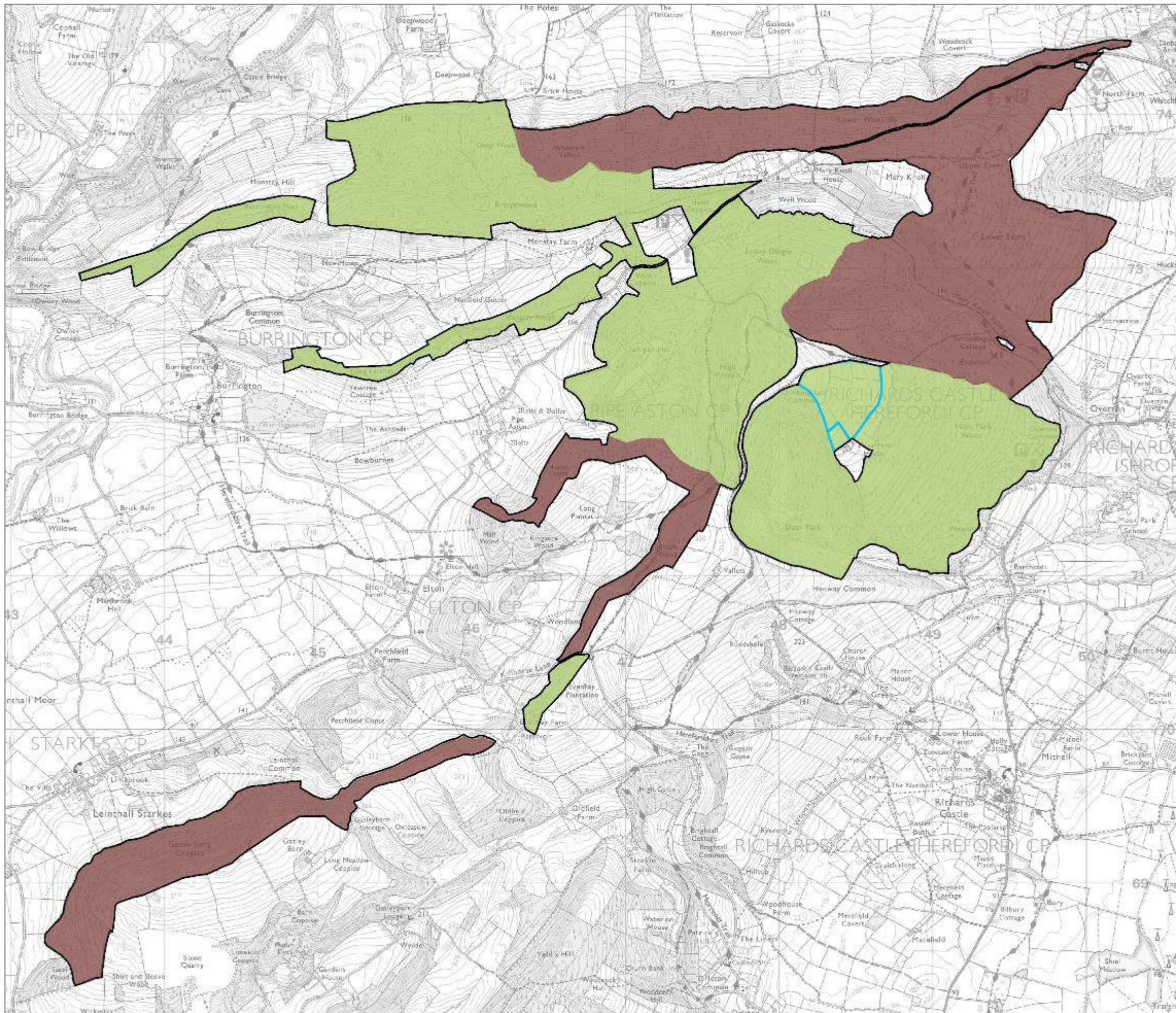
Tenure & Management Agreements

The tenure of the Mortimer is fairly evenly split between freehold and a number of leaseholds with 579 ha of land held under freehold and 431ha of under five different leases. As a result there is unrestricted access throughout the Plan area.

Within the Plan area numerous occasional agreements and permits are provided for economic, recreation and ecological activities. Two farm tenancies are let at Haye Park, together with building tenancies within the main block close to Overton Common and at Whitcliffe. A telephone mast is also at Whitcliffe.

Legend

-  Farm Business Tenancy
-  Leasehold
-  Freehold



A 50 Year Vision

The Vision for the future of the Plan area is bold but in keeping with the Forestry Commission's key strategic goals and the local and national value which is placed on the area. Set against the backdrop of the Landscape Character whereby *these are upstanding, densely wooded, hilly landscapes with a steeply sloping topography*, this Vision looks to achieve an area which is a haven for people, nature and the economy. A 'Key Opportunity' of the National Character Area (Natural England, 2013) is to *protect, manage and enhance the valleys, to improve the habitat mosaic of semi-natural grasslands, meadows, woodlands, hedgerows and riparian habitats within the mosaic of improved pasture to enhance ecological networks, strengthen the distinctive landscape character and contribute to the delivery of ecosystem services such as food provision, wood supply, soil protection and improving water quality*. In 50 years time this Plan will look to have delivered a rich mosaic of robust habitats which supports a multitude of rare and common flora and fauna species as well as contributing to a low-carbon economy.

The conifer dominated forest will predominantly be managed through continuous cover forest and low impact silvicultural systems contributing to a vibrant woodland economy. Much of this will be restored overtime to native woodland to better reflect the historical cultural landscape. Rare and protected species, such as goshawk, hobby and nightjar will continue to call the forest home. The Forest will also be a popular and safe place to come exercise, learn and relax in a resilient natural environment. The trees will be valued not only for their ecological and social value but also as a timber product, water regulation and for carbon sequestration which as climate change takes effect will be of increasing importance. A diverse structure of young, thicket and maturing crops across the area will be provide suitable continuous habitat over time.

Broadleaf woodland will increase in area and improve in condition as restoration to native cover takes affect in certain areas. Managed sensitively but still with productivity in mind through thinning or coppicing, these more secluded areas will become a haven for a multitude of micro habitats, species and ecosystem functioning. Veteran, mature and future significant trees will be retained and allowed to breakdown providing deadwood habitat and nutrient cycling. Everything from rare dormice and butterflies to lichens and wet willow will enhance the contribution to ecology, cultural heritage and social value and to the wider landscape. Riparian areas will be enhanced through broadleaf intrusion and opened up to dappled shade to become invaluable to the quality and storage of water that passes through.

Ancient and native woodland, a key part of the Landscape Character, will feature more significantly in the area's makeup. Areas will be restored to oak dominated forest cover gradually to support the rare and protected flora and fauna species which inhabit these habitats. In addition to these, areas of conifer dominated forest managed on through continuous cover forest or clearfell/restock will become a home for numerous conifer and edge loving species such as nightjar, raptor and butterflies.

The considerable existing areas of meadow and neutral grassland will be maintained and rides and roadsides will be wider than currently and support common and protected butterflies and other rotational scrub loving species. These areas will also be invaluable to the enjoyment of the area for people, creating windows into the wider forest and out into the landscape.

The 50 Year Vision outlined in this Plan will be delivered in part over the next 10 years through the Objectives outlined on Pages 9 and 10 with the proposal and prescriptions following.





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Management Objectives

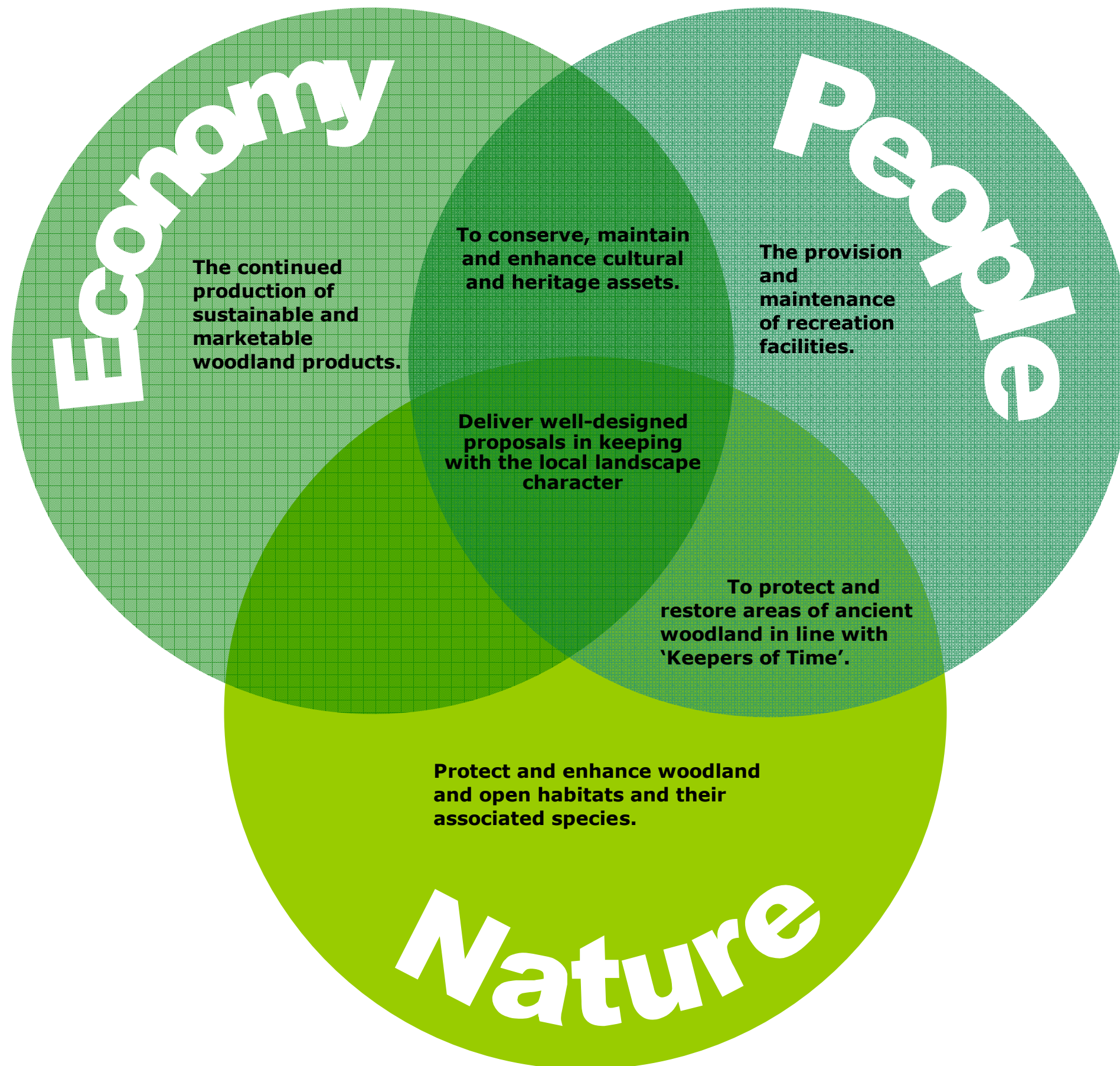
WEST ENGLAND FOREST DISTRICT

PROTECTING AND EXPANDING ENGLANDS FORESTS AND WOODLANDS AND INCREASING THEIR VALUE TO SOCIETY AND THE ENVIRONMENT.

The objectives of this Plan will, in part, deliver the *West England Forest District Strategic Plan* (2013a) and the national *Strategic Plan for the Public Forest Estate in England* (2013b).

Sustainable management of the woodland will be to the standards required to maintain FSC and PEFC accreditation and therefore must deliver economic, environmental and social objectives.

The meeting and monitoring of these objectives is outlined on the following page.



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Declaration by FC as an Operator.

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Meeting Objectives

District Strategy

Economy

Maintain the land within our stewardship under FSC/PEFC certification.

Improve the economic resilience of our woods and forests.

Encourage and support business activity on the Estate

Nature

Improve the resilience of the natural environment of the Estate under our stewardship.

Realise the potential of the Public Forest Estate for nature and wildlife.

Maintain and improve the cultural and heritage value of the Estate.

People

Maintain existing established consultation panels and engage with other consultative bodies such as National Park Authorities and AONBs.

Provide high quality woodland based recreational opportunities for people and business focusing on the 3 principle Forest Centres.

Forest Plan Objective

Meeting Objective

Monitoring

The continued production of sustainable and marketable woodland products.

The majority of the woodland will remain productive through thinning yield.

Some clearfell timber production, majority from the conifers

Five year production forecast and at the Forest Plan (FP) five-year review. This process is audited as part of the FSC forest certification process.

Annual pre-thinning survey.

Production forecast comparison with actual output at year 5 (45,000m3) and year 10 (90,000 m3)

To conserve, maintain and enhance cultural and heritage assets.

Liaise with Herefordshire and Shropshire Archaeology Service and /or Historic England prior to commencement of works in proximity to heritage assets.

Where appropriate limit shrub encroachment on features.

Operational site planning of harvesting and restocking operations will help monitor the effect of management.

Condition monitored through Review process and records updated.

To protect and restore areas of ancient woodland in line with 'Keepers of Time'.

Targeted felling of conifer crops and suppression of non-native regeneration to aid natural native regeneration and native species replanting.

Analysis and comparison of SCDB 'naturalness' scores through the Forest Plan review process.

39ha of native broadleaved planting/regeneration

The provision and maintenance of recreation facilities.

Management of existing facilities will be maintained by the Beat team.

Visitors will continue to be encouraged to enjoy the woodlands

Beat team will monitor usage and ensure the up keep of the signage.

Visitor counts (by car parking figures) reviewed at the time of FP review.

Protect and enhance woodland and open habitats and their associated species.

Felling together with a delayed restock program will continue to diversify stand and age structure. Operational site planning should highlight opportunities where conservation benefits can be delivered.

Appropriate reinstatement works will be carried out once operations have been concluded.

Creation of >10% transitory and permanent open space

Monitored via Review process, through local records and updated sightings.

Analysis and comparison of SCDB open space 10% through the Forest Plan review process.

Operational site planning of harvesting and restocking operations will help monitor the effect of management

To deliver well-designed proposals that comply with landscape design principles in keeping with the local landscape character.

Implementation of proposals will soften and better integrate the woodland with the surrounding landscape

Fixed point photography analysis at Forest Plan review stage

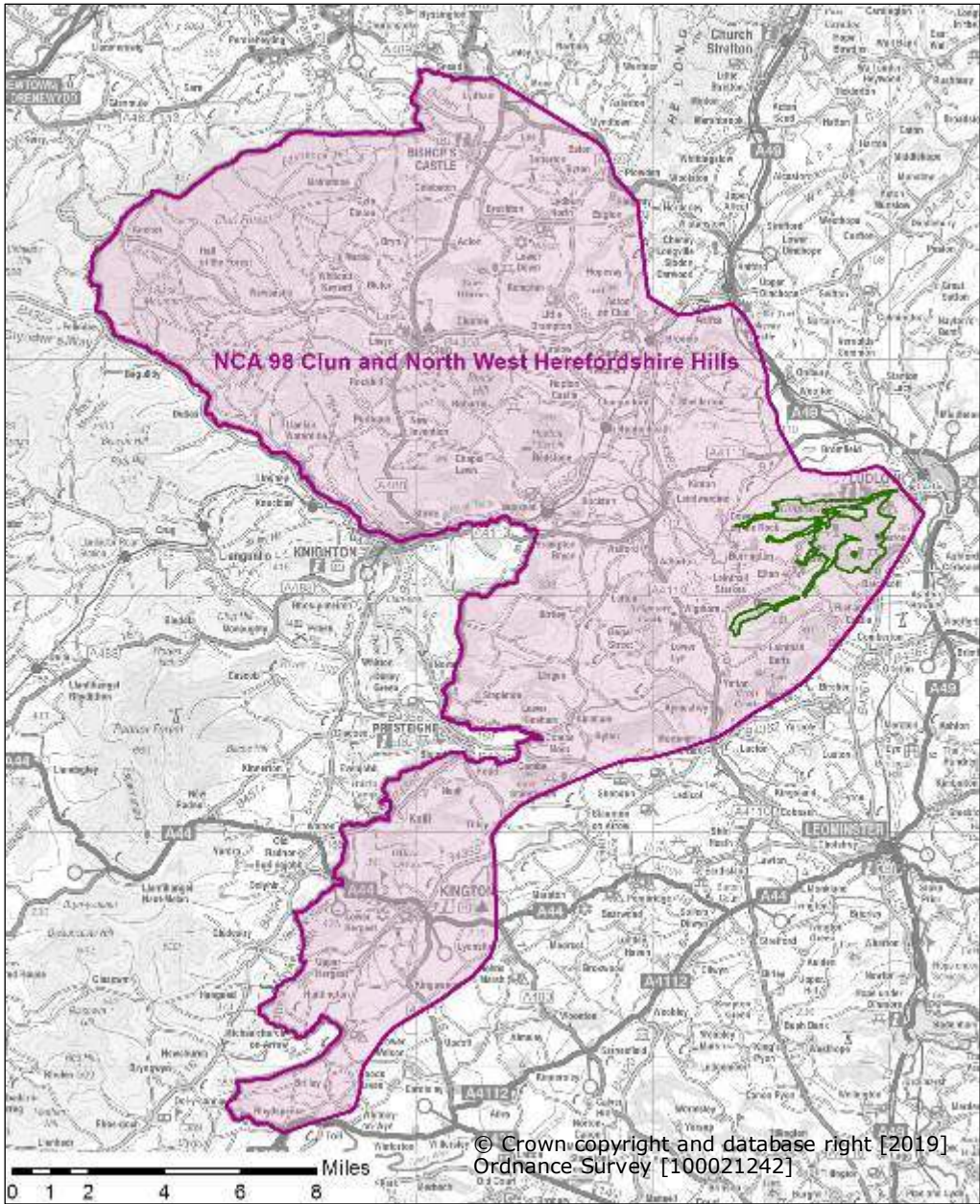


National Character Assessment – 98 Clun and North West Herefordshire Hills (Natural England, 2014)

The area is composed of two distinctive geological regions as a result of earth movements along the Church Stretton Fault, which runs diagonally south-westwards through the NCA. To the north-west, the deep water deposits of the Silurian Period give rise to a dissected plateau with glacially deepened valleys running eastwards out of Wales. To the southeast, the shallow water deposits are characterised by a continuation of the dip-and-scarp topography of the adjacent Shropshire Hills NCA. The landscape expression of these geological differences epitomises the transition eastwards from upland to lowland Britain.

This is an undulating, tranquil, rural area, divided by the narrow valleys of the River Clun and River Teme. Small, wooded, enclosed upper valleys broaden to flat-bottomed, farmed lower valleys. Cool climate, high rainfall and acidic brown earth soils give rise to moorland vegetation in the uplands, while arable cultivation is carried out on lower slopes, where the soils are silty but free-draining.

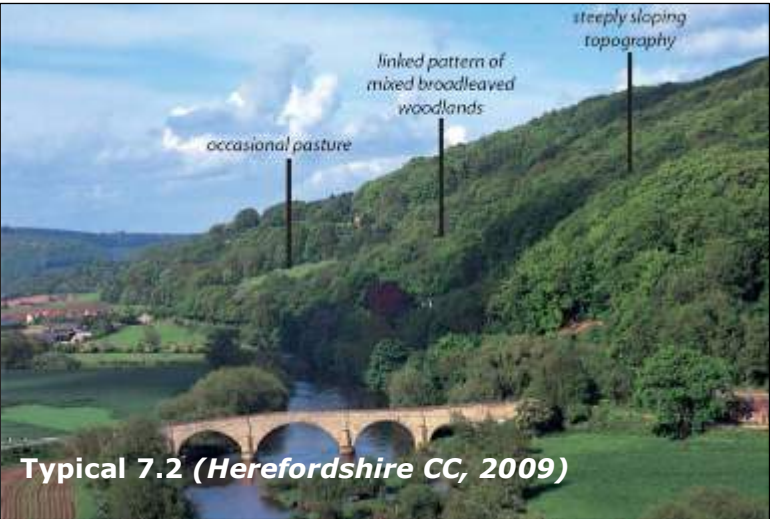
The NCA contains 10,808 ha of woodland (17 per cent of the total area), of which 5,245 ha is ancient woodland (Natural England, 2010 and Forestry Commission, 2011). The heads of the valleys are narrow and deeply incised with woodland on the steepest slopes, frequently deciduous in nature. From Clun eastwards, there are substantial conifer plantations, often extending over the hilltops. The plantations are sometimes on ancient woodland sites. In other cases they are recent with conspicuous straight edges, at odds with the predominantly rounded landforms (Clun and North West Herefordshire Hills Countryside Character Area Description).



Landscape Character

Herefordshire Landscape Character Assessment

7.2 Principal Wooded Hills



Typical 7.2 (Herefordshire CC, 2009)

CHARACTER DESCRIPTION (Herefordshire CC, 2009)

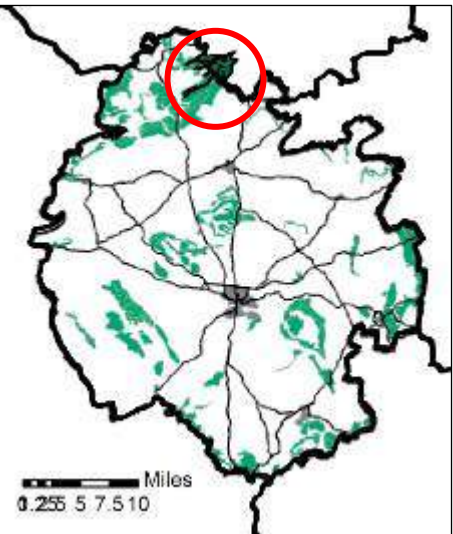
These are upstanding, densely wooded, hilly landscapes with a steeply sloping topography. The inherent character is derived from the pronounced relief and the dominant, flowing woodland cover which provide a strong sense of unity and visual integration. These are landscapes of large irregularly shaped ancient woodlands and wooded streamlines which interlink with the surrounding hedged fields.

The nature of the physiography, particularly the steepness of slope, has inhibited clearance for agricultural use in the past, although a small proportion of pastoral fields are now present. These landscapes have therefore retained a significant cover of ancient semi-natural woodland, typically occurring in extensive, linked belts. Where clearance has taken place in the past, the presence of strong hedge lines with a good representation of hedgerow tree cover contributes to the visual integration of the landscape. The ancient semi-natural status of many of these woodlands confirms their high nature conservation value. These landscapes are sparsely settled by farmsteads and wayside cottages. Views are usually framed between the woodland blocks.

MANAGEMENT GUIDELINES AND ENVIRONMENTAL MITIGATION

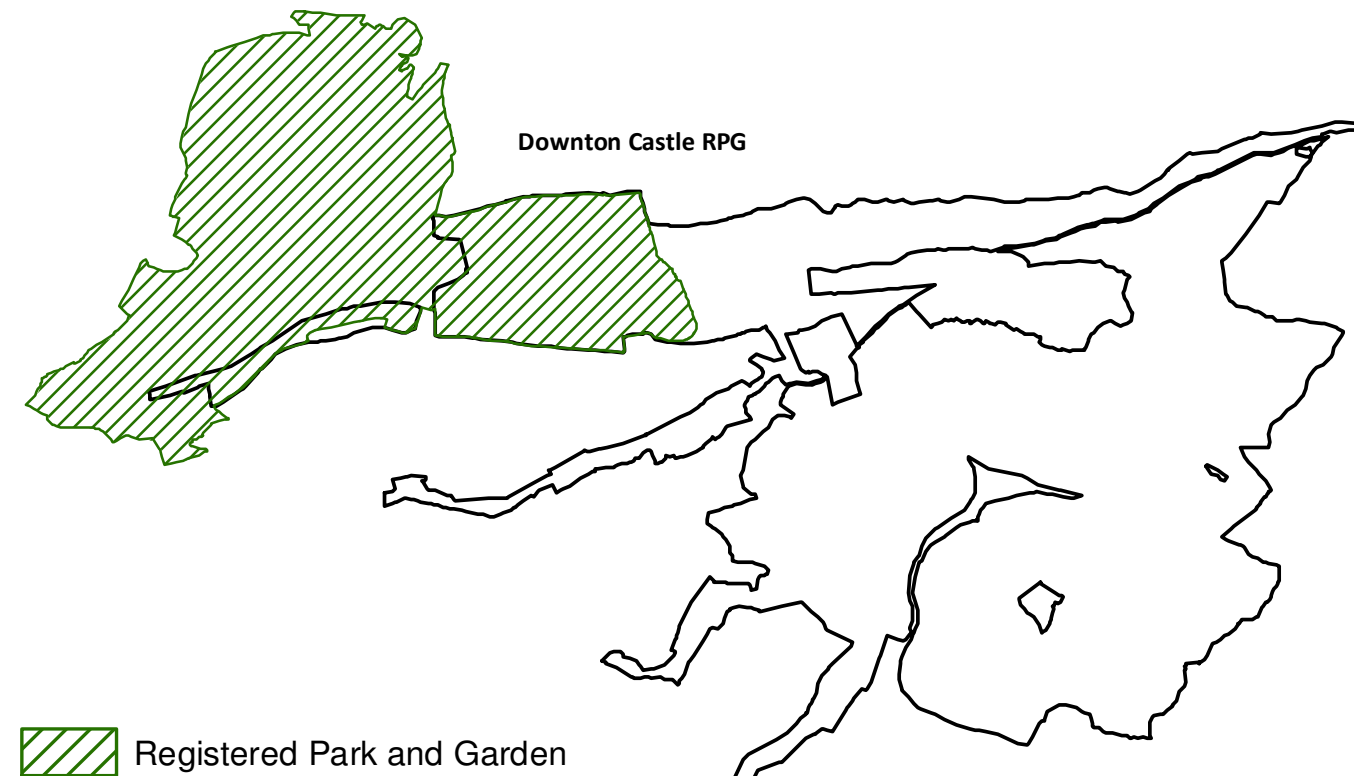
The aim of future management should be to retain the dominance of woodland with a small proportion of integrated irregularly shaped pastoral fields. Emphasis should be placed upon both restoring the ancient semi-natural character of the woodland cover and maintaining an overall interlocking pattern of woodland and grazed fields with a high proportion of hedgerow and streamside trees.

CONSERVATION	RESTORATION	ENHANCEMENT
Conserve and restore the ancient broadleaved character of the woodland		Strengthen the wooded character of hedgerows and streams by additional planting and/or regeneration
Conserve the organic, irregular pattern of assorted fields	In areas where the interlocking pattern of woodland is no longer evident, seek to restore the wooded character through additional woodland planting, linking any fragmented existing woodland	Forestry practices should respect the character of the landscape, promote traditional management techniques and take particular care when assessing the visual impact of new planting and felling coupes

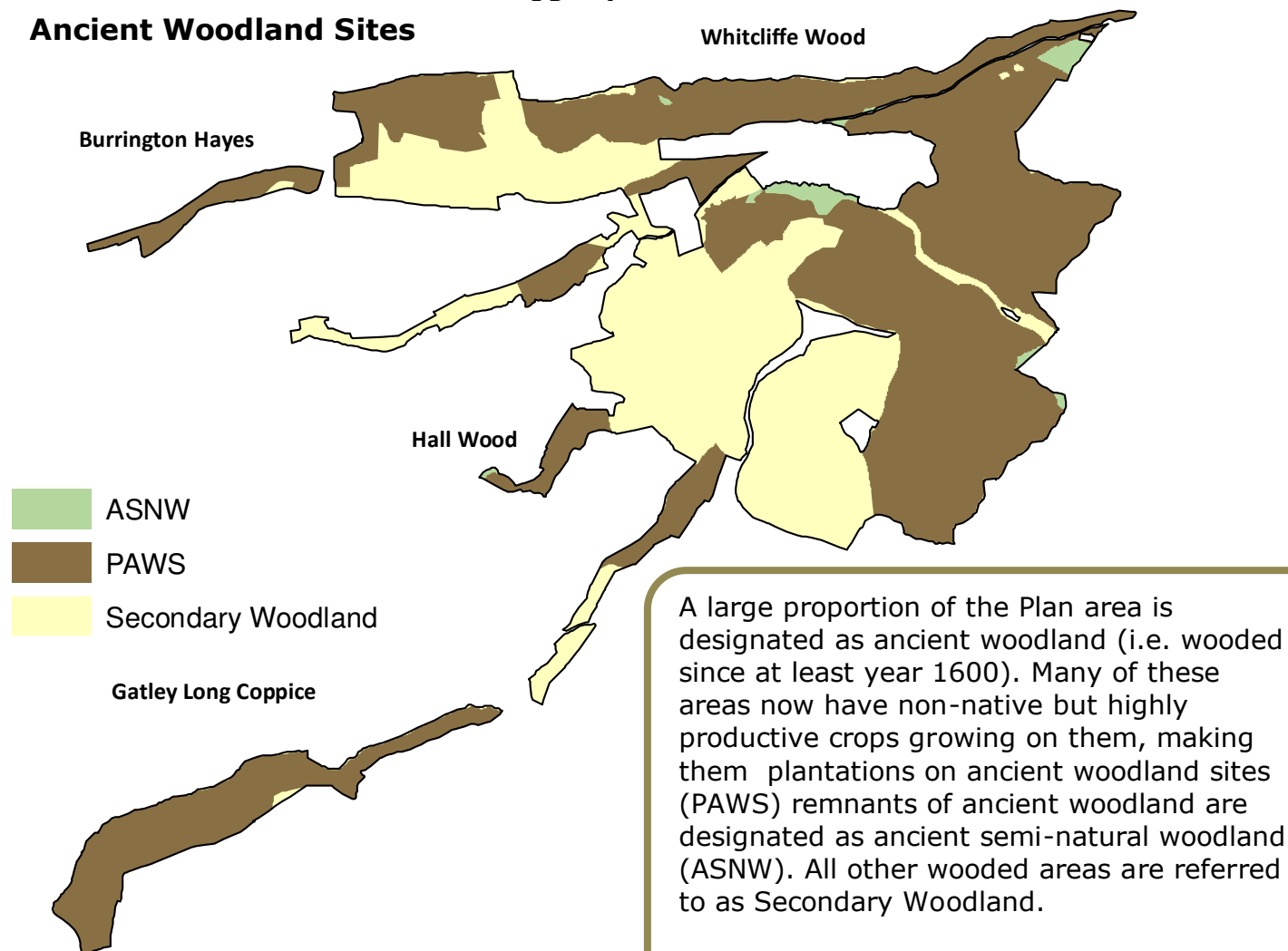




Heritage Designations



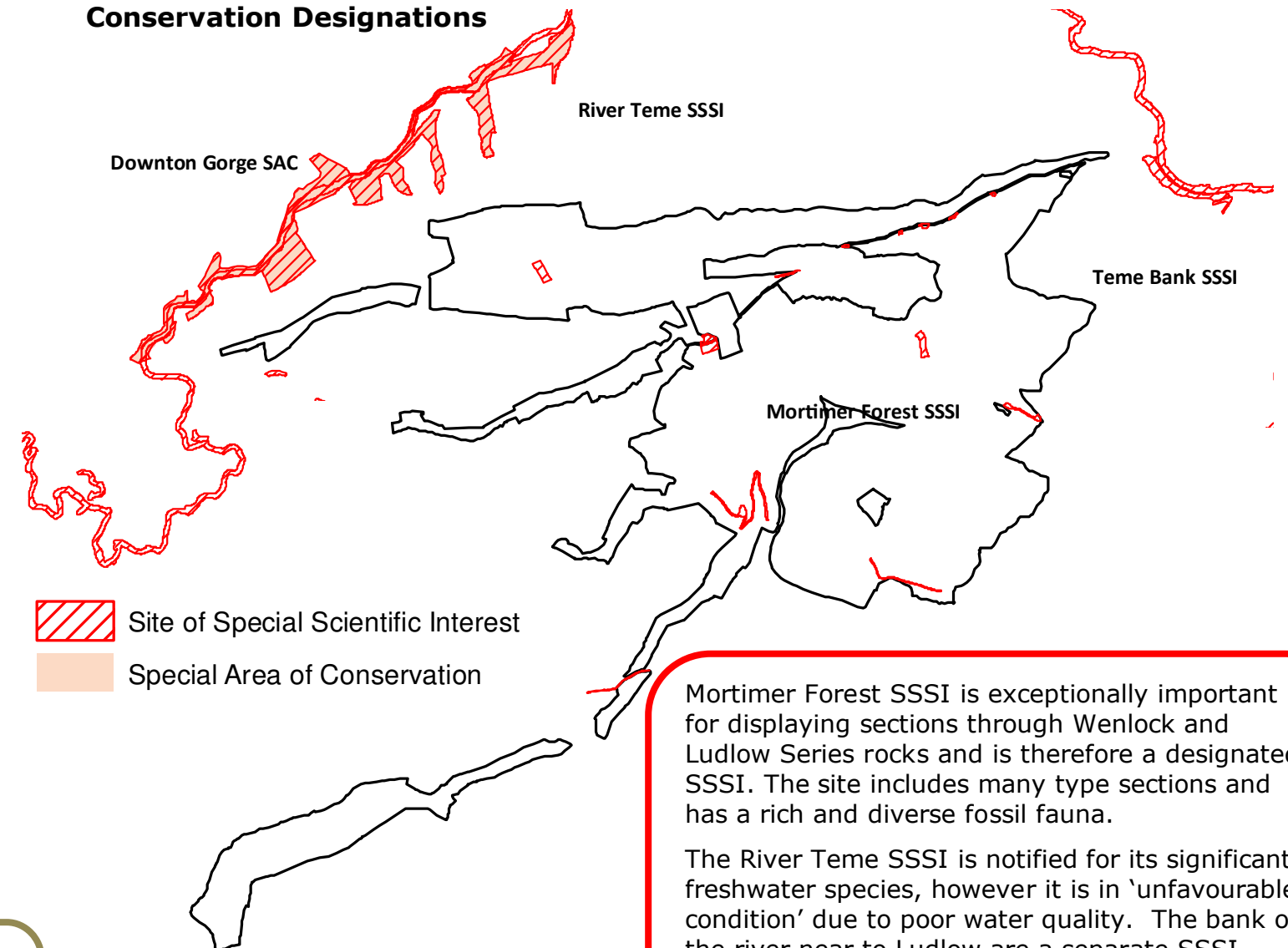
Ancient Woodland Sites



Designations

A number of important statutory designations are located within, or close to, the Mortimer Forest Plan area. These designations are overseen by the appropriate statutory authorities, namely Historic England for heritage designations and Natural England for ecological designations.

Conservation Designations



Mortimer Forest SSSI is exceptionally important for displaying sections through Wenlock and Ludlow Series rocks and is therefore a designated SSSI. The site includes many type sections and has a rich and diverse fossil fauna.

The River Teme SSSI is notified for its significant freshwater species, however it is in 'unfavourable condition' due to poor water quality. The bank of the river near to Ludlow are a separate SSSI, Teme Bank. This site is designated for its geological importance and is in favourable condition.

The Downton Gorge SAC managed as a National Nature Reserve by Natural England is in unfavourable condition, mainly due to the deer pressure and its detrimental impact on the scarce ancient semi natural woodland found there.



Analysis & Concept

Analysis: Downton Gorge is a designated SSSI and SAC and is managed as a National Nature Reserve because of its important and scarce ancient semi natural woodland.

Concept: Felling and management proposals will be in keeping with the designation to aid the recovery of the woodland.

Analysis: Downton Castle Registered Park and Garden designation covers the western part of Bringewood and Burrington Hayes.

Concept: Felling and management proposals will be in keeping with the designation to ensure the quality of this notified landscape is maintained.

Analysis: Numerous veteran trees and trees of special interest are found throughout the crops providing cultural and ecological value.

Concept: Where appropriate these will be managed through gradual halo thinning and minimal ground disturbance to the root protection zone so that sudden exposure to desiccating winds, sun scorch and root damage from compaction will not be an issue.

Analysis: The River Teme SSSI notified for its significant freshwater species, is in 'unfavourable condition' due to poor water quality

Concept: Proposals and subsequent operations will ensure discharge to the water system does not adversely impact the SSSIs condition. This will be achieved by a combination of maintaining buffer zones and riparian zones.

Analysis: The market town of Ludlow has a population of over 10,000 and is significant in the history of the Welsh Marches. As a result it brings strong cultural and recreational value to the area. Mortimer Forest provides both a visual and recreational backdrop to the town.

Concept: Good landscape design together with recreation provision and rural-employment possibilities will ensure the forest makes a contribution to the town and surrounding area.

Analysis: A roughly square earthwork of rampart and ditch remains of late prehistoric or Romano-British defended settlement.

Concept: Unscheduled monument will be preserved by maintaining as permanent open space.

Analysis: Mortimer Forest SSSI includes many type sections and a rich and diverse fossil fauna.

Concept: These areas will be maintained in 'favourable condition' by minimising encroachment from tree and scrub cover.

Analysis: Recreation provision is focussed around three car parks, Vinnalls, Whitcliff and Black Pool. A number of tracks and other informal facilities are found throughout the Plan area which experience a high level of low-key use.

Concept: Proposals made will be in keeping with maintaining this recreation provision to ensure the forest is a safe and enjoyable place to visit and relax.

Analysis: These zones are important external landscapes. Some edges of the forest block are steep sided and provide a dramatic backdrop in an undulating landscape.

Concept: The shape of felling coupes and the timing of operations will use irregular shapes to conserve and enhance the current landscape value of the woodland.

Analysis: A significant proportion is designated as Ancient Woodland. Many of these areas now have non-native but highly productive crops growing on them.

Concept: Restoration of these sites to site native species cover will continue whilst managing crops to economic maturity. The majority of restoration will focus on linking existing areas of native tree cover. The removal of conifer by thinning utilising and favouring broadleaf regeneration will be used where evident.

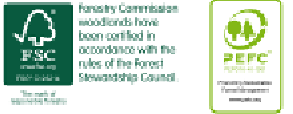
Analysis: Great-crested newts, a European Protected Species as well as other associated wetland species are known to inhabit areas of the forest. The Plan area is also host to protected birds, bats, badgers as well as significant reptiles and flora

Concept: Great-crested newt habitat will be maintained by managed dappled shade and open areas around open water. Other protected species will be identified and protected at operational level so that all works are carried out in line with Guidance (FC & NE, 2013a).

Legend

- Site of Special Scientific Interest
- Registered Park & Garden
- ASNW
- PAWS
- Earthworks
- Car Park
- High Landscape Impact
- Great crested newt (EPS)
- Tree of Special Interest
- River & Stream

0 0.275 0.55 1.1 1.65 2.2 Miles



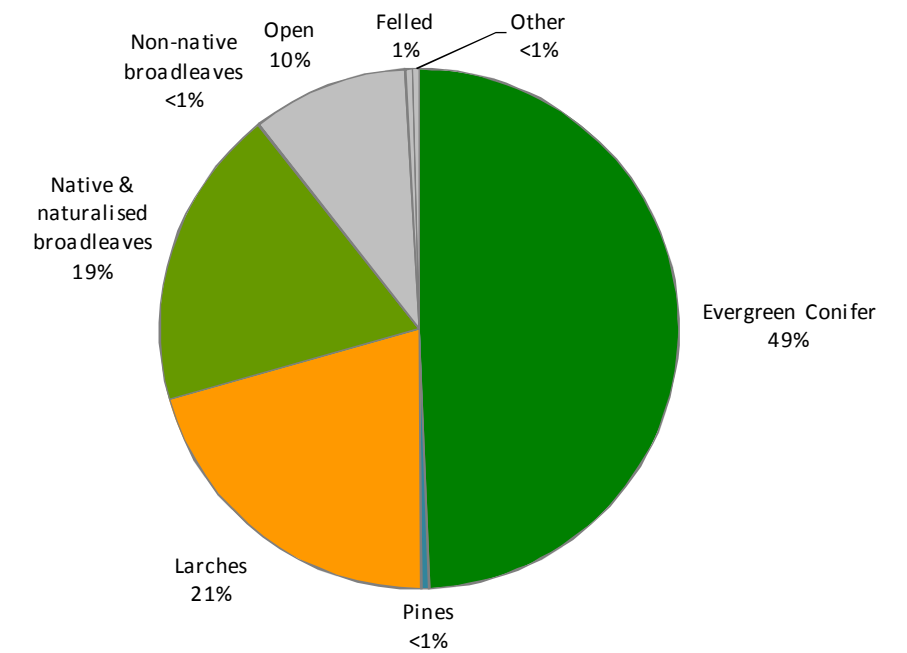
Woodland Composition

The Mortimer Forest Plan area is a conifer dominated highly productive woodland with large larch and Douglas fir components together with large oak and birch components. Over 420ha is stocked with Douglas fir at an average of Yield Class 20, the majority of these crops were planted in the 1980s or late 1990s in mixture with larch or broadleaves.

A mixture of European (32ha), Japanese (88ha) and Hybrid (92ha) larches are found within the Plan area, predominantly on the higher more easterly slopes. The majority of these crops have been planted as pure stands with shift over time from European to Japanese and finally Hybrid larch planting, the majority of which happened in the 1990s

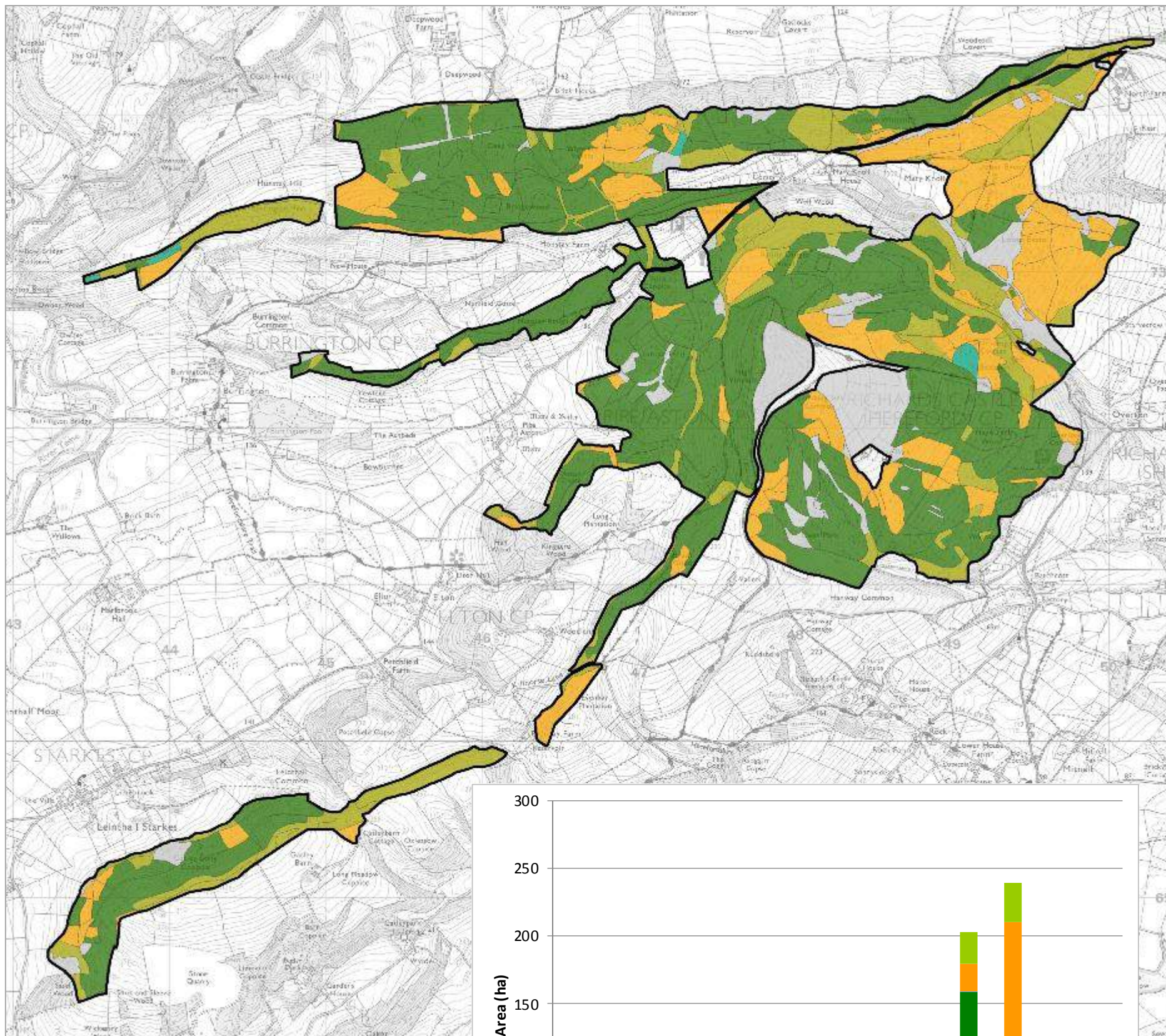
A total of 183ha is recorded as native and

Species Composition



naturalised broadleaf cover, 42ha of which is oak, much of which has been planted in 1920s and 1930s and more recently in the 2010s. Minor species consist mainly of birch (38ha) as a pioneer species, together with older ash and beech and planted hornbeam and sweet chestnut.

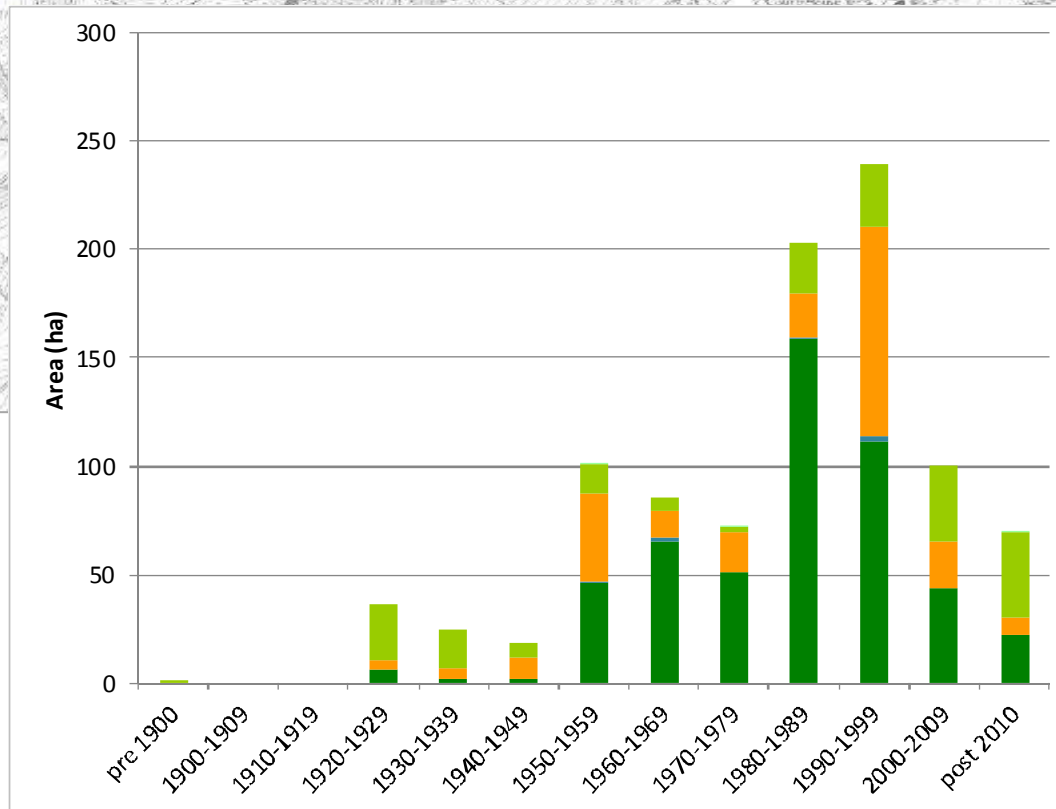
Pine, spruce and non-native broadleaf species feature little in the woodland composition due to the climatic and site conditions together with the historic management of the Plan area. The age class is generally quite varied with the active woodland meaning that the age of many crops is young with the majority of planting occurring in the 1980s and 1990s. In more recent decades there has been a greater focus on restocking with native and naturalised broadleaves.



Legend

- Evergreen Conifer
- Pines
- Larches
- Native & naturalised broadleaves
- Non-native broadleaves
- Open/other

Note: Beech, sycamore and sweet chestnut are considered to be not within their native range but are considered to be 'naturalised'





Class 4 – Plantation Woodland
(< 20% site native species)



Class 3 – Plantation Woodland
(20 - 50% site native species)



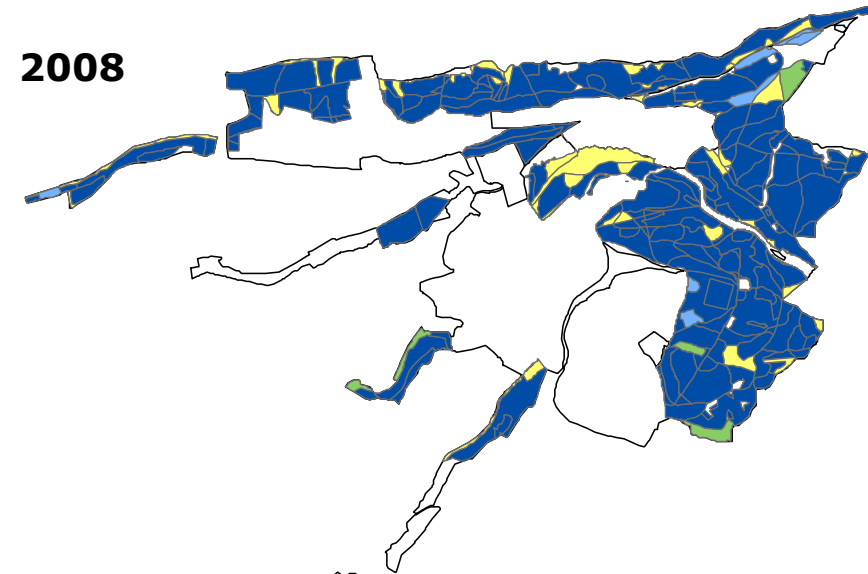
Class 2 – Plantation Woodland
(50 - 80% site native species)



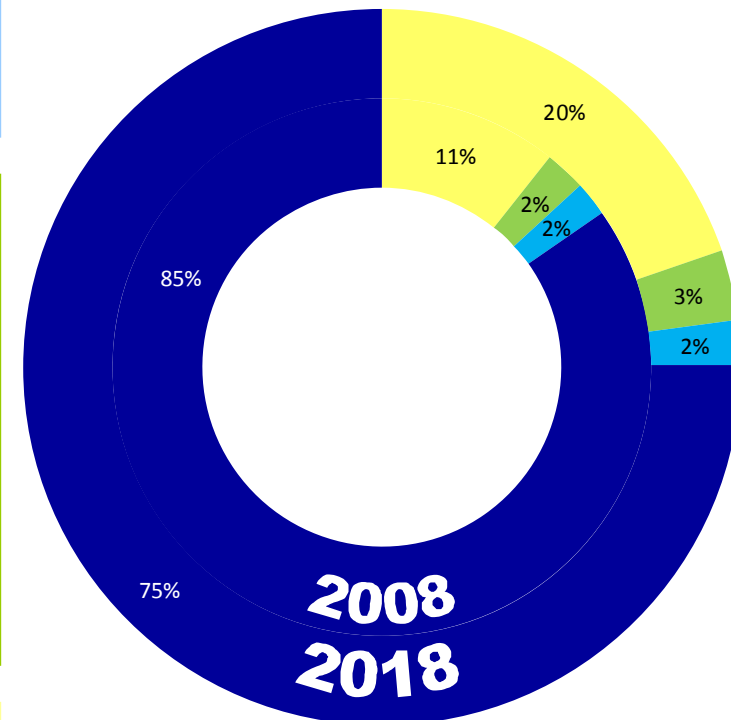
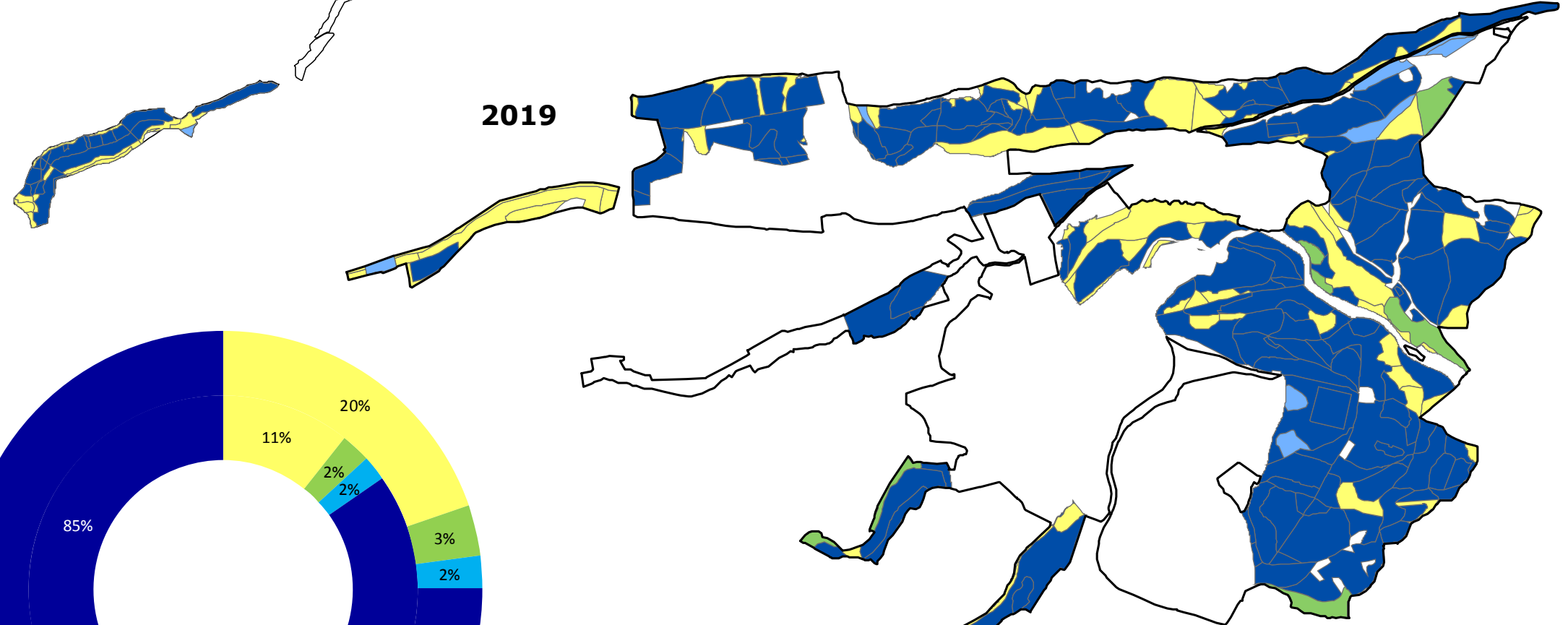
Class 1 – Semi-Natural Woodland
(> 80% site native species)



2008



2019



Naturalness on PAWS

Naturalness is the measure to show the percentage of site native tree species in a given area. This measure is used to record and monitor the condition and restoration of Ancient Woodland Sites previously planted with non-native species.

A total of 520ha of the Mortimer Plan area is designated as being an Ancient Woodland Site (AWS) see Page 12. The majority of this is found at the north and easterly fringes of the main Mortimer block and all of Gatley Long Coppice

The majority of these AWS are currently classified as Naturalness Class 4, meaning that less than 20% of the tree species currently found there are site native. These sites are predominantly Douglas fir or larch crops. Areas with less non-native dominance, Classes 2 and 3 exist with planted oak and beech together with intruding birch and ash making up the majority of the native components. Classes 2, 3 and 4 are classified as Plantations on Ancient Woodland Sites (PAWS). Areas of Semi-Natural Woodland (Class 1 - > 80% site native species) are mostly found towards the bottom of valleys, in wetter riparian areas where the soils are richer.

The transformation of Classes 2, 3 and 4 AWS towards Class 1 is a key objective of this Plan and is in line with the Forestry Commission England, *Keepers of Time* Policy (Forestry Commission, 2005).

Legend

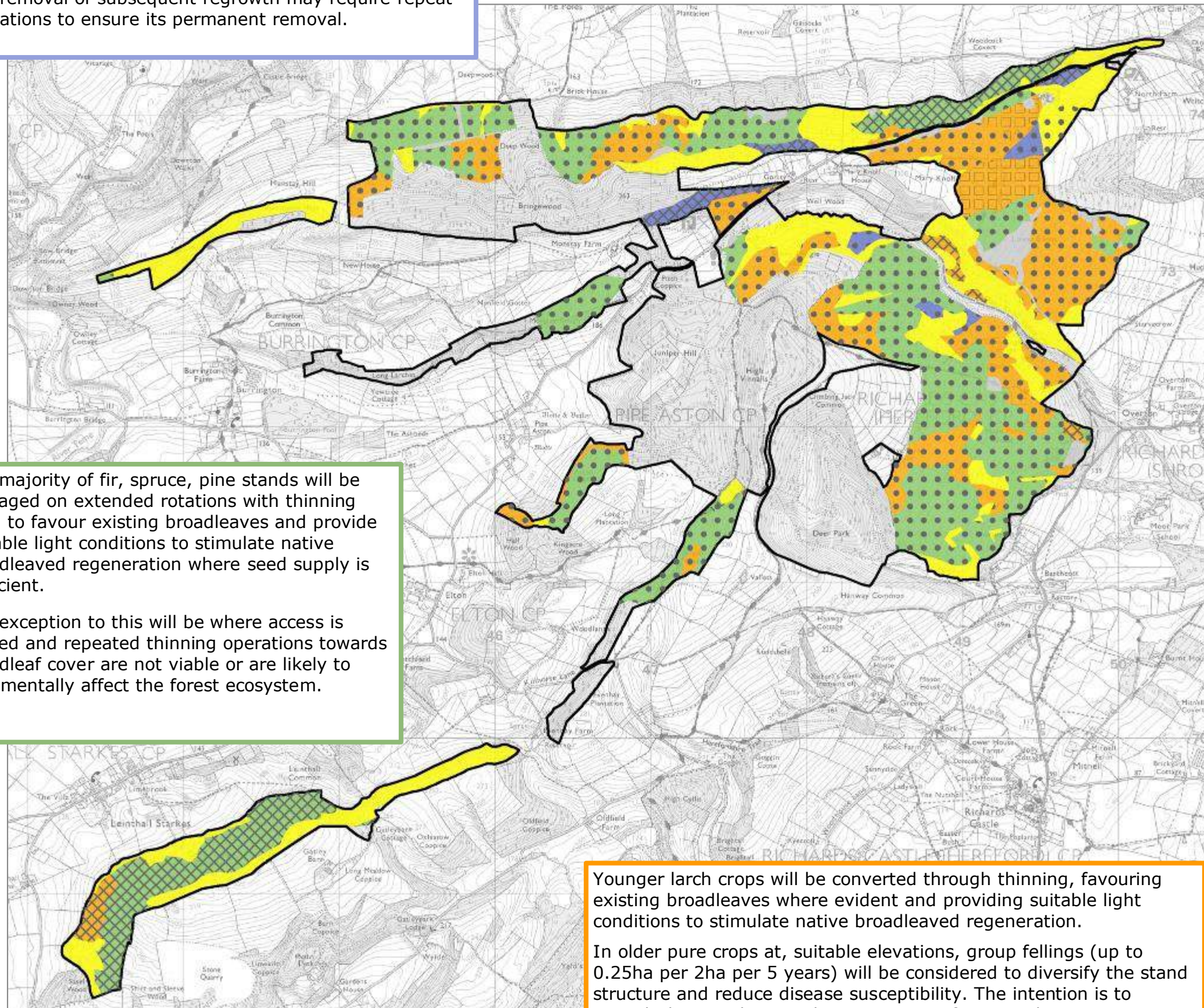
- Class 1 - > 80% Site Native Species
- Class 2 - 50-80% Site Native Species
- Class 3 - 20-50% Site Native Species
- Class 4 - <20% Site Native Species

Note: Beech, sycamore and sweet chestnut are considered to be not within their native range and therefore contribute to a non-native score.

Felled areas which are in transition towards restocking are represented as Class 4.



Whether pure crops or in mixture, Western hemlock will be targeted through thinning and may be clearfelled on PAWS to minimise the potential for natural regeneration. The removal of subsequent regrowth may require repeat operations to ensure its permanent removal.



The majority of fir, spruce, pine stands will be managed on extended rotations with thinning used to favour existing broadleaves and provide suitable light conditions to stimulate native broadleaved regeneration where seed supply is sufficient.

The exception to this will be where access is limited and repeated thinning operations towards broadleaf cover are not viable or are likely to detrimentally affect the forest ecosystem.

Younger larch crops will be converted through thinning, favouring existing broadleaves where evident and providing suitable light conditions to stimulate native broadleaved regeneration.

In older pure crops at, suitable elevations, group fellings (up to 0.25ha per 2ha per 5 years) will be considered to diversify the stand structure and reduce disease susceptibility. The intention is to restock these with natural regeneration of surrounding native species. Broadleaf remnants will be retained at these interventions.

Where seed supply is not sufficient or where heavy thinning has created the suitable environment for underplanting, replanting of site suitable native species may be used.

PAWS Management

Restoration of Plantations on Ancient Woodland Sites (PAWS) has already begun and this continued restoration is going to take a considerable amount of time and resource because of the limited native remnants from which sites can regenerate.

Therefore a proactive yet realistic approach will be used to transform these sites over a period of time.

The aim of the transitional period to woodland containing 80% or more of native species should be to achieve:

- a varied age structure with varying ratios of high canopy, secondary canopy and understory through out.
- transition that ensures a minimum future content of 3 native species, with 4 to 5 species being the preferable target.
- a minimal reliance on monocultures especially of birch, ash, hazel or oak. This objective may eventually mean considering either underplanting or group felling and planting within existing mid rotation broadleaf crops.
- The restoration of beech and sweet chestnut stands will not be prioritised as these species are deemed to have naturalised.

Legend

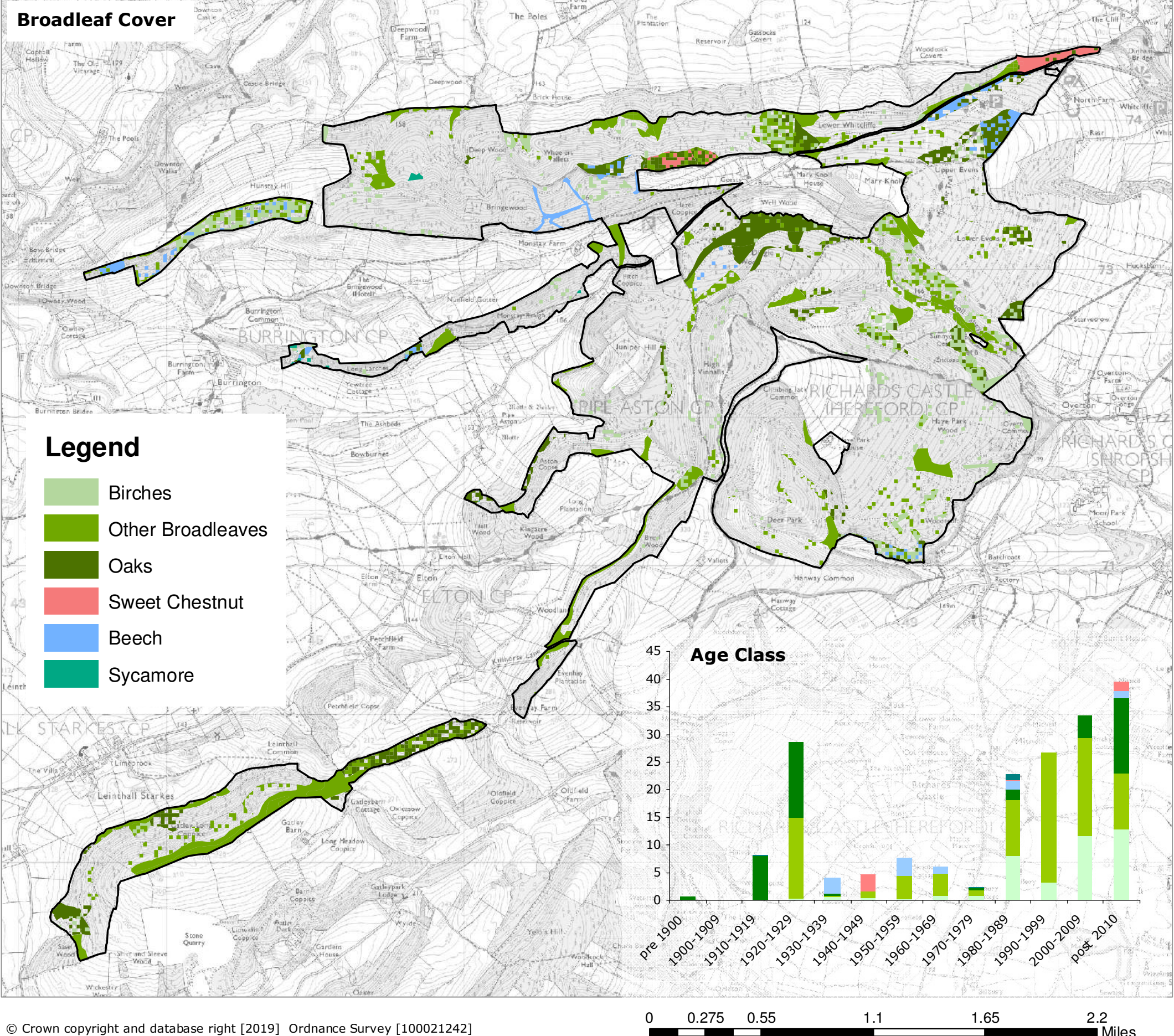
Prescription

- • • • Thin
- } } } Group Fell
- XXXX Clearfell

Species

- Yellow Broadleaf
- Green Pines, Spruces & other Firs
- Orange Larches
- Blue Western hemlock & Grand fir
- Grey Open

0 0.275 0.55 1.1 1.65 2.2 Miles



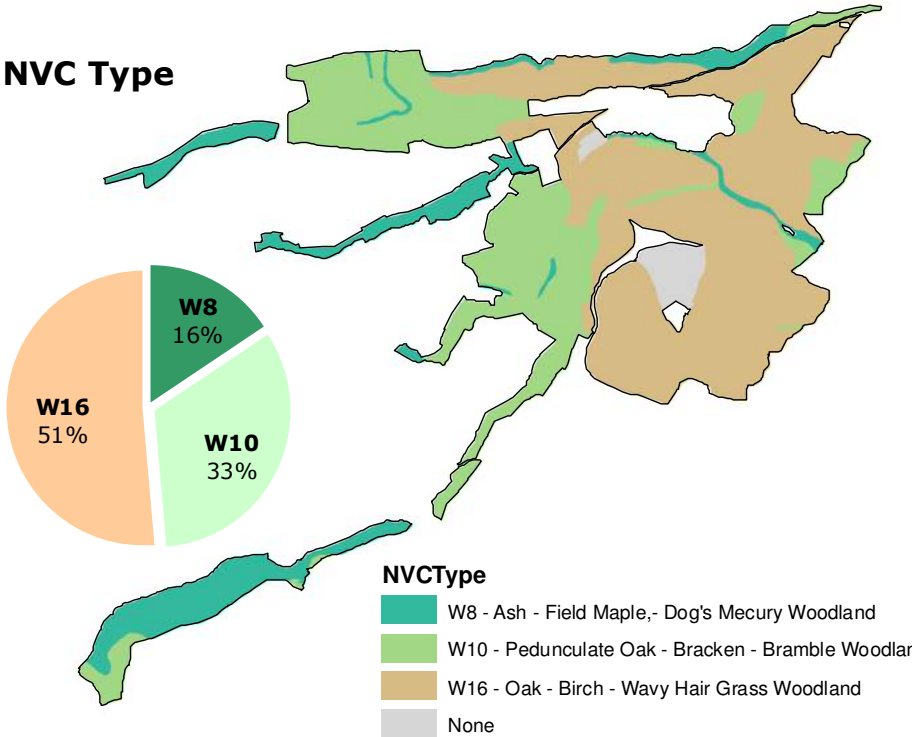
Broadleaf Management

The majority of the Plan area consists of National Vegetation Classification (NVC) types W10 and W16 oak woodlands with some W8 ash woodlands along lower slopes and valley bottoms. These classifications give a good indication of the target future species for PAWS restoration and if sites were left to natural succession.

Existing broadleaf cover on more elevated sites is predominantly made up of oak with birch as pioneer sub-species, with older age stands 'upland oakwood' in character. The lower sites contain larger ash components and are of a more 'lowland mixed deciduous' character. In recent decades a more diverse species structure has been pursued, predominantly through enrichment planting.

These sites will be managed on shelterwood systems whereby the new crop will be regenerated from selected seed trees following heavy thinning operations. Light levels and grazing pressure will be managed to minimise weed encroachment and regeneration predation following thinning operations. Underplanting with species such as lime and hornbeam may be considered on ash dominated sites to ensure greater resilience to *Chalara fraxinea*. Planting will also be used on sites where regeneration does not meet an average of 3,000 stems/ha by year 10.

NVC Type





Silviculture

Broadleaf Thinning

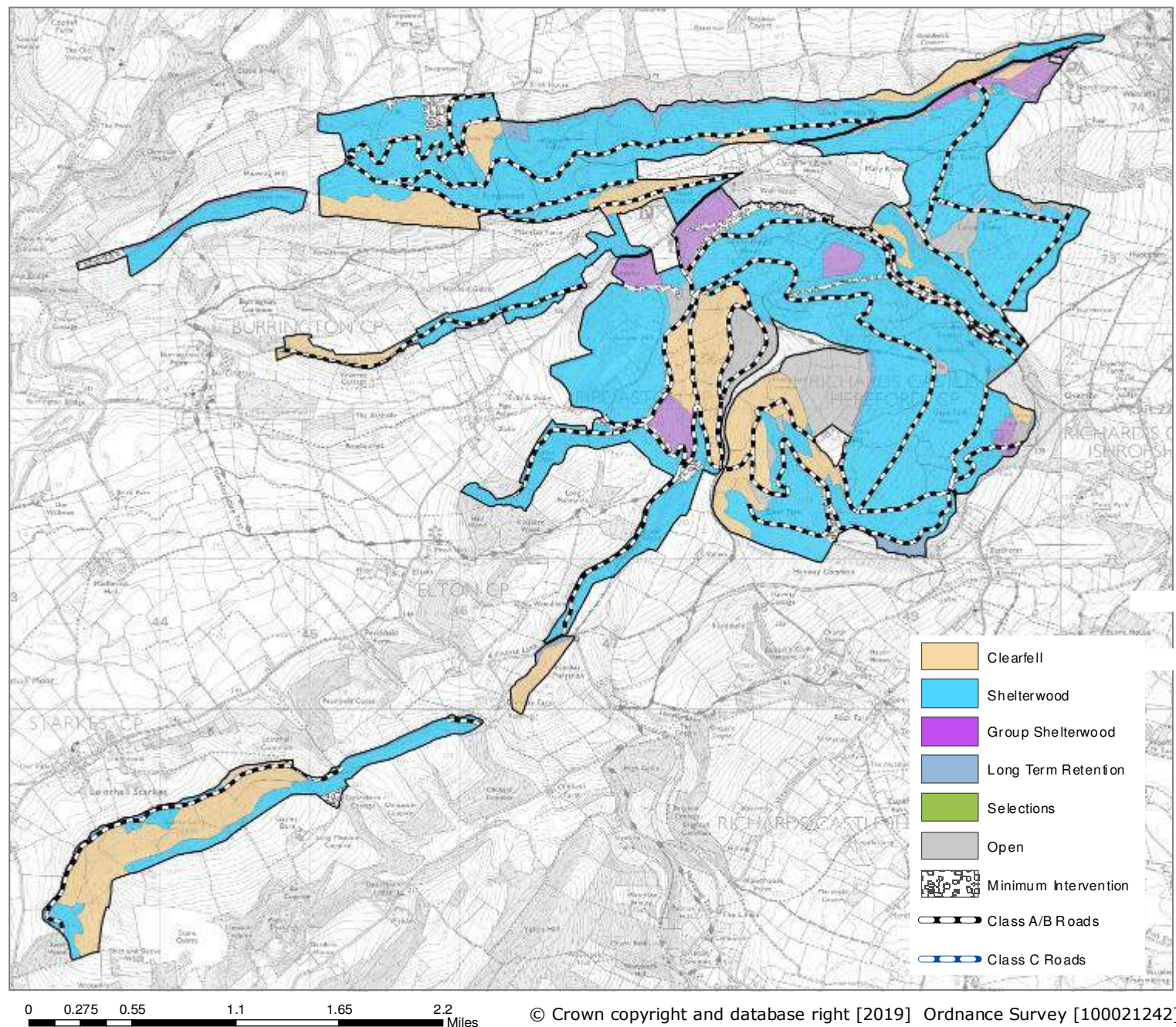
Broadleaf high forest will be assessed for thinning every 10 years with a visual inspection of the stand. Thinning will allow sub-dominant broadleaves sufficient light and space to mature or will release existing advanced regeneration. Younger patches of regeneration can be thinned to favour site native species with trees of good form and vigour being retained. Where broadleaves consist primarily of a single species, it may be possible to enlarge natural gaps through irregular thinning rather than create new gaps through group felling, however, in all cases the size of gap will be dependent on slope, aspect and site fertility and must not be detrimental to crop stability. These gaps will be utilised for enrichment planting using a mix of native species other than those occurring in the overstorey - rather than reliance on natural regeneration.

Conifer Thinning

Areas of conifer are assessed for thinning every 5 years with the targeted removal of larch species a key objective. Other factors such as the quantity, condition, age and distribution of any broadleaf content, will also help decide if an area of conifer is to be thinned or not, with light levels, existing ground vegetation and any evidence of natural regeneration also impacting on how many trees are marked for removal.

PAWS managed under shelterwood and selection systems will be thinned to favour broadleaf components. This, together with the targeted removal of larch and western hemlock species so as limit the impact of disease susceptibility of larch and the adverse impact dense w. hemlock has on natural regeneration potential will move the sites towards greater native cover.

Next Thin Date



Clearfell coupes will simply be managed through clearcutting (of over 0.25ha) and restocked either through natural regeneration, replanting or a combination of the two.

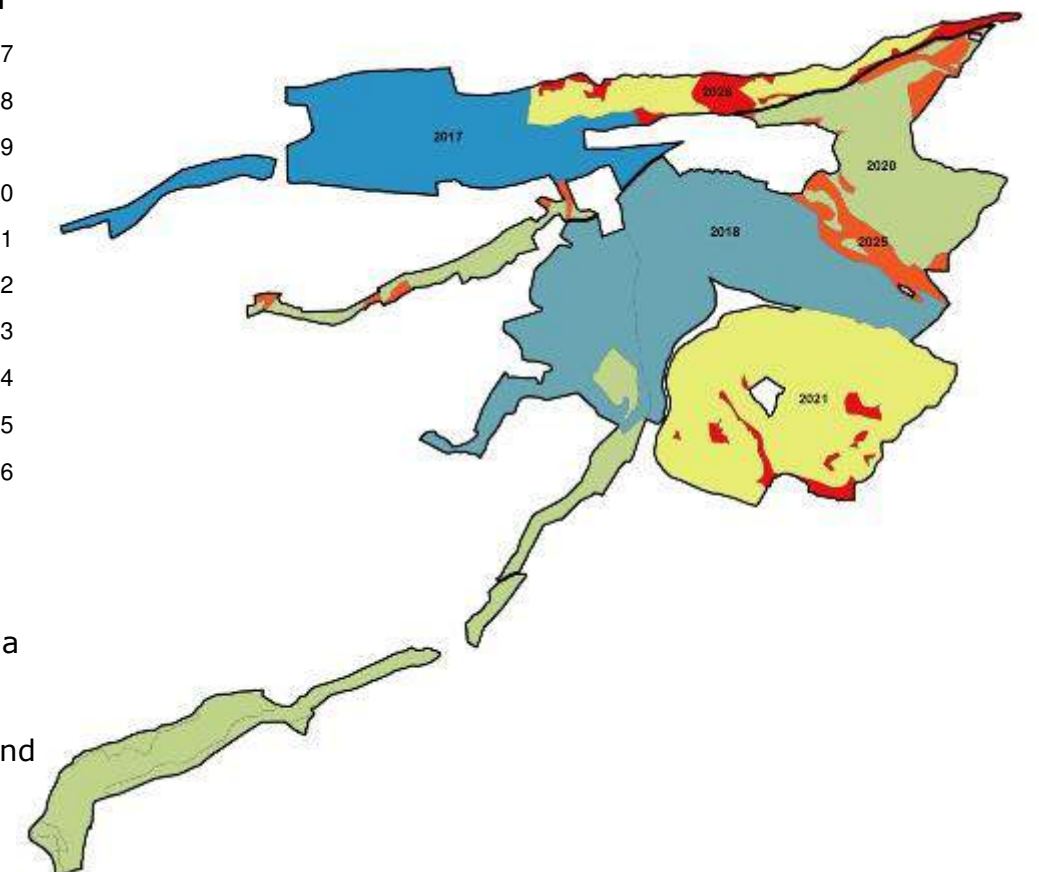
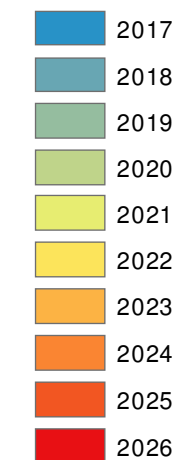
Minimum Interventions are predominantly inaccessible or ecological valuable areas where intervention will only occur to protect and ensure the future succession of key habitats and species.

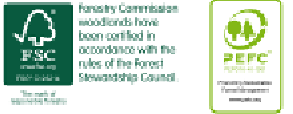
Long term retentions are in place where the landscape value of the woodland is key.

Open space is managed to ensure forest cover does not exceed 2m in height, a tolerance of 20% forest cover will be accepted on some lower priority sites.

Uniform shelterwoods are predominately oak dominated sites which will be managed using seeding fellings, following the identification of final crop trees. Under planting of site suitable species, such as beech or hazel may be considered, all other mixed broadleaf stands will be managed irregularly through thinning. **Strip shelterwoods** are employed on wind vulnerable Sitka spruce dominated sites on west facing slopes, worked north to south. These will be restocked through natural regeneration of surrounding seeding conifer crops. **Irregular shelterwoods** will be created with younger fir crops on secondary woodland and will look to develop a complex CCF structure with older complex structured stands or those managed for amenity purposed maintained through single-tree selections. Irregular shelterwoods on PAWS will look to favour the development of native broadleaves and target the removal conifer components. **Group** shelterwoods will be used on windfirm, accessible crops on PAWS to proactively diversify the woodland structure and composition, possibly through the use of enrichment replanting with native broadleaves.

Legend





Felling and Restocking 2019 - 2029

Coupe 16001 (8.4ha)
Fell 2019-2021

Restock 16001a (8.4ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
20% Pedunculate oak (planted)
10% Wych elm (planted)
10% Cherry (planted)
40% Other broadleaves (natural regen)

Coupe 16083 (9.3ha)
Fell 2022-2026

Restock 16083a (6.3ha)
90% Evergreen conifer @2,700ha
10% Open

Proposed species
50% Douglas fir (planted)
40% Omarika spruce (planted)

Restock 16083b (3.0ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
60% Pedunculate oak (planted)
20% Cherry (planted)

Coupe 16668 (8.3ha)
Fell 2022-2026

Restock 16668a (8.3ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
40% Pedunculate oak (planted clusters)
20% Hazel (planted)
20% Other broadleaves (natural regen)

Coupe 16475 (2.8ha)
Fell 2019-2021

Restock 16475a (2.8ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
40% Pedunculate oak (planted clusters)
20% Cherry (planted)
20% Other broadleaves (natural regen)

Coupe 16183 (9.3ha)
Fell 2019-2021

Restock 16183a (9.3ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
40% Pedunculate oak (planted clusters)
20% Hazel (planted)
20% Other broadleaves (natural regen)

Coupe 16836 (4.9ha)
Fell 2022-2026

Restock 16836a (4.2ha)
90% Evergreen conifer @2,700ha
10% Open

Proposed species
60% Douglas fir
30% Coast redwood

Restock 16836b (0.7ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
40% Pedunculate oak (planted clusters)
20% Hazel (planted)
20% Other broadleaves (natural regen)

Coupe 16350 (1.3ha)
Fell 2019-2021

Restock 16350a (1.3ha)
80% Native Broadleaf @1,100ha
20% Open

Proposed species
20% Pedunculate oak (planted)
10% Wych elm (planted)
10% Cherry (planted)
40% Other broadleaves (natural regen)

Coupe 16713 (6.3ha)
Group Selection
6 x 0.25ha fellings

1.5 ha within Plan period (up to
0.25ha per 2ha per 5 years)

Restock 16713a (6.3ha)
100% Native Broadleaf @1,100ha

Proposed species
100% Other broadleaves (natural
regeneration)

Coupe 16474 (15.4ha)
Group Selection
14 x 0.25ha fellings

3.5 ha within Plan period (up to
0.25ha per 2ha per 5 years)

Restock 16474a (15.4ha)
100% Native Broadleaf @1,100ha

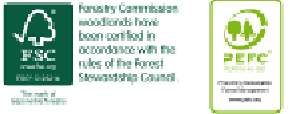
Proposed species
100% Other broadleaves (natural regen-
eration)

Legend

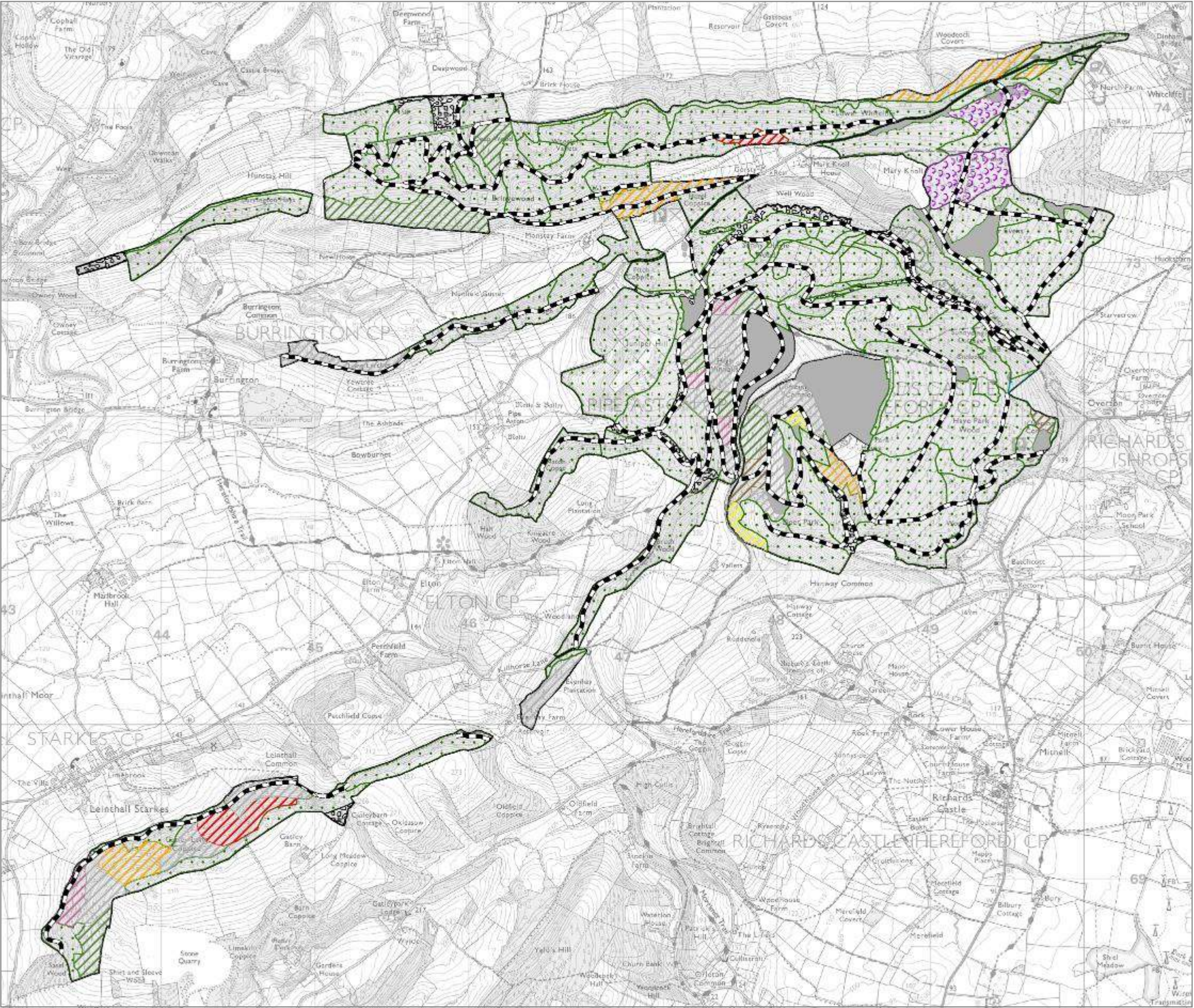
- Fell 2019 - 2021
- Fell 2022 - 2026
- Fell 2027 - 2028
- Coppice
- Wood Pasture
- Retentions
- Group Selection
- Minimum Intervention
- Natural Reserve
- Open

Declaration by FC as an Operator.

**All timber arising from the Forest Enterprise
estate represents a negligible risk under
EUTR (No 995/210)**

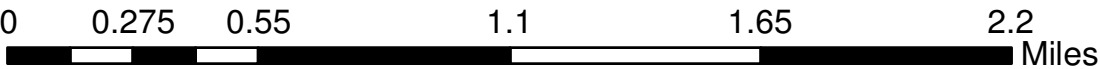


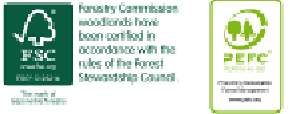
Management Prescriptions 2019 - 2049



Legend

- Alternatives to Clearfell
- Fell 2019—2021
- Fell 2022 - 2026
- Fell 2027 - 2031
- Fell 2032 - 2036
- Fell 2037 - 2041
- Fell 2042 - 2046
- Fell post 2046
- Coppice
- Wood Pasture
- Retentions
- Group Selection
- Minimum Intervention
- Natural Reserve
- Open



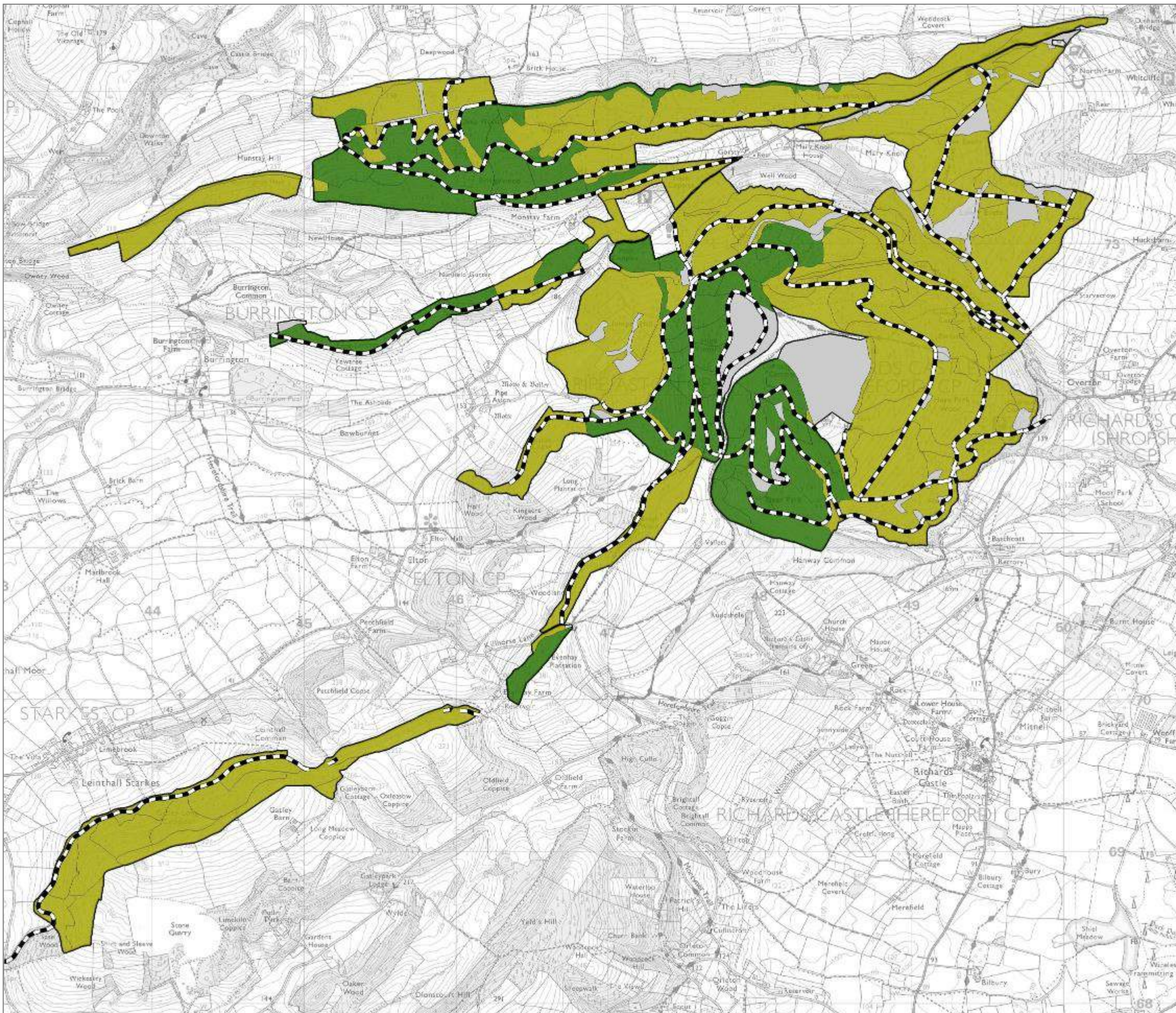


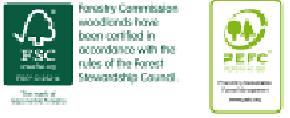
Restock Prescriptions

An outline of the intended restocking prescriptions through planting or natural regeneration for the next rotation, following the removal of the current stock.

Legend

- Evergreen Conifer
- Deciduous Conifer
- Native & naturalized broadleaves
- Non-native broadleaves
- Open/other

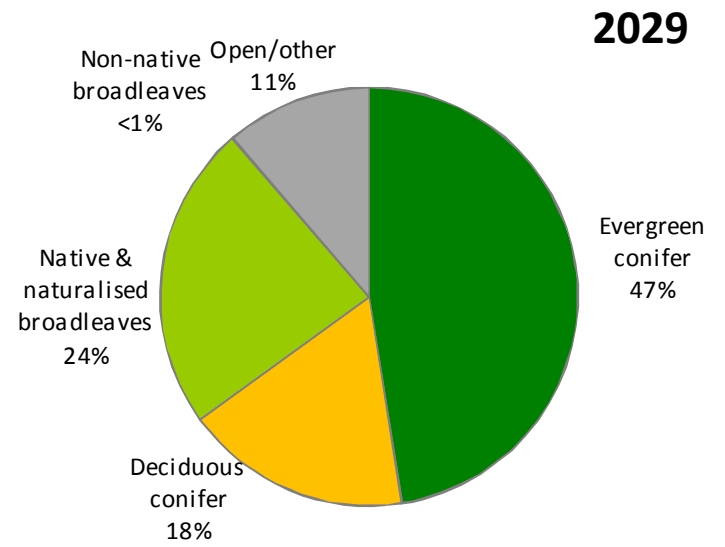




Indicative Future Species 2029

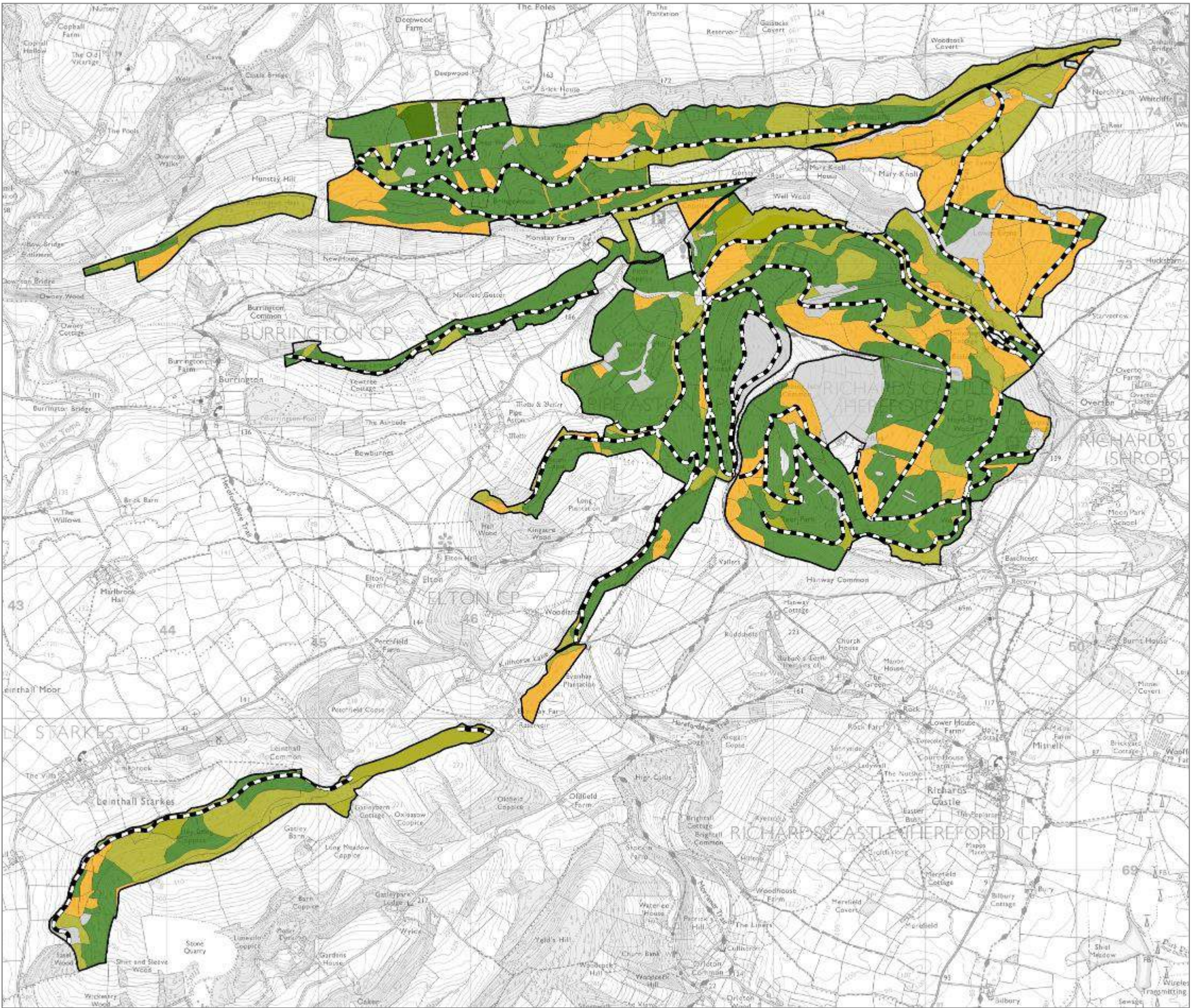
The projections made are indicative of species composition in 2029. They do not constitute a guarantee and merely act as an indicator of how the vision for the Plan area will be delivered over time.

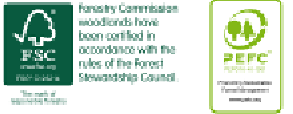
In reality, greater larch removal is anticipated and a greater proportion of open space delivered, due to *Phytophthora ramorum* and dynamic internal space fluxes.



Legend

- Evergreen Conifer
- Deciduous Conifer
- Native & naturalised broadleaves
- Non-native broadleaves
- Open/other

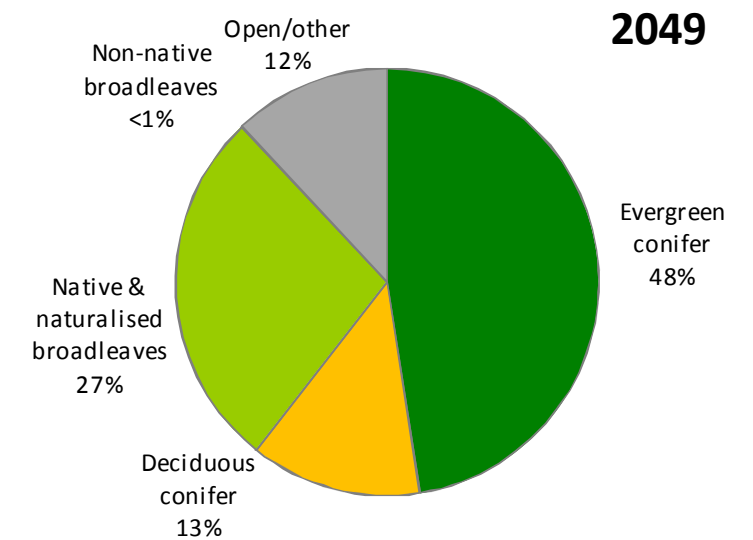




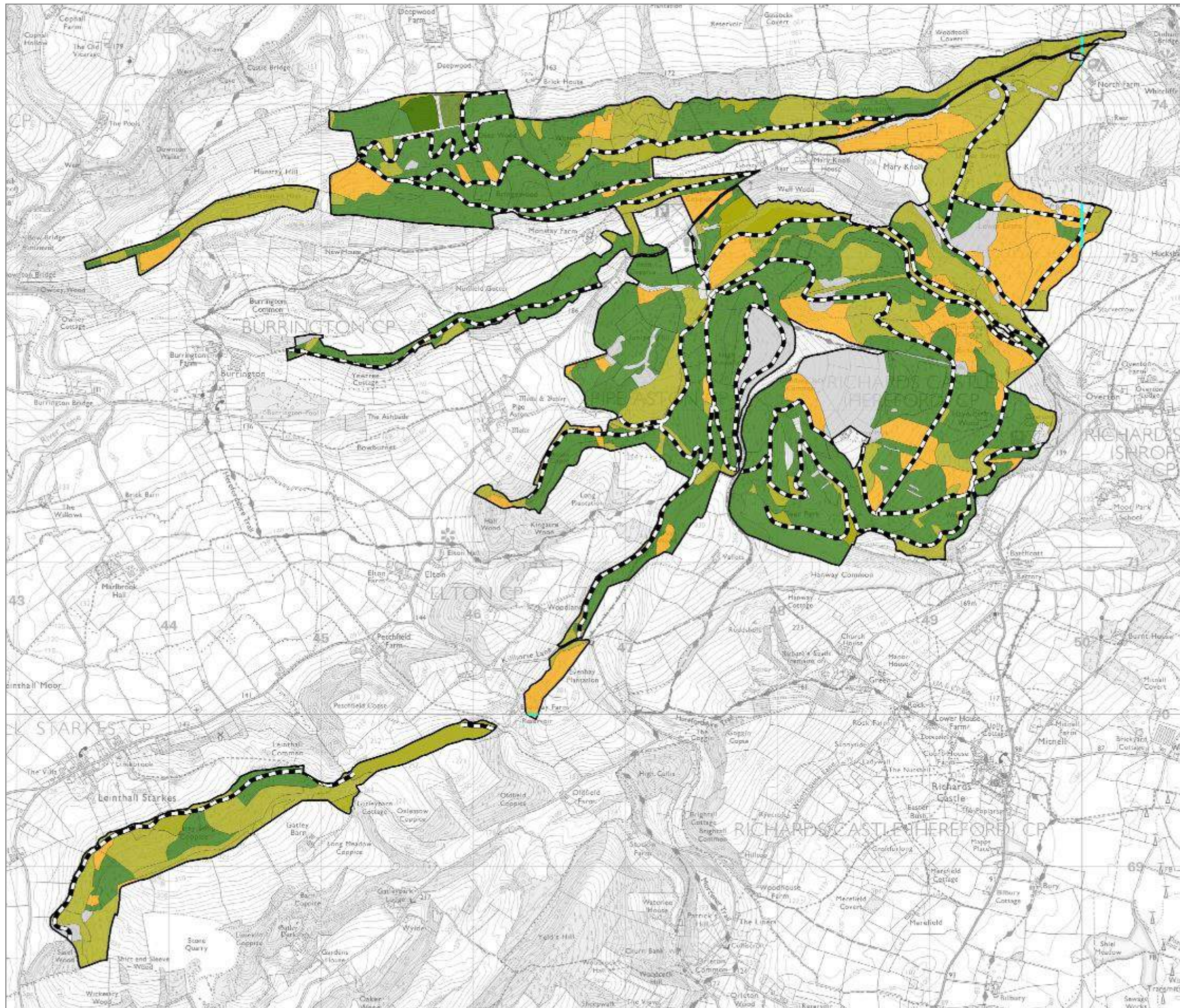
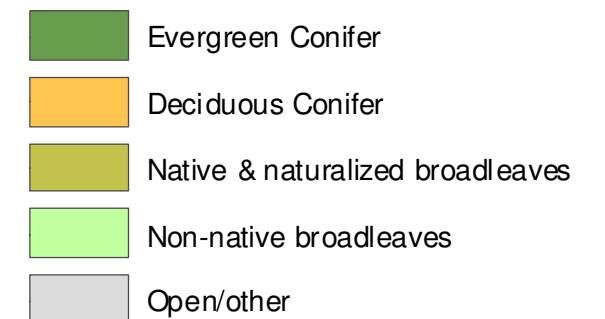
Indicative Future Species 2049

The projections made are indicative of species composition in 2049. They do not constitute a guarantee and merely act as an indicator of how the vision for the Plan area will be delivered over time.

In reality, greater larch removal is anticipated and a greater proportion of open space delivered, due to *Phytophthora ramorum* and dynamic internal space fluxes.



Legend





Conservation - Habitats

The River Teme SSSI is in close proximity to Mortimer Forest Plan area and is in 'unfavourable condition' due to poor water quality, as a result of diffuse water pollution and artificial barriers, this has led to an increase in invasive plant and fauna species and a decline in protected species such as freshwater pearl mussel.

Mortimer Forest Site of Special Scientific Interest (SSSI) is notified for its unique exposed Ludlow Series geological features and the rich fossil fauna it contains. Numerous sites are found throughout the forest block and all are distinct in their value and diversity. The maintenance of this SSSI in 'favourable condition' is outlined in the SSSI Management Plan (see Appendix 5).

Some areas of the broadleaved woodland are significantly valued for the habitat they provide. A mixture of upland oakwood (see photo), upland mixed ash and lowland mixed deciduous priority habitats are found within the Plan area. These will be managed through CCF to maintain their valuable condition and contribution to biodiversity.



Riparian zones throughout the Plan area will be managed to support the improvement of the catchment drainage and minimise the impact of any forestry operations (see Water & Riparian Management, Appendix 1).

A large ride side network of transient and partial open space already exists within the Plan area. This consists of ride edges and occasional cut scallops. These areas will be maintained and enhanced at the time of restocking and thinning and maintained through periodic cutting into the future, thus delivering constantly evolving habitats for wide array of species which benefit from varying amounts of light, exposure such as reptiles and invertebrates.

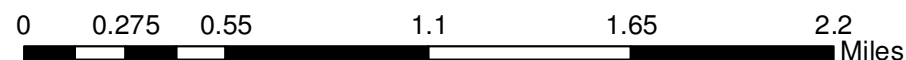
Both neutral and acid grasslands are found within the Mortimer Forest. Neutral grassland is associated with clays and silty soils. Green-winged orchids dot the grass with purple, and pepper saxifrage and adder's-tongue fern flourish here. Acid grassland can be found in both upland and lowland areas where fine-leaved grasses like red and sheep's fescues and common bent grow, alongside wild flowers like sheep's sorrel, heath bedstraw and pretty blue harebells. These areas will be managed as permanent open space with a rotational cutting programme where and when required.

The upland hay meadows at Haye Park House deliver a myriad of grasses and flowering plants supporting an abundance of insects and birds. These meadows are managed under local impact techniques by a farm tenancy to protect this valuable and increasingly rare habitat.



Legend

- Mortimer Forest SSSI
- Upland oakwoods
- Upland mixed ashwoods
- Upland hay meadows
- Lowland mixed deciduous woodland
- Riparian Coupes
- Broadleaf Woodland
- Conifer Woodland
- Neutral Grassland
- Acid Grassland
- Built Areas





Conservation - Features

Bats

A number of suitable bat roosting points are located within the Plan area. These will be maintained into the future following Guidance (FC & NE, 2013b) to ensure suitable habitat to support the pipistrelle, barbastelle and horse shoe species found here.

Great Crested Newts

These European Protected species are found at a number of sites throughout the Plan area and require areas of open water and transient open space as habitat. These existing areas will be maintained and operations that come into contact with the species will follow Guidance (FC & NE, 2013a). Further corridor widening and cutting around areas known to inhabit GCN will ensure that their population numbers are maintained.

SSSI



Lepidoptera

Mortimer is a priority lepidoptera site managed in partnership with Butterfly Conservation. Silver-washed Fritillary, Wood White and White-letter Hairstreak all inhabit the transient open spaces of the woodland. A specific Herefordshire, Shropshire and Worcestershire wide Wood White project is ongoing which includes Mortimer Forest.

Long haired fallow deer

A rare breed of deer not known to be found anywhere else in the world is preserved in Mortimer Forest.



Legend

- c Great crested newt (EPS)
- a Bat (EPS)
- Site of Special Scientific Interest

Minimum Interventions

These areas have been identified either because of the access constraints around them or the natural value they provide. Management will only be through the most basic input required to protect the woodland from external forces or to ensure the succession of key habitats and species.

Open Space

These areas have been identified for open space maintenance because they offer the most effective and efficient open space delivery in landscape context, i.e. building on existing space and creating connectivity. Management will be through a periodic cutting programme to ensure scrub does not exceed 2m in height. Up to 20% forest cover of the appropriate species will be accepted.

Dormice

These European Protected Species inhabit the broadleaved woodlands where canopy is closed. Over 20 nesting boxes are currently provided and management will ensure canopy connected is maintained to ensure habitat maintenance into the future following Guidance Note (FC & NE, 2007).

Reptiles

Viable populations of adder, common lizard, slow worm and grass snake are all recorded within the Plan area, most notably Haye Park wood and meadow. They benefit from the areas of permanent open space which are being provided throughout the Plan area as well as measures to create linkages between Haye Park and Vinnalls.

Flora

Black horehound, meadow saffron and alpine bartsia, are some of the many unique and sometimes endangered floral species which are found here.



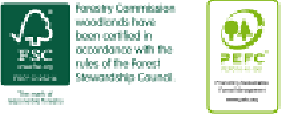
Legend

- Reptile
- Flora
- Tree of Special Interest
- Minimum Intervention

Trees of Special Interest

Found throughout the woodland and are of significant ecological value, these features will be managed according to Operations Instruction 31 (FC, 2013c).





Cultural & Heritage Features

The forest has an exceptionally rich cultural heritage, recognised locally and nationally (through designation). A number of unscheduled monuments are found throughout the main block of the Plan area. The most prominent of these is a large earth works dated from late prehistoric or Romano period. Totalling 0.8ha, this rampart and ditch is maintained free from tree cover.

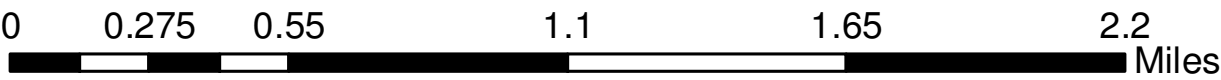
Other less sizable heritage features, such as a the fire tower at Fire Beacon also demonstrate the cultural and historical value of the forest. These sites will be monitored and then identified for conservation during operations through Operation Site Plans.

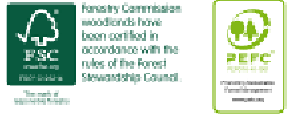
Veteran trees and trees of special interest are Found throughout the woodland and are or significant cultural value, these features will be managed according to Operations Instruction 31 (FC, 2013c).



Legend

- Bronze Age Settlement
- Dewponds
- Lime Kiln
- Neolithic Fold
- Parish Boundary
- Earthwork





Recreation and Public Access






Mortimer Forest Plan area is an open access woodland which includes a wide range of paths, tracks and low key recreational facilities.

Three formal maintained car parks form the focal points for entry into the woodland block. These are at Whitcliffe, Vinnalls and Black Pool.

Waymarked all ability trails for use primarily by walkers and bike riders are found in High Vinnalls, with the formalised walking paths also dissecting the woodland blocks.

Horse riders use the tracks and trails where permitted and Bringewood experiences informal downhill mountain bike activity.

Legend

-  Car Park
-  Bench
-  Cycling Trail
-  Walking Trail
-  Public Rights of Way
-  Forest Roads
-  A Roads
-  B Roads
-  Minor Roads

