

Mid Devon Forest Plan

2018 - 2028

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: OP10/80
OLD Ref: PE58 & PE59

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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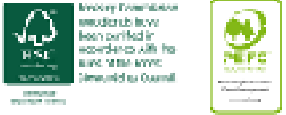
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About

The Mid Devon Forest Plan area is made up of four separate forest blocks totalling 249 hectares in Devon. As forest blocks set within the intimate wooded valley landscape they have very high natural and landscape diversity and value.

The forests managed as part of the public forest estate stretch from Oldridge in the west, 1 miles from Tedburn St Mary, through Whitestone and Stoke Woods to Huxham Brake in the east all on the outskirts, and within 2 miles of Exeter.

The public forest here is a predominantly ancient woodland having been planted with conifer to address the national timber shortage of the early Twentieth Century. The area is now known to produce high quality Douglas fir which makes up the majority of the trees here supplemented primarily with beech and larch. Areas of remnant ancient semi-natural woodland do remain and are made up of oak and birch with ash and 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 is a rich for ecology and includes NVC W17 Priority Lowland Mixed Deciduous (oak/birch) Woodland within Stoke Woods which is habitat in part for dormice, raptor and otter as well as other Priority Lowland Mixed Deciduous Woodland types which are also important for habitat and fauna species.

The vast majority of the Plan area is Open Access, confirmed by the Countryside Rights of Way Act. The exception being Whitestone which is limited to de facto access due to it being leased from another landowner. Stoke Woods is the main focus of informal recreational activity and is particularly nice place to picnic, walk or run given its close proximity to the city of Exeter, good path network and fine views over the Exe Valley.

Objectives

The core aim of the Plan is to deliver the 50 Year Vision by producing woodlands with increased conservation, recreation and landscape benefits whilst maintaining a viable timber output. The long term aim of management is to continue to sustainably produce timber whilst providing a forest rich in wildlife, attractive to people and increasingly resilient to climate, pests and diseases.

The social, economic and environmental objectives of management are:

- The continued production of sustainable and marketable woodland products
- The protection and enhancement of woodland and open habitats and their associated species.
 - The restoration and management of the Site of Special Scientific Interest.
 - To protect and enhance areas of Ancient Semi-natural Woodland and restore areas of PAWs in line with 'Keepers of Time'.
- The provision and maintenance of recreation facilities.
- The delivery of well-designed proposals that comply with landscape design principles in keeping with the local landscape character.
- The conservation, maintenance and enhancement of cultural and heritage assets .

Summary

The current plan outlines management proposals including felling and restocking over several decades, with felling licence approval for operations up until 2028.

The Plan makes provision to develop the complex and dynamic crop compositions of quality Douglas fir shelterwood forest. 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.

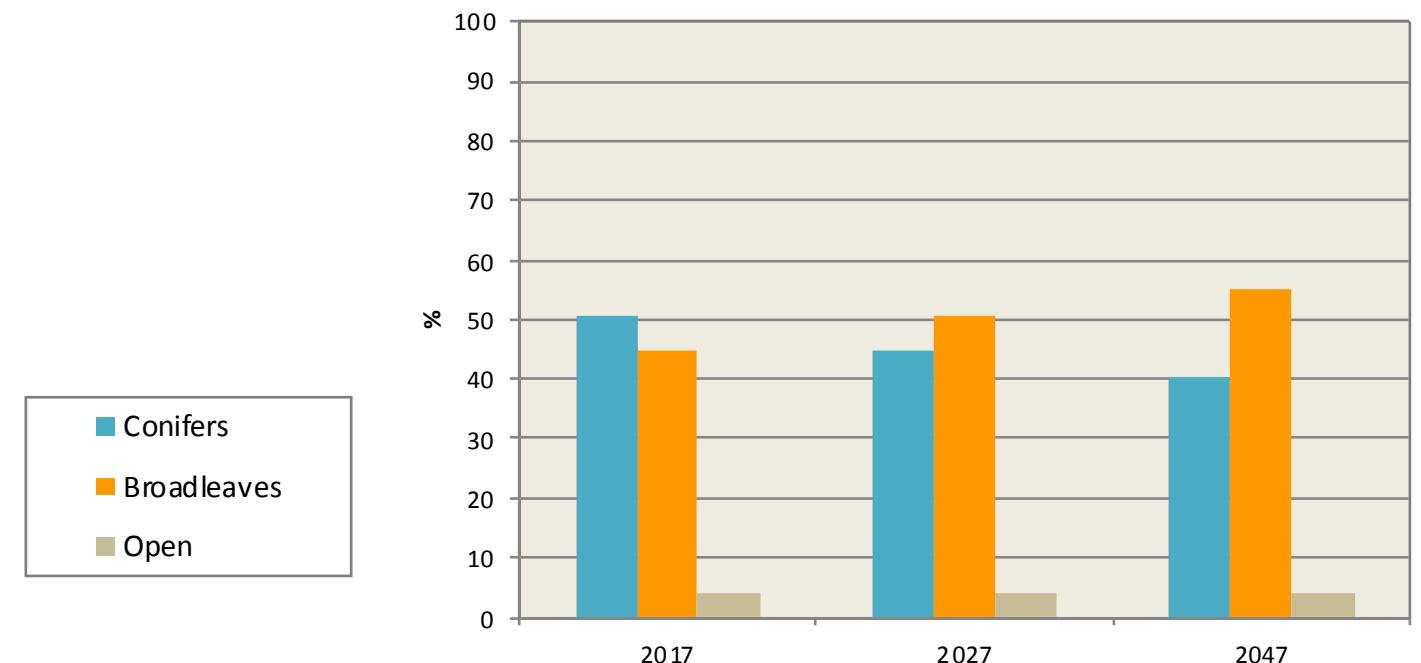
The Plan makes provision to ensure proposals are in keeping with the neighbouring intimately wooded landscape. Implementation and maintenance of an environmental corridor system will continue to increase diversity of habitat and internal landscaping.

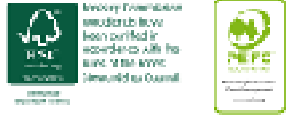
The planned areas of clearfelling, restocking and permanent open space creation during the ten years to 2028 are summarised in the chart below.

HECTARES	Conifers	Broadleaves	Open space
Clearfelling	15.6	3.5	-
Restocking/Regeneration	11.9	7.2	-

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 within the plan period and over time is indicated in the middle and right hand columns of the chart.





Location





The Mid Devon Forest Plan area lies across the heart of Devon between the towns of Crediton, Tiverton and close to the city of Exeter. The Plan area is made up of four small woodland blocks within the catchment of the Rivers Exe and Creedy.

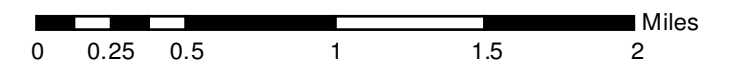
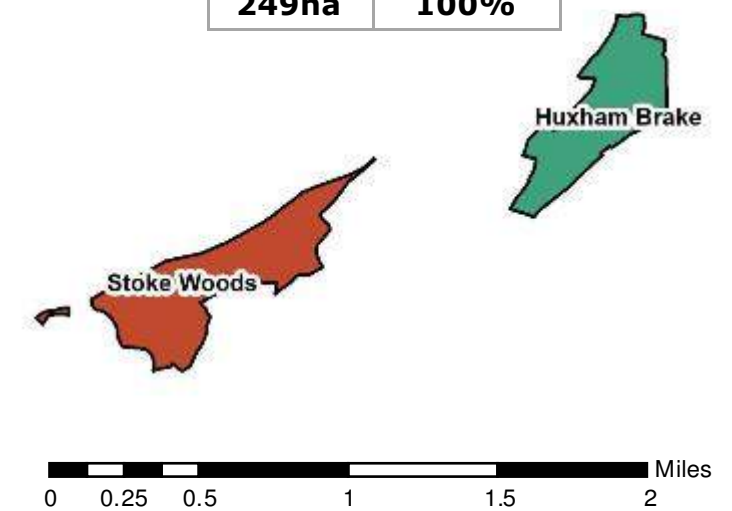
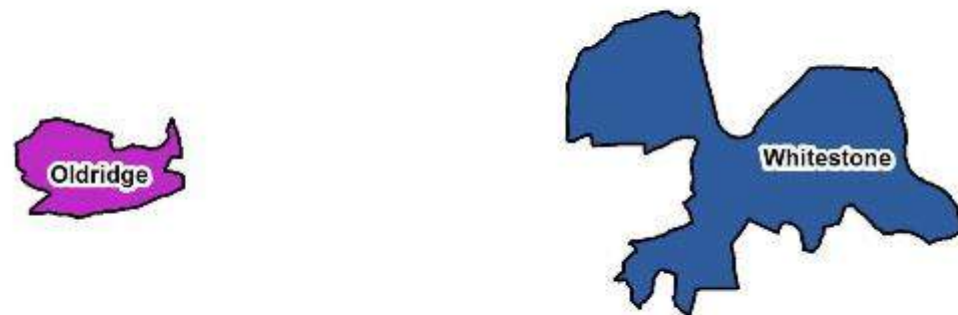
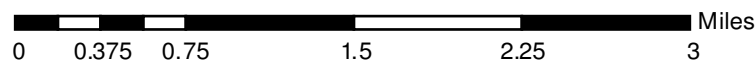
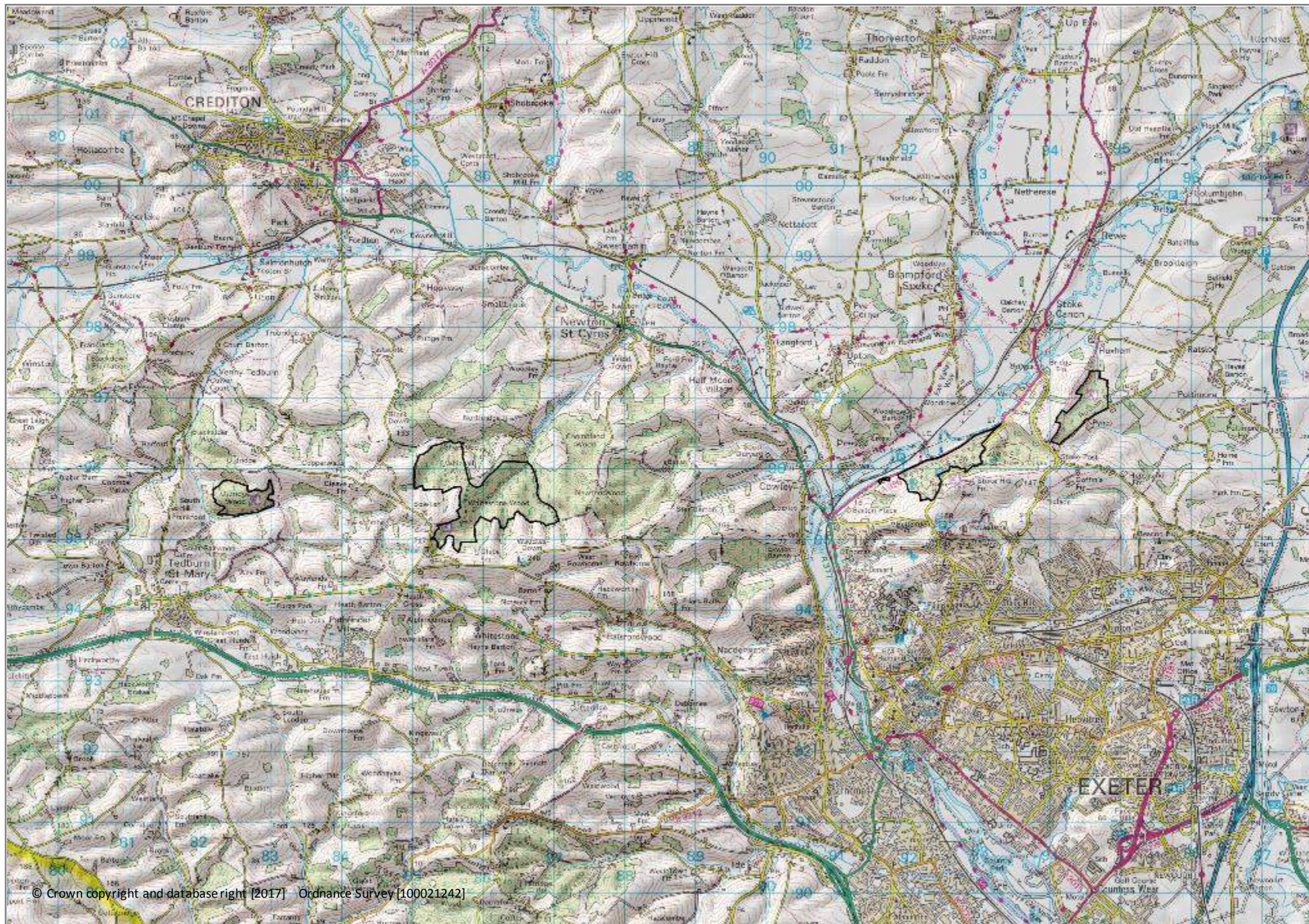
The Plan area sits within an intimate wooded valley landscape and provides both a visual feature and recreational attraction for the surrounding area. The woodlands' proximity to large settlements increase the social value of the Plan area.

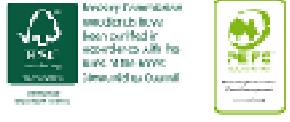
The majority of the land is at 50-150 metres above sea level and is undulating to steep in places. The climate is warm and fairly moist with an average annual rainfall of 800–1100mm, a soil moisture deficit of around 140mm, and an accumulated temperature over 5°C of 1800°C.

The soils are primarily medium to rich and fresh typical brown earths with underlay of shallow rock. Huxham is unique in that it is situated upon a very moist typical surface-water gley which has medium nutrient availability.

The four woodlands are outlined below.

Forest Name	Area	Plan Area
 Huxham Brake	30ha	12%
 Oldridge	34ha	14%
 Stoke Woods	45ha	18%
 Whitestone	140ha	56%
	249ha	100%





Tenure

Oldridge, Huxham and Stoke are all held under freehold—524ha. Having been acquired in the 1950 and 60s.

The vast majority of Whitestone (135 ha) is leased from Sherwood Estate on a long term agreement.

There are no formal agreements or permits (outside of lease agreements) currently in place anywhere within the Plan area.



Legend

- Freehold
- Leasehold



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 *extensive woodland areas of predominantly mixed broadleaves with occasional conifer blocks, often cloak the steep valley sides of the upper reaches*, this Vision looks to achieve an area which is a haven for wildlife, fun and commerce. A 'Key Opportunity' of the Landscape Character Area (Devon County Council, 2008) is to *protect the landscape's strong rural character and role as setting to Exeter; and to protect the area's historic features and settlement patterns. Woodland habitats and grassland habitats are managed and expanded with opportunities for green infrastructure links into Exeter being pursued*. 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 a buzzard, goshawk, tawny owl and all three species of woodpecker 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.

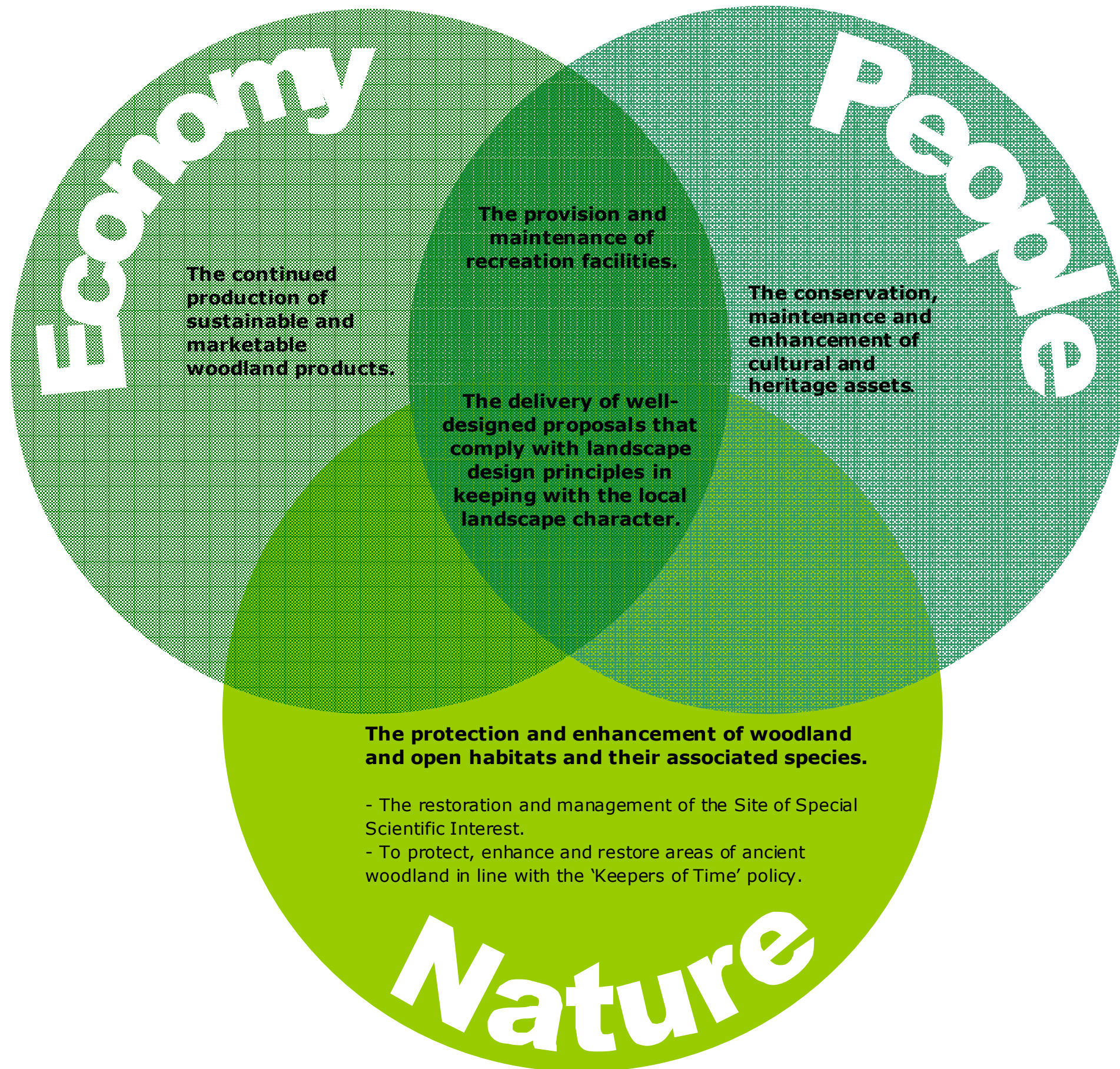
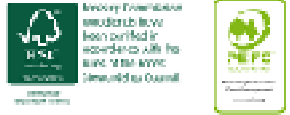
Broadleaf woodland will grow in size and improve in condition as restoration to native cover takes affect in certain areas. Managed more sensitively but still with productivity in mind through thinning or coppicing, these more secluded areas will become a haven for a multitude of micro habitats, species 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 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 populate these habitats. In addition to these, areas of conifer dominated forest managed through continuous cover forest techniques or clearfell/restock will become a home for numerous conifer and edge loving species such as nightjar, raptor and butterflies.

The considerable rides and roadside network 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 8 and 9 with the proposal and prescriptions following.





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.

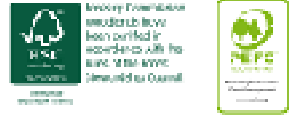


Forestry Commission woodlands have been certified in accordance with the rules of the Forest Stewardship Council.



Declaration by FC as an Operator.

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



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 Plan area will remain productive through thinning yield.
Some clearfell timber production of mature crops will occur, majority from the conifers.

Comparison of total production forecast yield 8,500m³ (2017-2021) and 11,500³ (2017- 2028) with actual production at the Forest Plan (FP) five and ten-year review.

The protection and enhancement of woodland and open habitats and their associated species.

- The restoration and management of the Site of Special Scientific Interest.
- To protect, enhance and restore areas of ancient woodland in line with the 'Keepers of Time' policy.

Appropriate reinstatement works will be carried out once operations have been concluded.
Protection and enhancement of water supplies and soil quality through sensitive implementation of operations and improved restocking practices.
Restoration of ancient woodland through a gradual thinning process
Management of SSSI's in line with specific management plans towards and maintained 'favourable condition'.
Raptor numbers will be maintained.

Operational site planning of harvesting and restocking operations will help monitor the effect of management.
Ongoing monitoring of soil and water quality pre and post harvesting with input from outside stakeholders.
Analysis of naturalness scores at Review stage
Through correspondence with Natural England at regular interval — SSSI condition is monitored by NE
Measured at Review stage through analysis of ongoing surveys and records.

The provision and maintenance of recreation facilities.

Visitor numbers will be maintained.
Road and ride corridor and car park aesthetics enhanced and maintained.
Felling together with a delayed restock program will continue to diversify stand and age structure.
Viewpoints enhanced and maintained at time of intervention, where possible.

Visitor feedback comments, to be included in Review where appropriate.

The delivery of 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

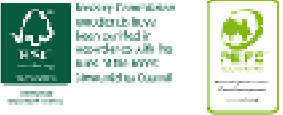
Fixed point photography analysis at Forest Plan review stage

The conservation, maintenance and enhancement of cultural and heritage assets .

Protect and enhance unscheduled sites at the time of intervention.

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

Landscape Character



148 Devon Redlands National Character Assessment Profile

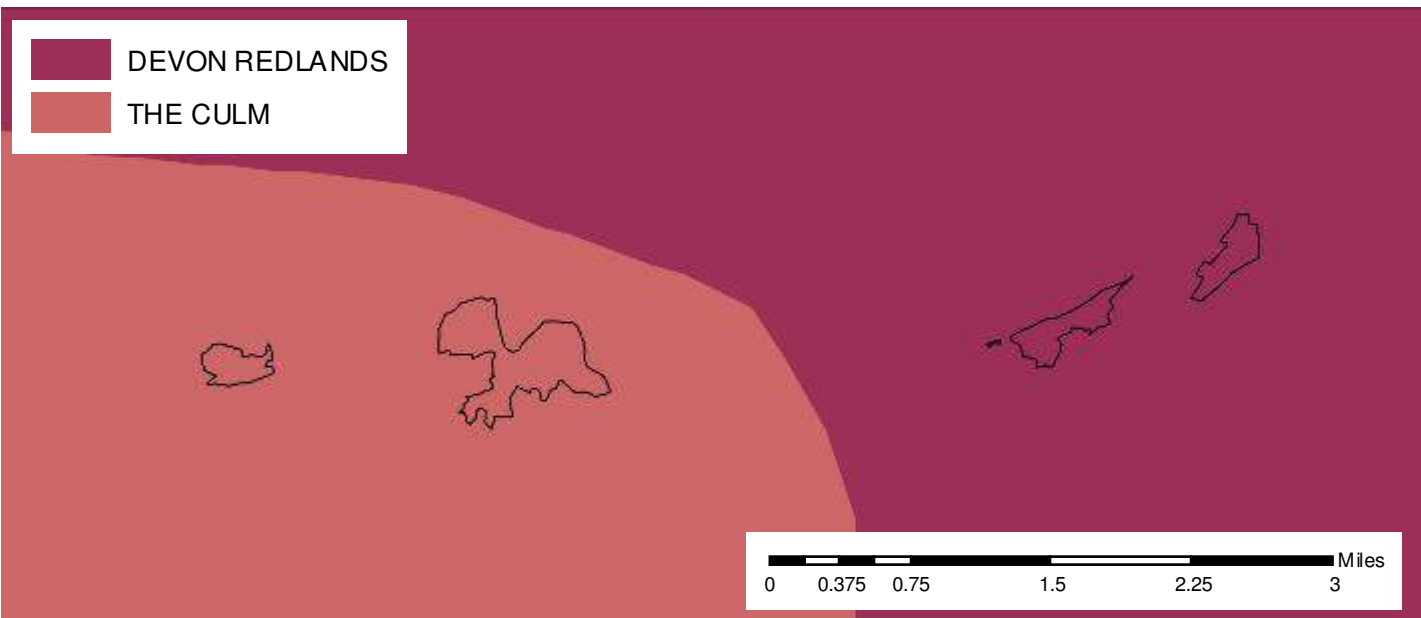
The Devon Redlands National Character Area (NCA) has a very strong, unified character and include Stoke Woods and Huxham Brake. The underlying red sandstone and consequent red soil dominate the landscape through ploughed fields, cliffs and exposures, and are visually evident in the traditional stone and cob farmsteads, hamlets and villages that are scattered across the area. Extensive woodland areas of predominantly mixed broadleaves with occasional conifer blocks, often cloak the steep valley sides of the upper reaches. Scattered copse, farm woodlands and remnant traditional orchards are found across the landscape. A significant block of coniferous plantation dominates the ridge of the Haldon Hills. Hedgerow trees add further to the sylvan character.

Plan the future management of the commercial areas of woodland, particularly the visual impact of felling and balance the need for replanting against the regeneration of semi-natural habitats and mass recreation. Increase sequestration of CO2 through increased woodland area, and encouraging sustainable management of woodlands; the management and restoration of heathland and associated mire habitats and the expansion of wetland habitats in the river valleys. Avoid clear felling areas of woodland on steep slopes, and encourage new woodland planting to impede overland flows. Provide wide grass buffer strips and reed beds adjacent to river banks to act as silt traps, preventing livestock access to the water's edge. Plant areas of wet woodland and expand/interlink existing valley woodlands to further minimise soil erosion. Restructuring existing conifer plantations as they reach maturity, to allow for reversion to lowland heath and associated mire habitats, and enhancement of the setting of historic assets, while maintaining the wildlife interest and balancing recreational demand

149 The Culm National Character Assessment Profile

Source: Natural England (2012)

The rolling ridges and plateaux of the Culm extend across north-west Devon and north-east Cornwall, reaching from the foot of Dartmoor in the southwest and the edge of the Comish Killas in the west, to the spectacular Atlantic coast of cliffs and sandy beaches in the north. North-eastwards they meet the Exmoor landscape and stand high above the Devon Redlands. The open, often treeless, ridges are separated by an intricate pattern of small valleys forming the catchments of the Rivers Taw, Torridge and Mole. This is largely a remote and sparsely populated landscape. The area is defined by rolling, open plateaux – in places steeply undulating – with many small but deep valleys, fast-flowing rivers and streams that drain the area (principally to the west and south), and wide views across a remote landscape. The main areas of deciduous woodland are found on the steep valley sides. They are dominated by oak, birch and rowan, often lichen-covered and with lush ground cover resulting from the sheltered, humid conditions and clean air. Heavy, poorly-drained soil is found across the area, which supports a pastoral landscape of low agricultural quality but high nature conservation interest. The relatively high proportion of woodland in this area (13%) is not reflected in the availability of timber. Much of the woodland is located in the very difficult to access coastal combs and steep-sided valleys of the Taw and Torridge; however, plantations at the centre of the area have the capacity to produce both hard and soft wood in significant volumes.



CHARACTER DESCRIPTION

Exeter Slopes and Hills

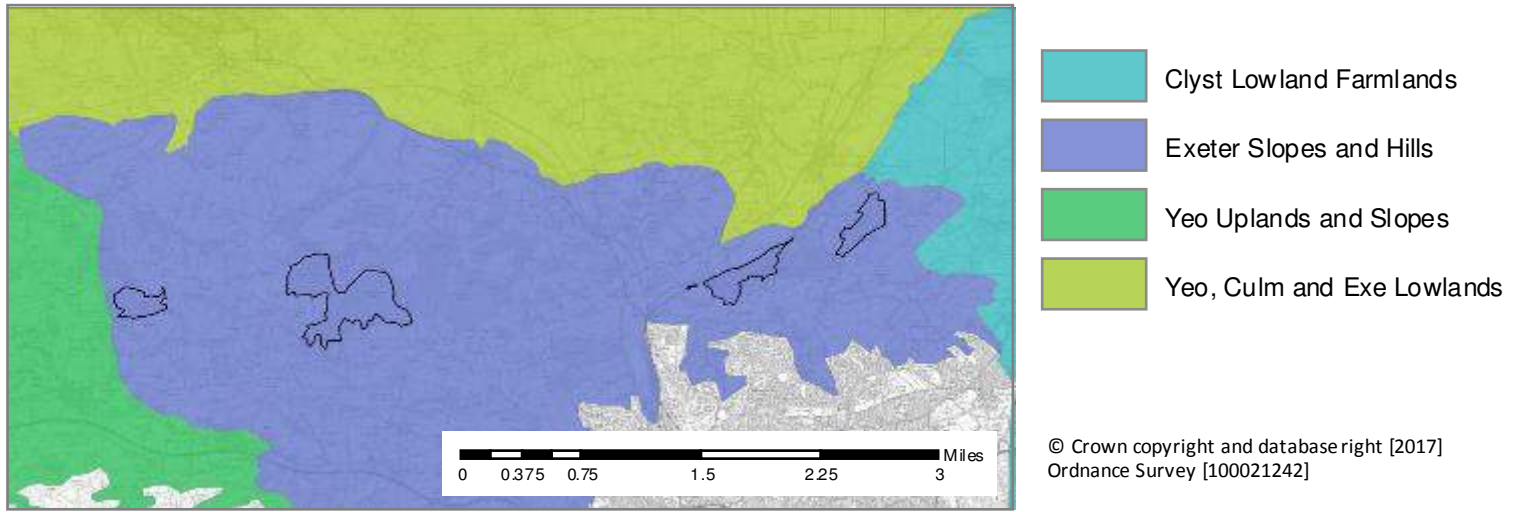
Source: Devon County Council (2008)

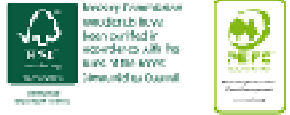


This landscape feels elevated above surrounding areas, offering views across Exeter city and the Exe estuary as well as to Crediton, Dartmoor and Haldon Ridge in the distance. Areas of steep slopes, particularly those that face northwards, are well wooded with plantation and ancient semi-natural woodland – Stoke Wood being particularly important for recreation. Within the narrow and tightly enclosed valleys the character is more intimate. Distinctive views, strong topography, notable woodland and proximity to Exeter contribute to a strong sense of place. Despite the proximity to Exeter this landscape has a strongly rural character with increasing tranquillity and sense of remoteness in the small intimate valleys as well as further west away from the urban fringe and A30 corridor.

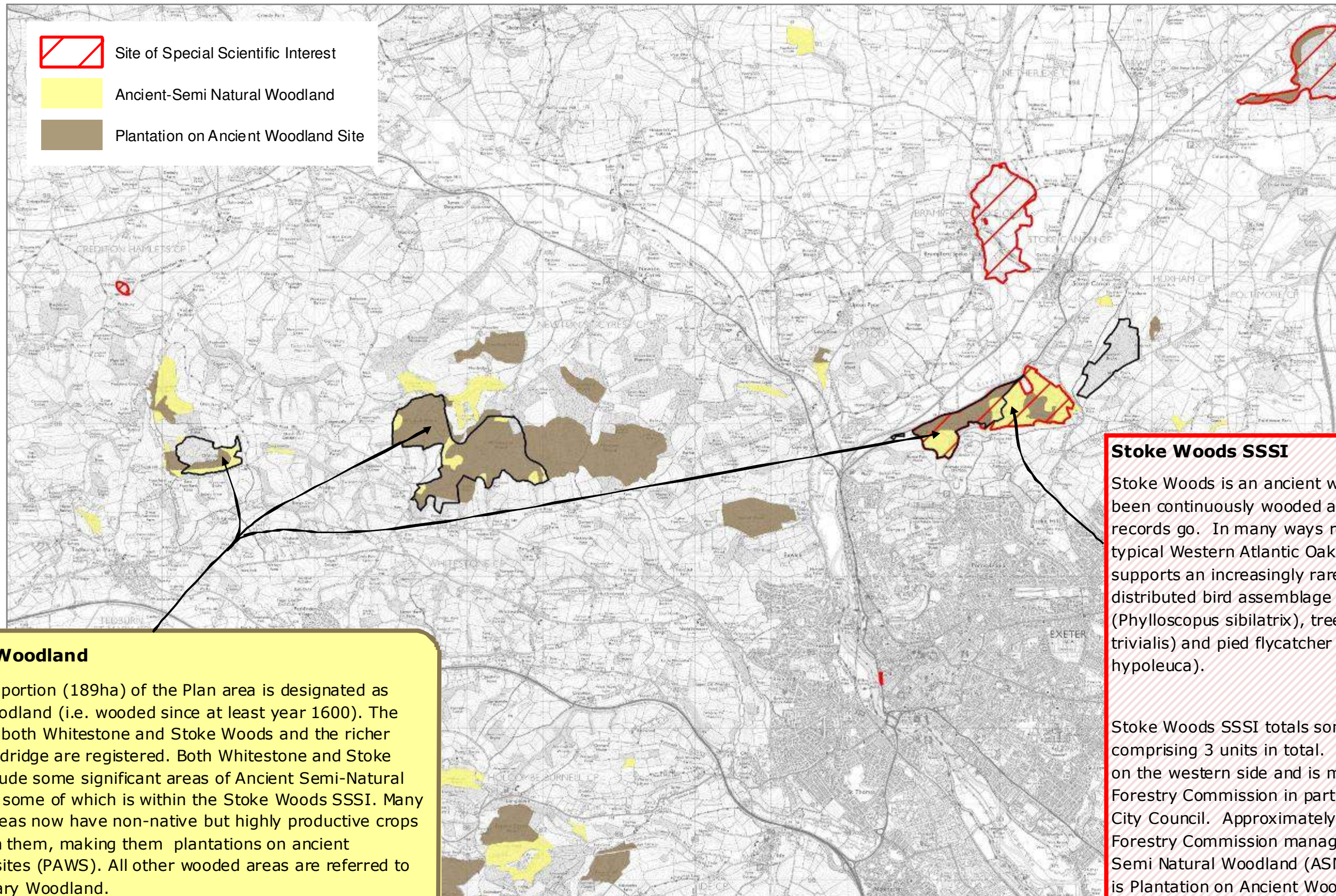
Strategy To protect the landscape's strong rural character and role as setting to Exeter; and to protect the area's historic features and settlement patterns. Woodland habitats and grassland habitats are managed and expanded with opportunities for green infrastructure links into Exeter being pursued. Historic sites are protected, managed and where appropriate interpreted for recreation.

Protect	Manage	Plan
Protect important views to and from the hill tops surrounding the city of Exeter.	Manage and enhance the valleys' semi-natural woodlands through traditional techniques including coppicing and control access by livestock to promote natural regeneration. Explore opportunities for community utilisation of coppice residues as a low-carbon fuel source. Manage the area's existing plantations for sustainable timber production and wildlife interest, creating new green links to surrounding semi-natural habitats.	Plan to ensure the sensitive location of new development and particularly new urban extensions of Exeter, avoiding prominent open ridges and slopes. Plan for a network of green spaces and green infrastructure links to support the current and future population of Exeter whilst integrating new development into the landscape





Designations



Ancient Woodland

A large proportion (189ha) of the Plan area is designated as ancient woodland (i.e. wooded since at least year 1600). The entirety of both Whitestone and Stoke Woods and the richer areas of Oldridge are registered. Both Whitestone and Stoke Woods include some significant areas of Ancient Semi-Natural Woodland, some of which is within the Stoke Woods SSSI. Many of these areas now have non-native but highly productive crops growing on them, making them plantations on ancient woodland sites (PAWS). All other wooded areas are referred to as Secondary Woodland.

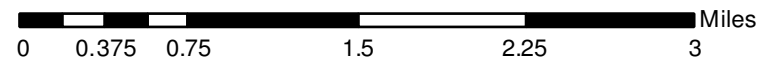
Specific management in light of this designation and the objective to restore to native cover is outlined on pages 17-18.

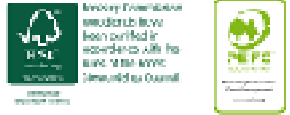
Stoke Woods SSSI

Stoke Woods is an ancient woodland site having been continuously wooded as far back as records go. In many ways representative of a typical Western Atlantic Oakwood, Stoke Woods supports an increasingly rare, westerly distributed bird assemblage of wood warbler (*Phylloscopus sibilatrix*), tree pipit (*Anthus trivialis*) and pied flycatcher (*Ficedula hypoleuca*).

Stoke Woods SSSI totals some 93 hectares, comprising 3 units in total. Unit 1 (46ha) lies on the western side and is managed by the Forestry Commission in partnership with Exeter City Council. Approximately 63% of the Forestry Commission managed area is Ancient Semi Natural Woodland (ASNW); the remainder is Plantation on Ancient Woodland Site (PAWS).

Specific management in light of this designation and the objective to maintain and enhance it's condition is outlined on pages 15-16 and in Appendix 5.

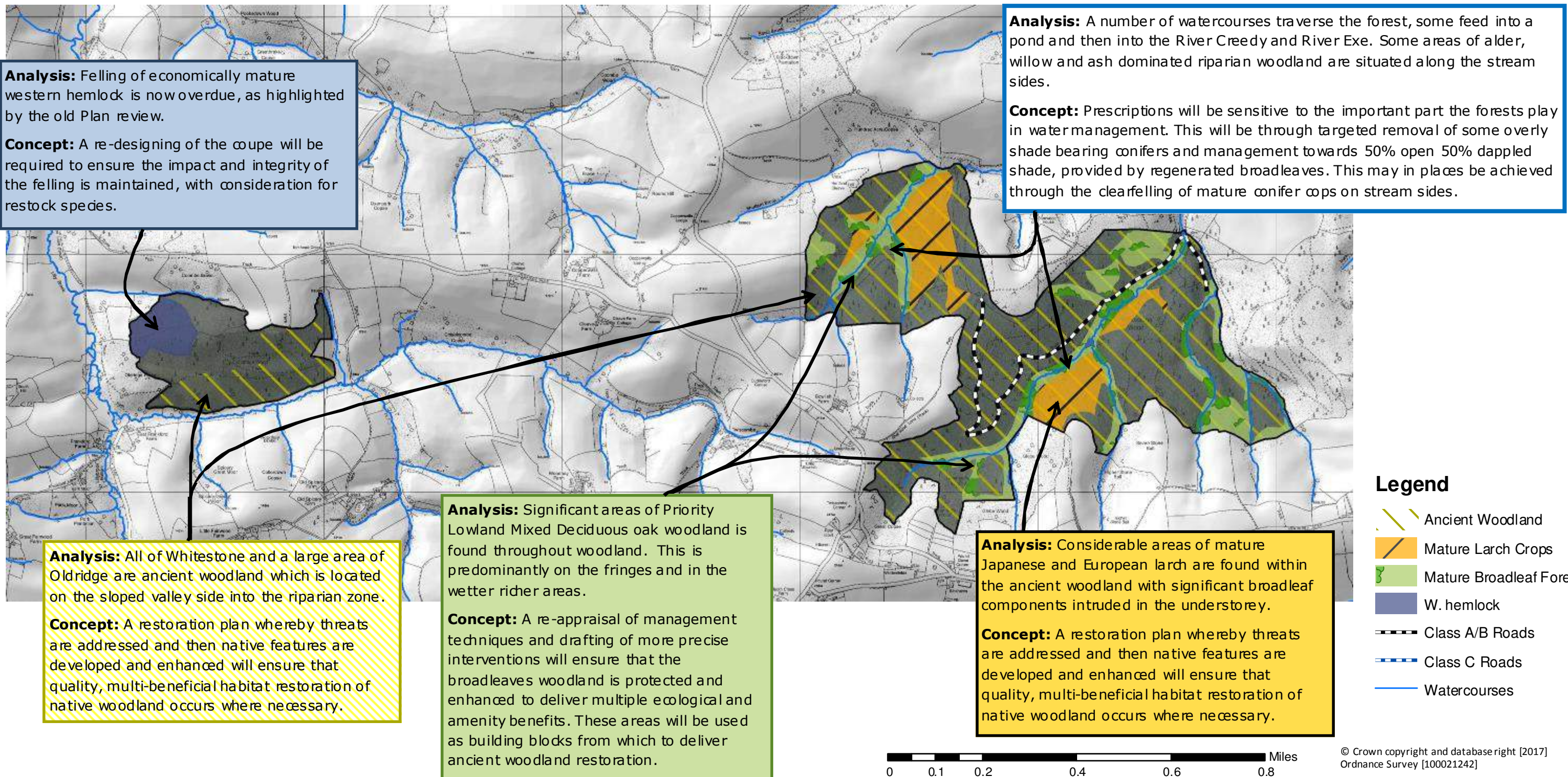




Whitestone & Oldridge

These secluded woodlands are upto 5 miles north of Exeter. Large areas of Whitestone are mature Douglas fir and larch on deep and rich soils which support a mixture of NVC type W10 and W8 along the riparian areas, with remnant fine stands of ash and oak particularly in the valley bottoms found throughout the woodland. The main objective within the majority of this woodland is to enable ancient woodland restoration to native species cover and the associated ecosystem functioning in an economically efficient way; that is through the gradual removal of non-native trees in favour of native species.

Oldridge is slightly different in character with soils slightly poorer and wetter but with areas still registered as ancient woodland. Douglas fir remains the key component and the main objective within the ancient woodland areas is restoration to native species cover and the associated ecosystem functioning in an economically efficient way; that is through the tackling of immediate threats and then gradual removal of non-native trees in favour of native species. In areas not designated, the objective will be to maintain economic output in sympathy with the surrounding ancient woodland. This will be the continued production and diversification of timber species, whilst maintaining a woodland valued for biodiversity, recreation and amenity.



Analysis & Concept



These relatively small but busy woodland are situated within 1 mile of the outskirts of Exeter on medium slopes with soils which are relatively rich and well-drained brown earths. Whilst Huxham Brake is secondary woodland, Stoke Woods is registered ancient woodland which is designated as SSSI. Stoke Woods SSSI is designated woodland with associated breeding bird assemblage (buzzards, tawny owl, wood warbler and woodpeckers) and maintaining diverse age structure an important part of the woodland's value. The woodlands are defined by the large regenerating conifers, such as Douglas fir most of which are in diverse mixtures with significant areas of remnant broadleaves and regenerating broadleaf scrub. The main objective within the ancient woodland areas is restoration to native species cover and the associated ecosystem functioning in an economically efficient way; that is through the tackling of immediate threats and then gradual removal of non-native trees in favour of native species. In other areas the continued production and diversification of timber species will be pursued whilst maintaining a woodland valued for biodiversity, recreation and amenity.

Analysis: The entirety of Stoke Woods falls within and is a major component of the wider Stoke Woods SSSI. This designation also includes adjacent broadleaf dominated woodland to the east.

Concept: The SSSI Management Plan has been agreed until 2024. This Forest Plan will incorporate and integrate all elements of the SSSI Plan to deliver one document which covers all aspects of management and enhancement of this designated habitat.

Analysis: The River Exe passes close to the woodlands, with both sitting of the escarpment of the Exe Valley.

Concept: Proposals will account for the role the woodlands play in the management and regulation of water storage and flow.

Analysis: The A396 Exeter to Tiverton Road passes directly north of Stoke Woods with many stands adjacent to the roadside.

Concept: Proposals will ensure that the principles of road side corridors are met and that mature crops do not jeopardise the public road.

Analysis: Shade-casting and prolifically regenerating western hemlock has been all but removed from Stoke Woods, with the exception of this small area.

Concept: A restoration plan whereby threats are addressed and then native features are developed and enhanced will ensure that quality, multi-beneficial habitat restoration of native woodland occurs where necessary.

Analysis: A significantly wet area is found to the north of Huxham Brake. Much of this has been planted with poplar in the late 1960s.

Concept: These areas of poplar will be targeted for removal to allow for native components to regenerate and constitute the riparian zone. This will deliver wet woodland of greater ecological value.

Analysis: Significant areas of Huxham Brake are Douglas fir on secondary woodland managed through Continuous Cover Forestry, i.e. limited clearfelling.

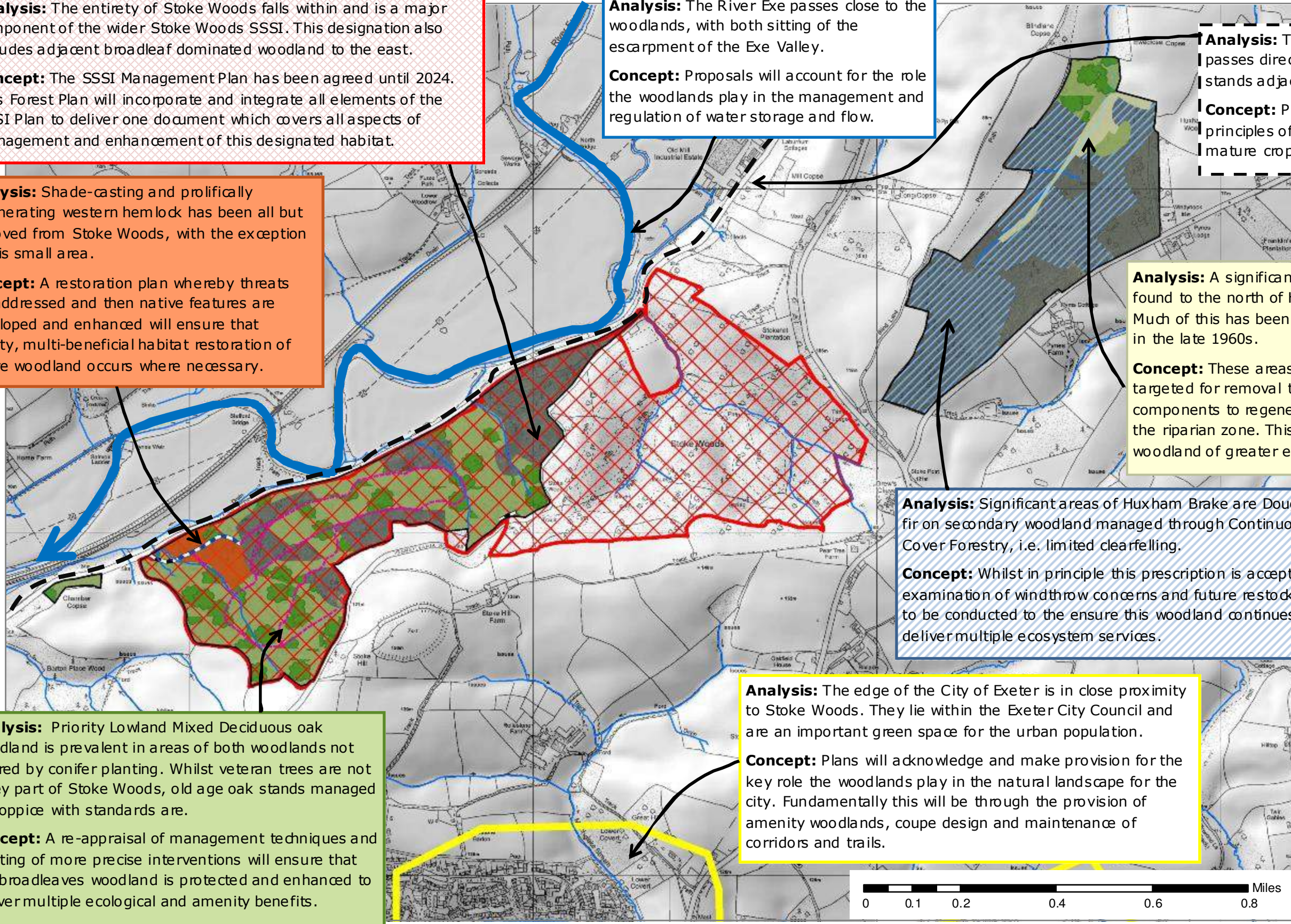
Concept: Whilst in principle this prescription is acceptable, examination of windthrow concerns and future restock need to be conducted to ensure this woodland continues to deliver multiple ecosystem services.

Analysis: Priority Lowland Mixed Deciduous oak woodland is prevalent in areas of both woodlands not altered by conifer planting. Whilst veteran trees are not a key part of Stoke Woods, old age oak stands managed as coppice with standards are.

Concept: A re-appraisal of management techniques and drafting of more precise interventions will ensure that the broadleaves woodland is protected and enhanced to deliver multiple ecological and amenity benefits.

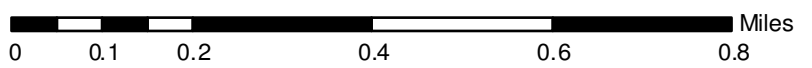
Analysis: The edge of the City of Exeter is in close proximity to Stoke Woods. They lie within the Exeter City Council and are an important green space for the urban population.

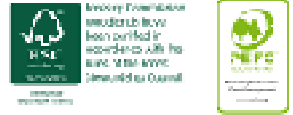
Concept: Plans will acknowledge and make provision for the key role the woodlands play in the natural landscape for the city. Fundamentally this will be through the provision of amenity woodlands, coupe design and maintenance of corridors and trails.



Legend

- Stoke Woods SSSI
- Mature Broadleaf Forest
- Exeter City
- Douglas fir CCF
- Poplar
- W. hemlock
- Recreation Trails
- Watercourses
- Class A/B Roads
- Class C Roads



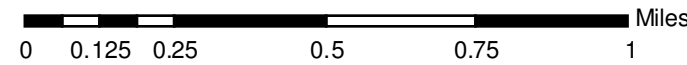


Woodland Composition

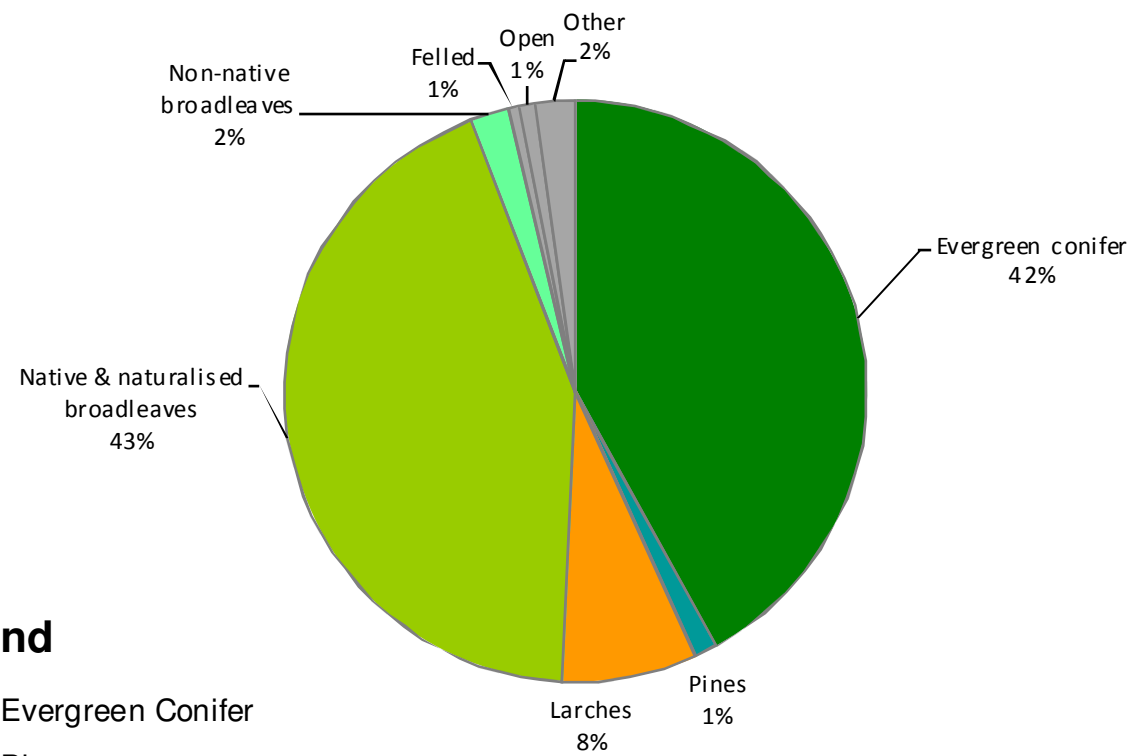
The Plan area is conifer dominated with some ancient semi-natural and native broadleaf remnants. The vast majority of conifer components are made up of quality Douglas fir (95ha) with Japanese larch, beech and western hemlock the major supplementary species. The broadleaf components are predominantly made up of ash, beech and sessile oak. Birch, alder and wild cherry are evident as pioneer species within discrete areas of the Plan area.

The age of conifer crops is well spread with considerable levels of planting having occurred in the 1960s, 70s and 80s. Broadleaf crops also vary in age with significant planting and regeneration establishment occurring in the early 1900s. The thinning of conifer crops has ensured that understorey development is beginning to establish, which in time will deliver a more structurally diverse woodland composition.

The broadleaf components of the Plan area comprise a mixture of ancient semi-natural oak, ash and beech assemblages and younger plantings and regeneration. The majority of stands are even aged with understorey development evident but not always establishing as a secondary crop. Where broadleaf features within conifer crops these have been favoured and halo thinned where appropriate to assist crown development.



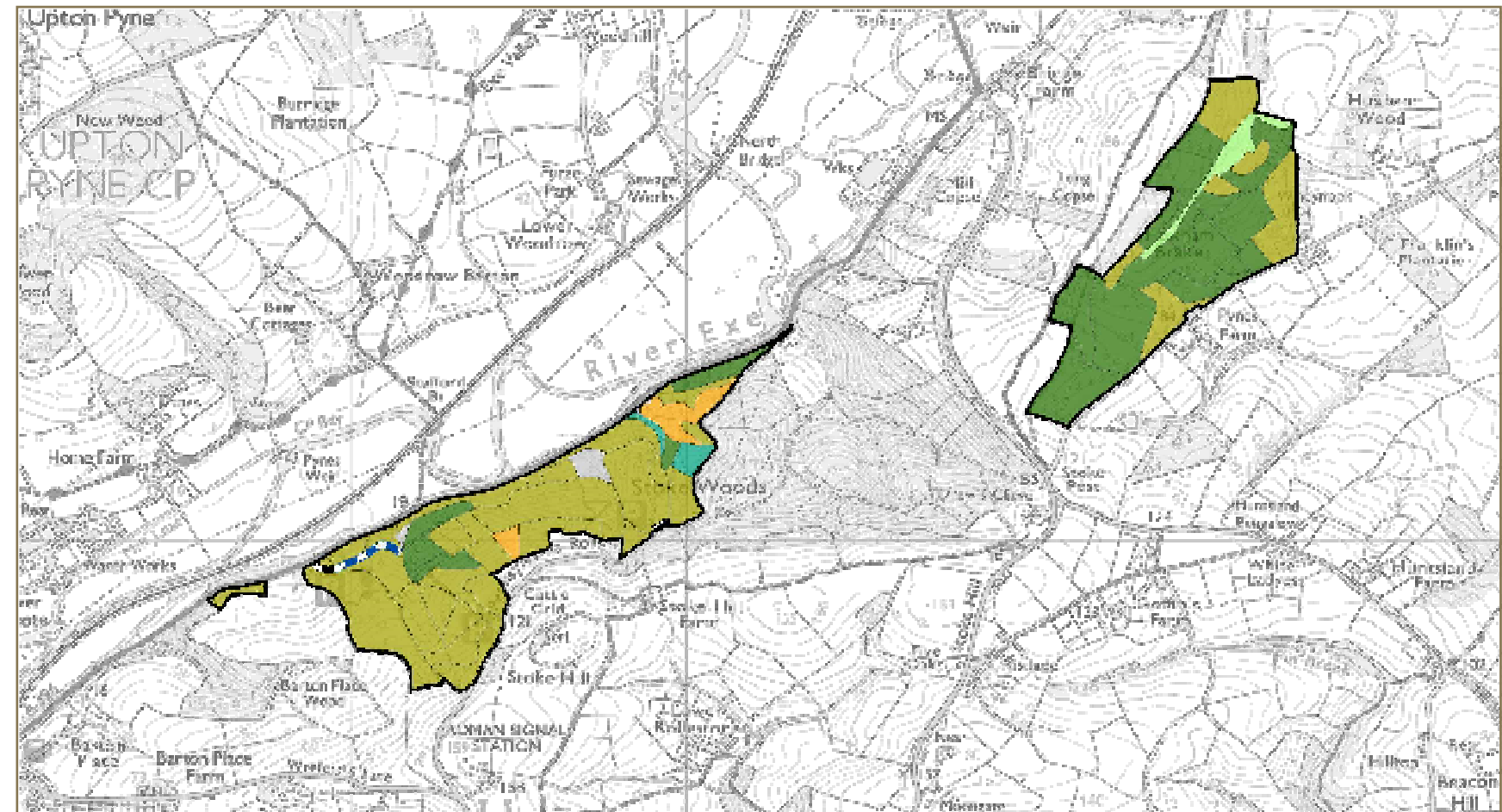
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Ordnance Survey [100021242]

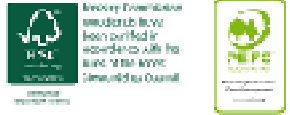


Legend

- 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'





Stoke Woods SSSI

Biological Information

Situated in an area of high rainfall and underlain by sandstones and mudstones, the soils at Stoke Woods comprise generally thin and well-drained grits and shales. The leaching effect of the rain and acidic soils has resulted in many parts of the wood being dominated by sessile oak (*Quercus petraea*) with an under-storey of downy birch (*Betula pubescens*), holly (*Ilex aquifolium*) and sporadic rowan (*Sorbus aucuparia*) and beech (*Fagus sylvatica*). The acid-loving ground layer consists of common ling (*Calluna vulgaris*), bilberry (*Vaccinium myrtillus*) and common cow-wheat (*Melampyrum pratense*) as well as extensive bryophytes reflecting the damp climate. In terms of National Vegetation Classification (NVC) much of Stoke Woods can be classified as NVC W17 or W11 Atlantic Oakwood, the variation between the two being determined by varying depths and acidity of the soils.

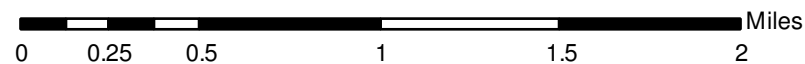
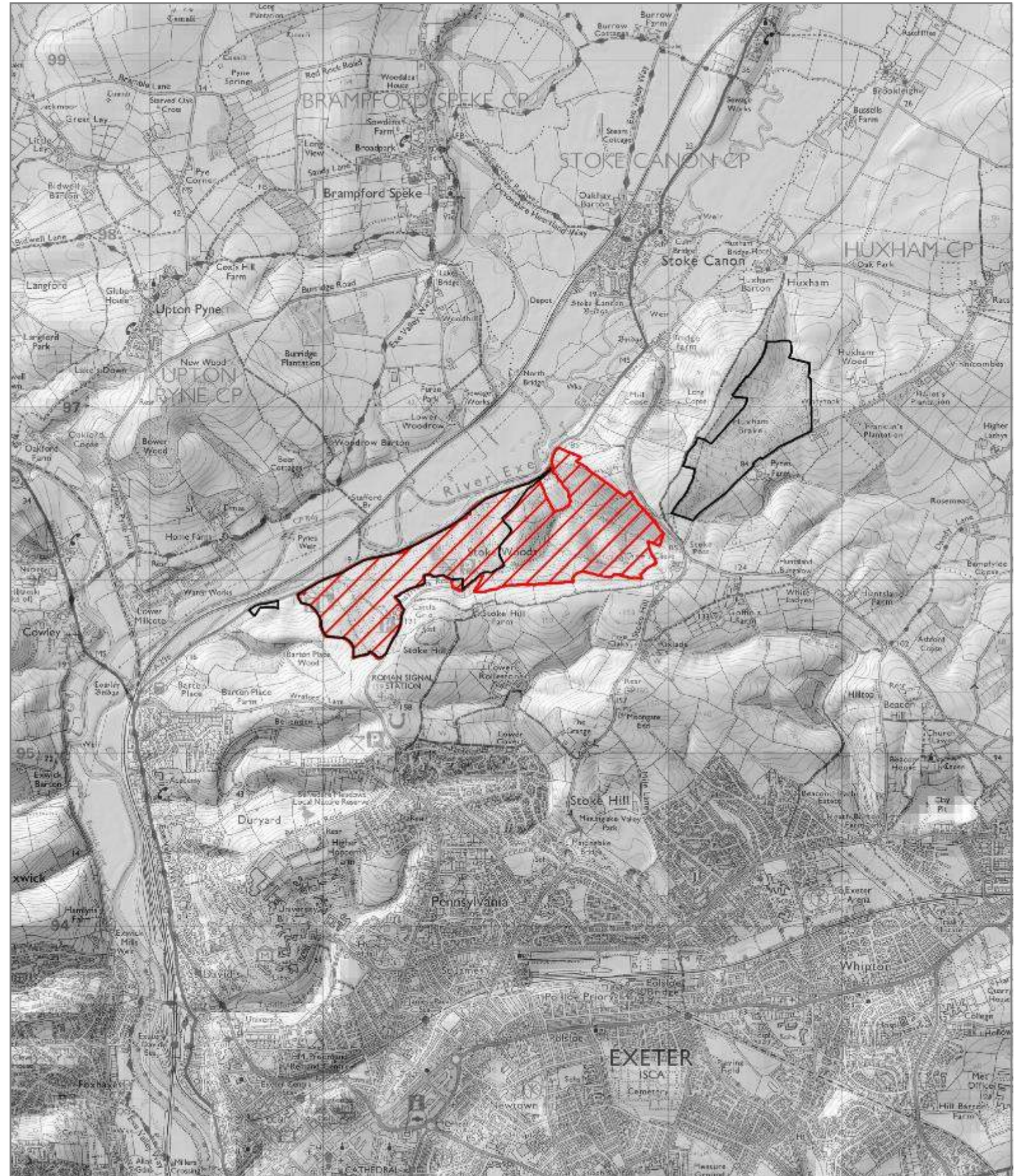
Bird species typical of Atlantic oakwoods such as wood warbler (*Phylloscopus sibilatrix*), pied flycatcher (*Ficedula hypoleuca*) and tree pipit (*Anthus trivialis*) inhabit in Stoke Woods. These species depend on a dense canopy and sparse under-storey and ground layer. Species of old growth oak, such as buzzard (*Buteo buteo*), tawny owl (*Strix aluco*) and all three species of woodpecker (*Picidae* spp.) are also present.

In addition to the typical western Atlantic Oakwood that dominates the west of the site, the east of the site is more characteristic of a southern lowland mixed deciduous woodland (NVC type W11 or W12) consisting of mixed high forest with a greater variety of tree species than would normally be expected in an Atlantic Western Oakwood including pedunculate oak (*Quercus robur*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), sweet chestnut (*Castanea sativa*) and beech (*Fagus sylvatica*) with a mixed under-storey of hazel (*Corylus avellana*), holly (*Ilex aquifolium*), wych elm (*Ulmus glabra*), hawthorn (*Crataegus monogyna*) and the occasional cherry (*Prunus avium*) and field maple (*Acer campestre*) and Wild service (*Sorbus torminalis*).

These differences are due in part to past management practices and in part to the pockets of more base-rich sands, clays and gravel deposits surrounding the streams.

The base rich areas also support a richer ground flora, more reminiscent of southern woodlands with a ground flora of dog's mercury (*Mercurialis perennis*), enchanter's nightshade (*Circaea lutetiana*), wood ruff (*Galium odoratum*) and ramsons (*Allium ursinum*). Alder (*Alnus glutinosa*) and willows (*salix* spp.) grow in the wetter valleys.

Parts of the wood were coniferised in the late 1960's with a variety of species including Western hemlock (*Tsuga heterophylla*), Douglas fir (*Pseudotsuga menziesii*), and Japanese larch (*Larix kaempferi*). Two thirds of Stoke Woods is classified as PAWS, including areas of plantation beech, and about 11 ha of that are under conifer plantation. Significant amounts of conifer were removed through restoration clearfells in 2006.





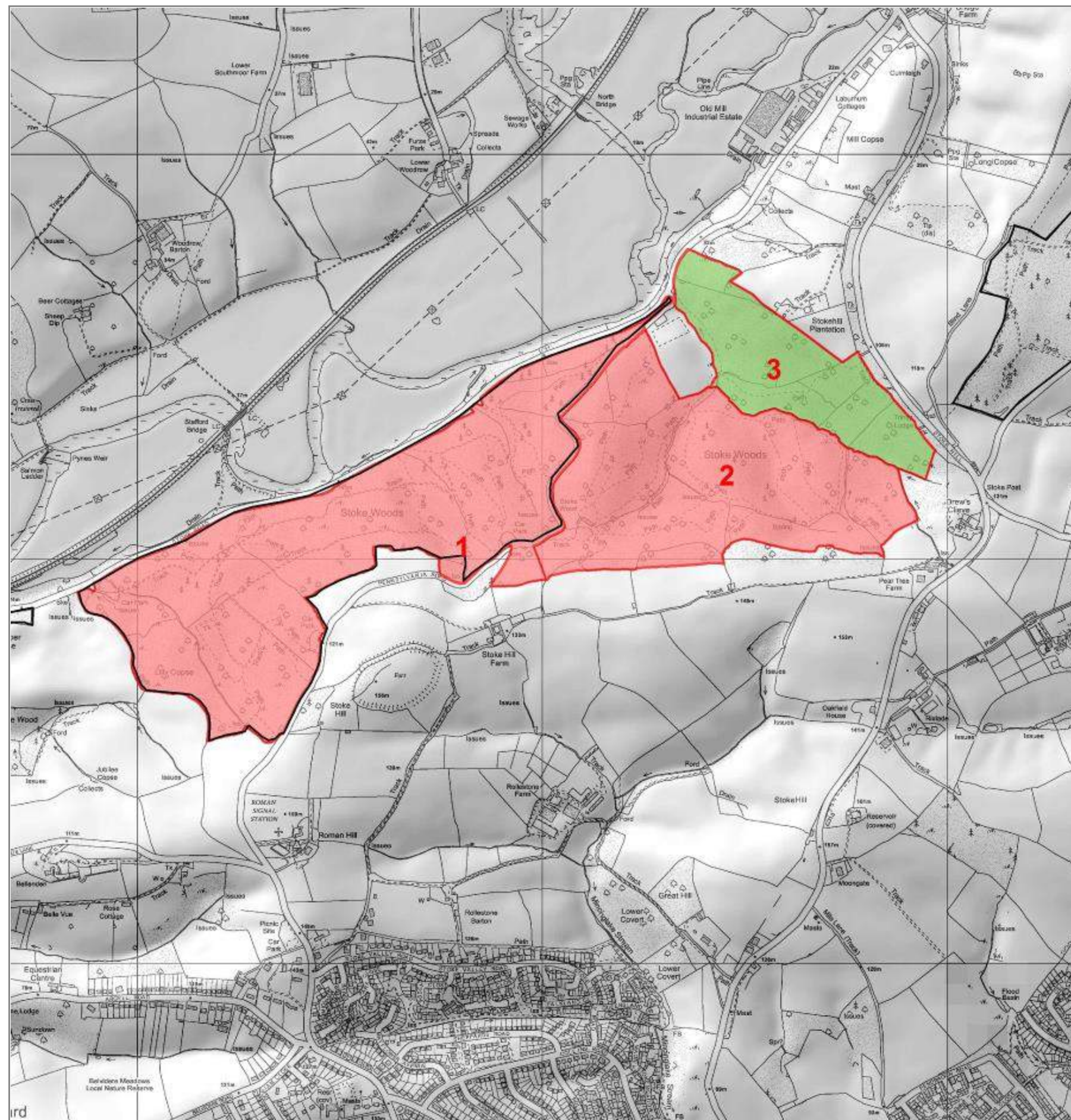
SSSI - Conservation Objectives and Management Aims

Conservation Objective

Maintain the ancient semi-natural woodland habitat and associated breeding bird assemblage in unfavourable recovering condition and carry out any necessary woodland management practices as required by Natural England to move the SSSI into favourable condition. The condition status of the SSSI is monitored by Natural England at regular intervals conforming to the reporting cycle for SSSI.

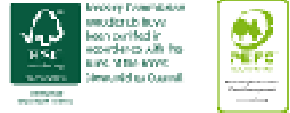
Management Aims

1. Maintain, enhance and gradually expand the extent and condition of the ancient semi natural broadleaf woodland
2. Ensure suitable conditions are provided for the important breeding bird assemblage for which the site is designated SSSI
3. Ensure the woodland continues to provide a diverse suite of habitat types for a range of species and to mitigate against a changing climate
4. Manage PAWS sites to ensure they are diverse and gradually reverted to broadleaf
5. Ensure open space including rides, glades and streams is carefully managed and provides suitable conditions for a range of woodland edge species dependent on more, open sunny conditions



Legend

- FAVOURABLE
- UNFAVOURABLE RECOVERING



Naturalness on Ancient Woodland

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



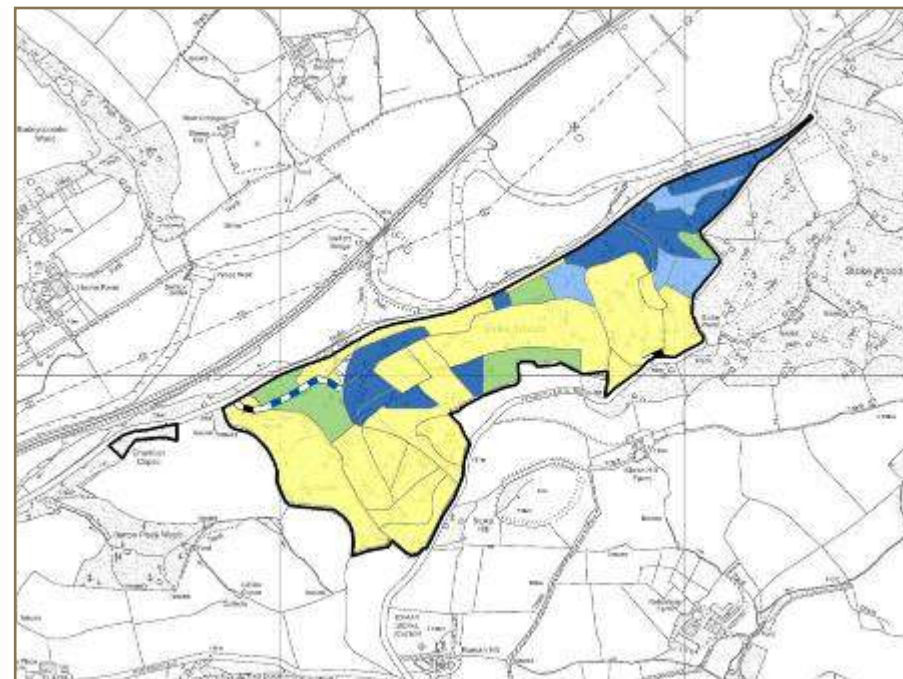
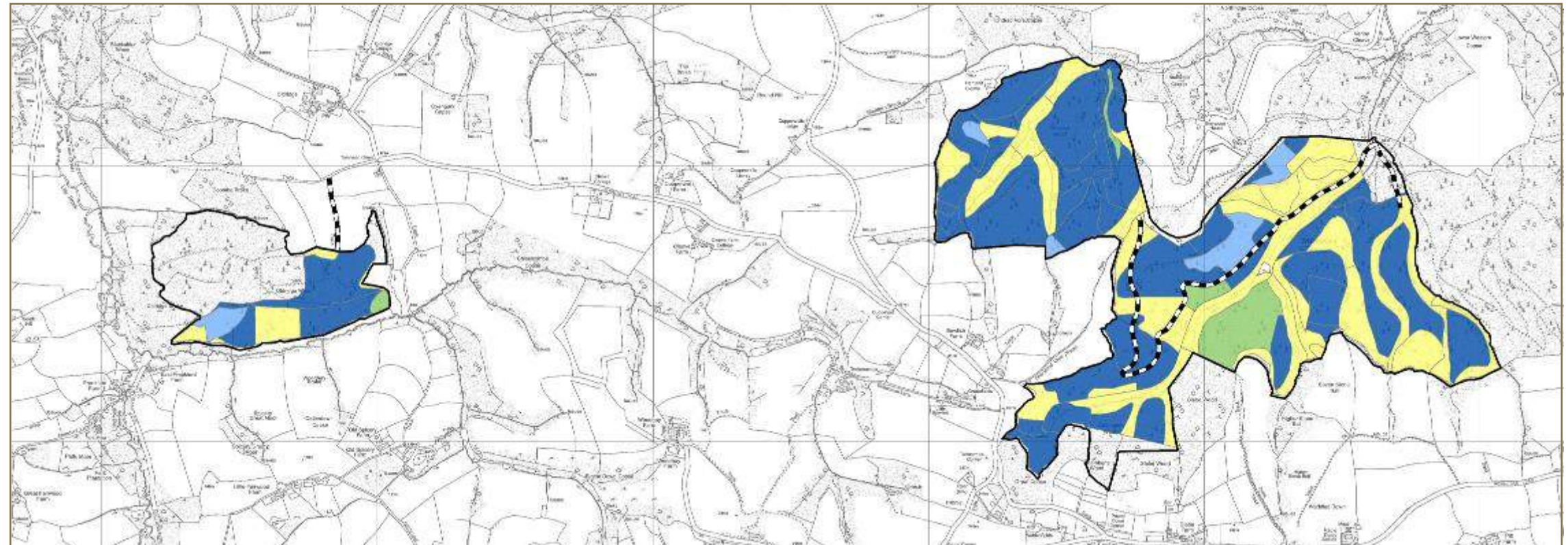
Class 3 – Plantation Woodland
(20 - 50% site native species)



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



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



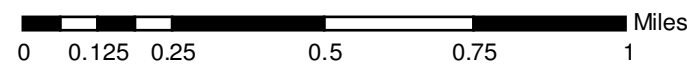
Naturalness is the measure to show the percentage of site native tree species in a given area. This measure is used to record and monitor the condition and restoration of Ancient Woodland Sites previously planted with non-native species. For this reason secondary woodland sites (i.e. Huxham Brake) have been omitted from this chapter.

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.

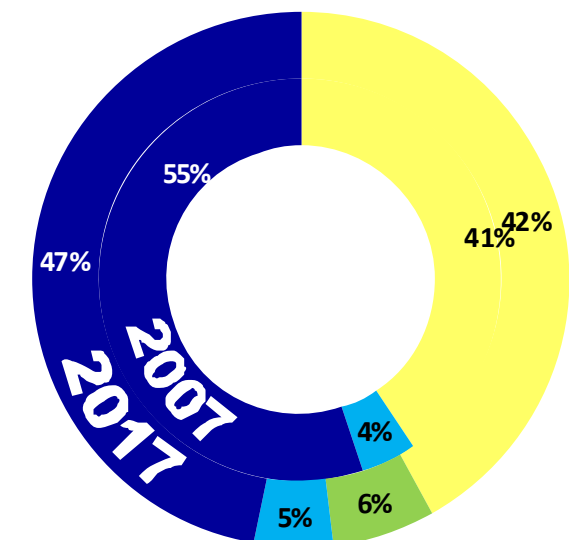
The transformation of Classes 2, 3 and 4 AWS towards Class 1 is a key objective of this Plan and is in line with the Forestry Commission England, *Keepers of Time Policy* (Forestry Commission, 2005).

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

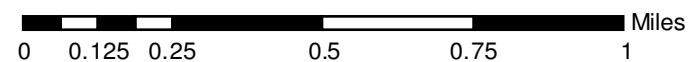


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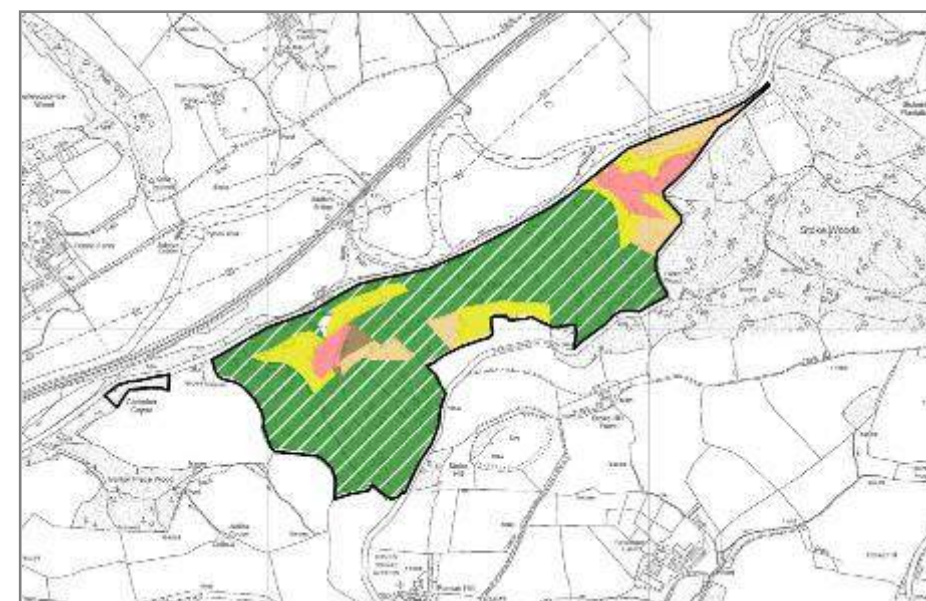
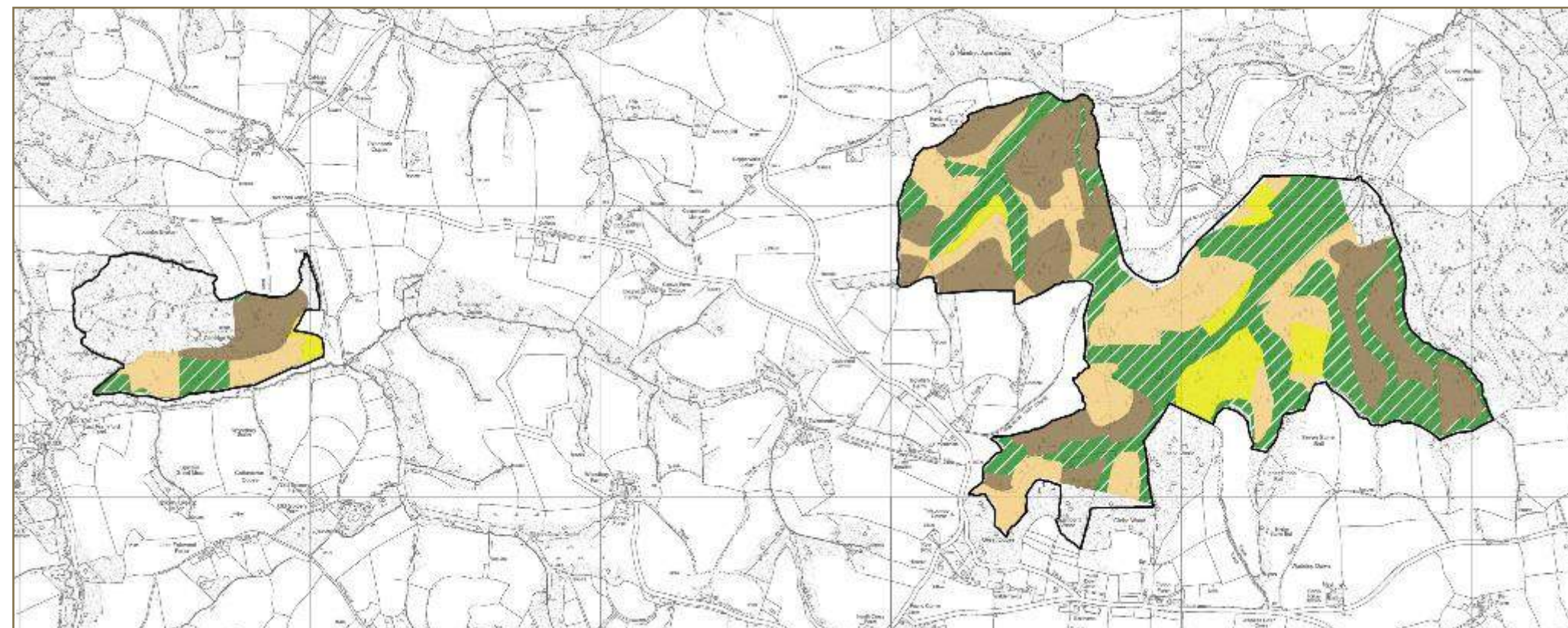









PAWS Management



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Legend

-  Building Block (native seed source)
-  Transition Zone
-  Preparation Zone
-  Non-native Zone
-  Clearfell

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Transition Zone

The indicative proportion of native tree species is 50% or more of the crop. Removal of remaining conifer will be achieved through repeated thinning operations.

The establishment period to predominantly native woodland within this category is anticipated to be 20 – 30 years but is dependant on successful regeneration and establishment although maybe sooner depending on the level of conifer needing to be removed. Scattered individual conifers or small groups may remain.

Preparation Zone

Areas within this category contain less than 50% of native tree species but have a proportion greater than 20% of the crop and the area neighbours an area of significant native species cover which can be utilised as a seed source. Enhancement of native content will continue through thinning of the conifer content.

These areas will be thinned heavily to release ancient woodland remnants and features and to encourage natural regeneration and intrusion in to the non-native crop.

The anticipated time scale for establishment of predominantly native species is expected be around 50 – 60 years or so, but could be as long as 70 - 80 depending on success of establishing the future crop.

Non-native Zone

The proportion of native tree species within a management area is less than 20% of the crop.

Thinning in both these sub-categories should encourage crown development of broadleaf components. Progress will be monitored and crops moved into the Preparation zone depending on development of stand structure and the response of natural regeneration.

Clearfell Zone

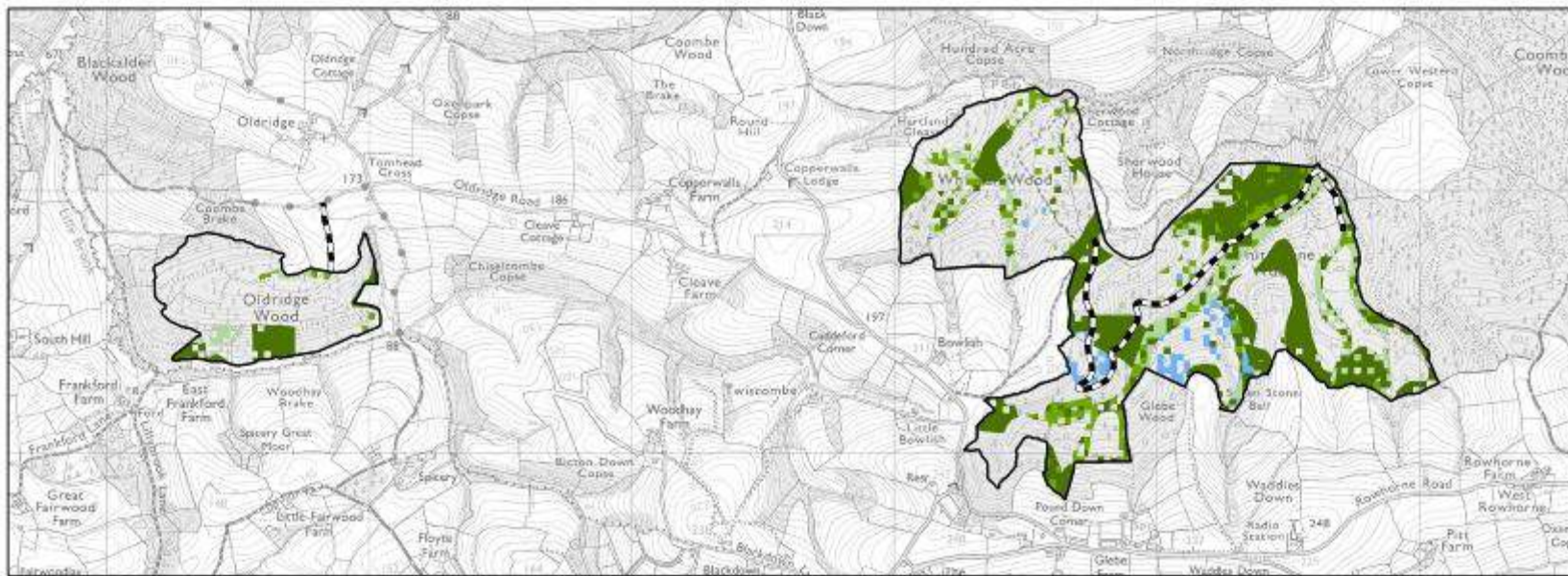
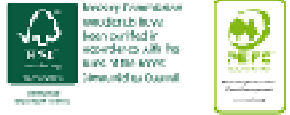
Two clearfells will be used to convert PAWS in 15-20 years time. This is felling of Western hemlock and is required to ensure the integrity of the coupe which is predominantly secondary woodland. This will be restocked with site suitable native species

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 throughout.
- 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. In practice this may involve either underplanting or group felling and planting within existing mid rotation broadleaf crops.
- restoration of beech and sweet chestnut stands will not be prioritised as these species are to be naturalised and offer greater broadleaf diversity and therefore resilience.
- If adequate regeneration is not evident in the 'Transition' and 'Preparation' zones after 10 years a reappraisal of the prescription will be needed.



Legend

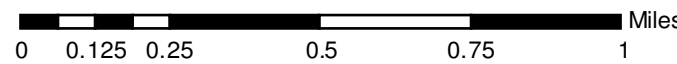
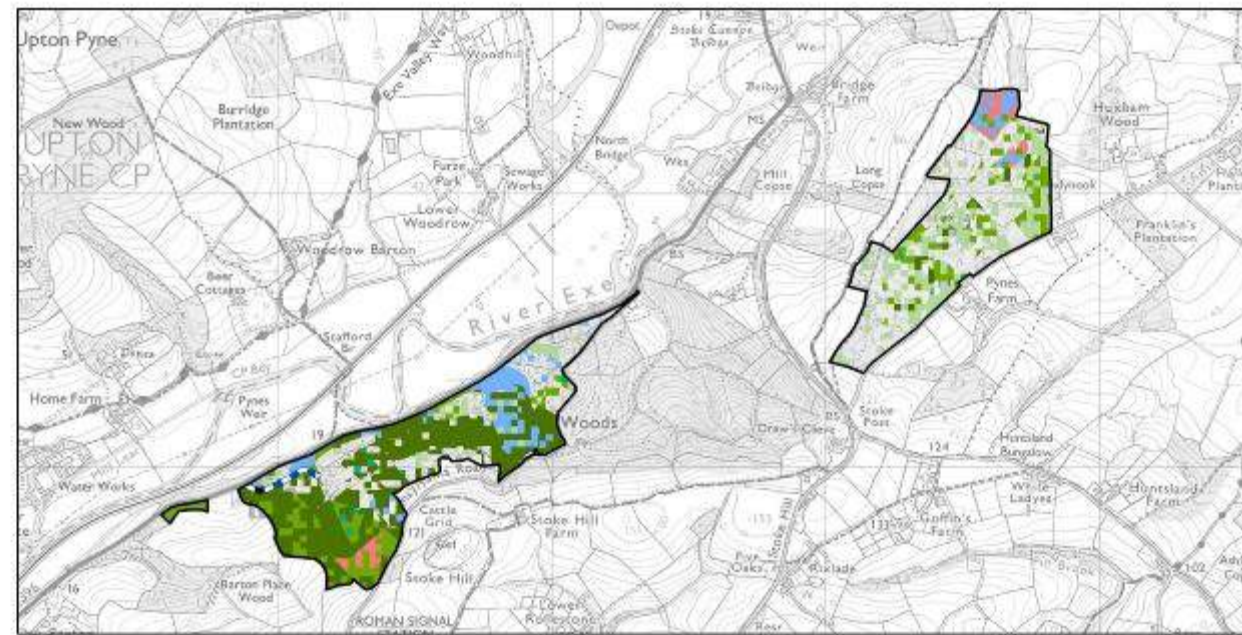
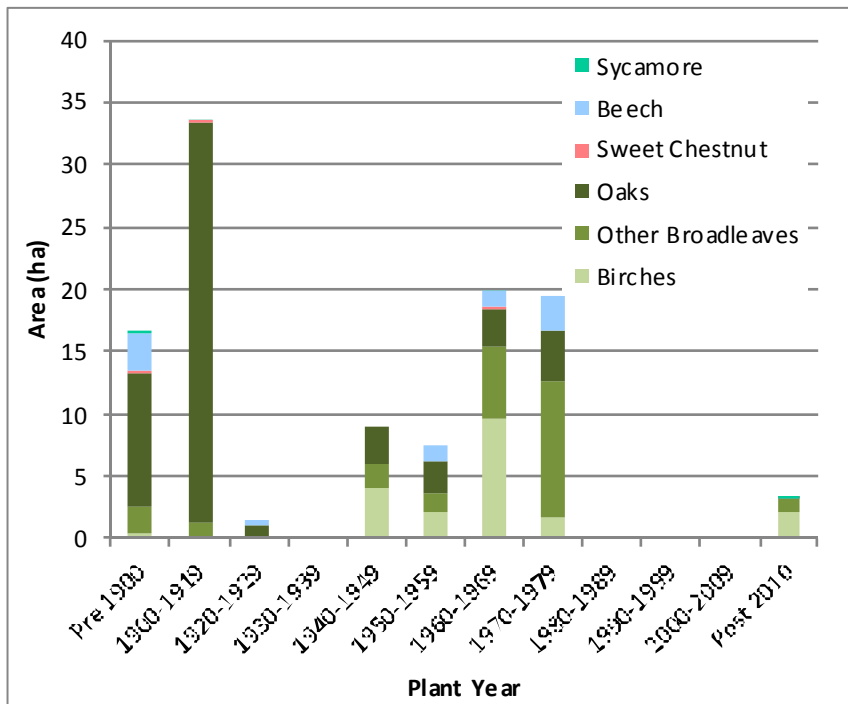
- Birches
- Other Broadleaves
- Oaks
- Sweet Chestnut
- Beech
- Sycamore

Broadleaf Management

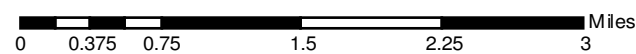
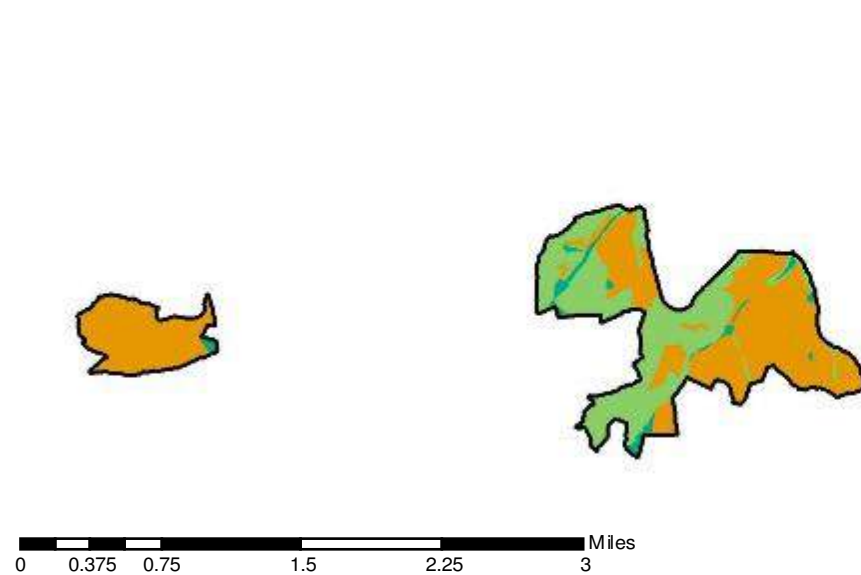
The majority of the Plan area consists of National Vegetation Classification (NVC) types W10 and W16 oak woodlands with some W8 ash and W17 and W14 oak woodlands along lower slopes and valley bottoms. These classifications give a good indication of the target future species for PAWS restoration and if 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. Small coppice coupes of less than 0.25ha, or >150m² within SSSI, may be used to inject diversity into the broadleaf woodland. Underplanting with species such as lime and hornbeam may be considered on ash dominated sites to ensure greater resilience to *Hymenoscyphus fraxineus* (previously known as *Chalara fraxinea*). Planting will also be used on coupes where regeneration does not meet an average of 3,000 stems/ha by year 10.



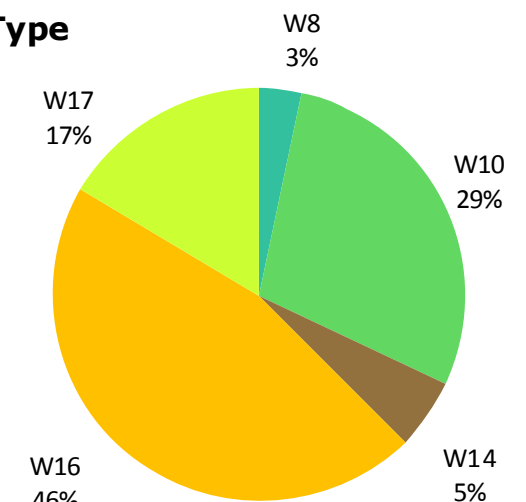
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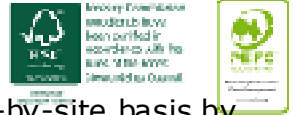


NVC Type

Legend

- W8
- W10
- W11/W17
- W14
- W16





Silviculture

Thinning

Areas will be assessed and approved for thinning on a site-by-site basis by the local Beat Team. As attempts to improve the structural diversity of the crops are made, initiation of thinning may be made early (uneconomic) or later to address windfirm concerns. The intention to intervene every 5 years as well as on multiple occasions may not be appropriate and therefore will be administered in an adaptive approach by the Beat team.

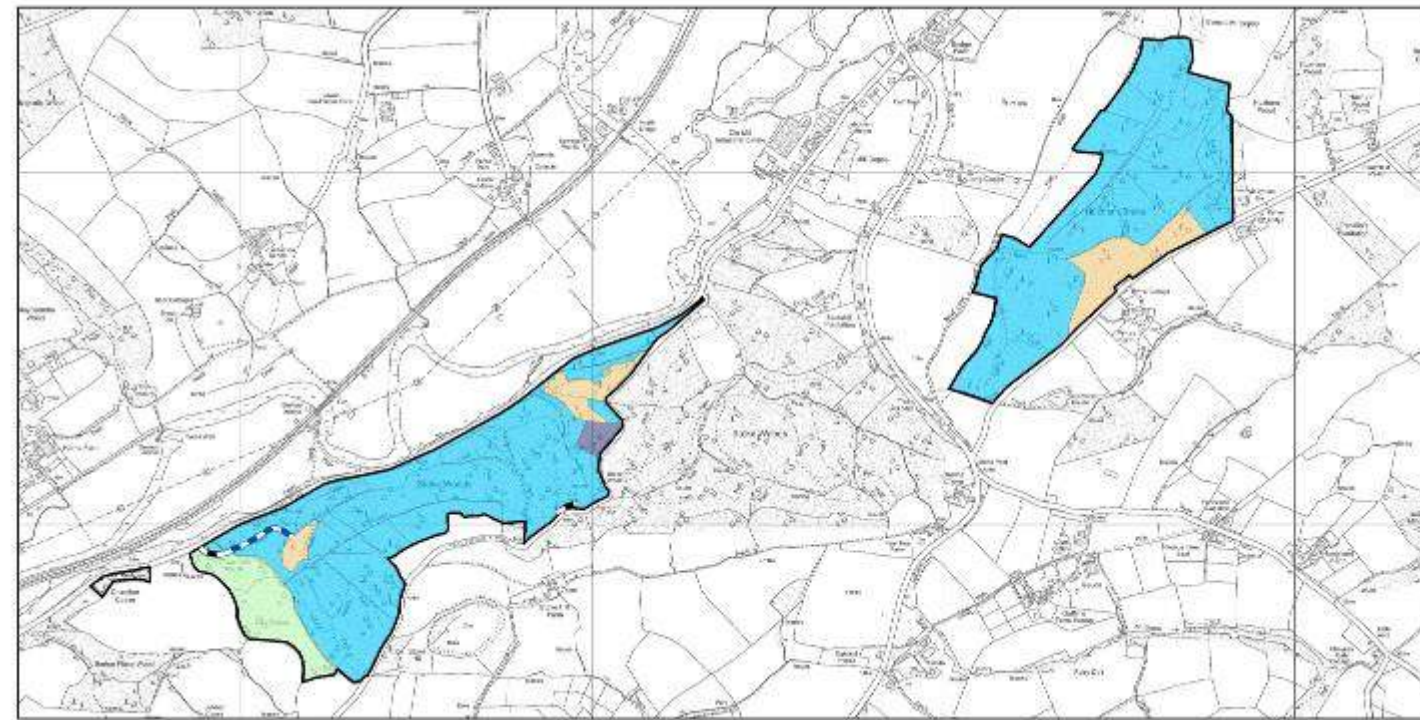
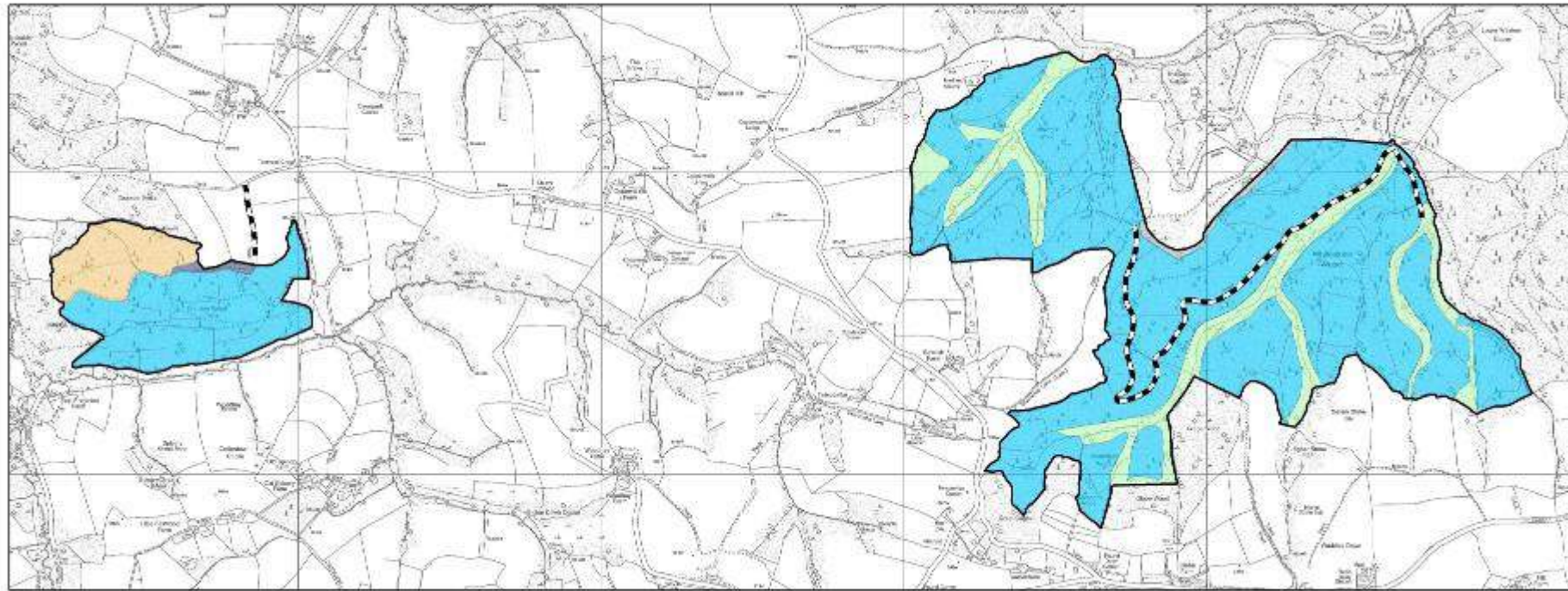
Conifer Thinning

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.

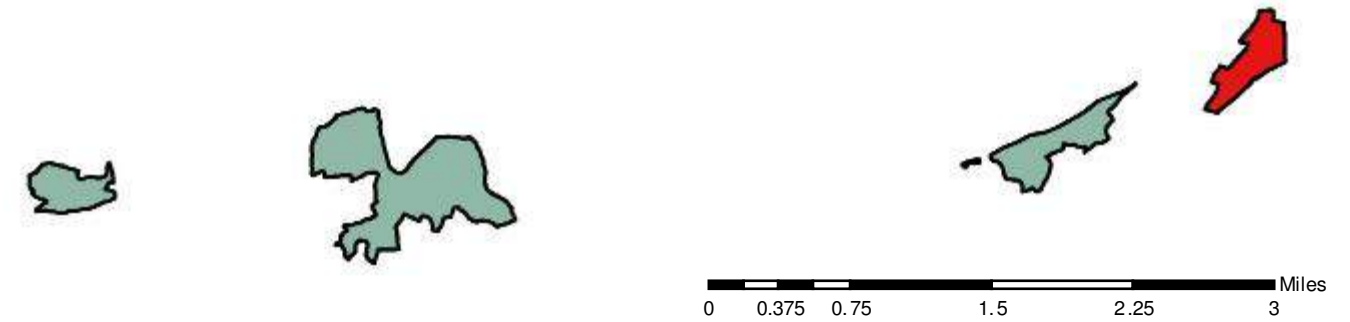
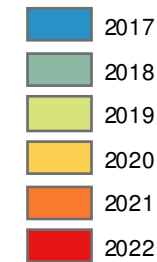
Broadleaf Thinning

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.

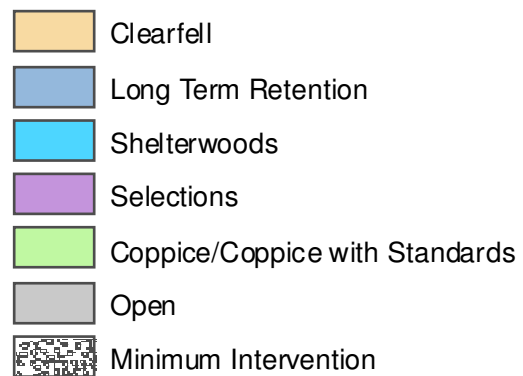
Next Thin Date



Legend



Legend



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

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

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

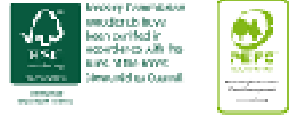
Open space is managed to ensure forest cover does not exceed 2m in height, a tolerance of 20% forest cover will be accepted on some lower priority sites.

Uniform shelterwoods are predominately broadleaved dominated and ASNW sites which will be managed using seeding fellings with possible under planting of site suitable species to control light levels and develop good timber quality. Small coppice coupes of less than 0.25ha may be used to inject diversity into the broadleaf woodland

Irregular shelterwoods will look to develop a complex CCF structure through the identification and thinning towards quality final crop trees for the future.

Group shelterwoods are used on windfirm, accessible crops to proactively diversify the woodland structure and composition, possibly through the use of enrichment replanting.

Coppicing of hazel, oak and sweet chestnut stands will be used in discrete riparian areas and areas historically managed as coppice. Coupes will be no larger than 0.25ha and will only be used where resources allow for adequate deer proof fencing. Standards will be retained where deemed as appropriate future crop trees.

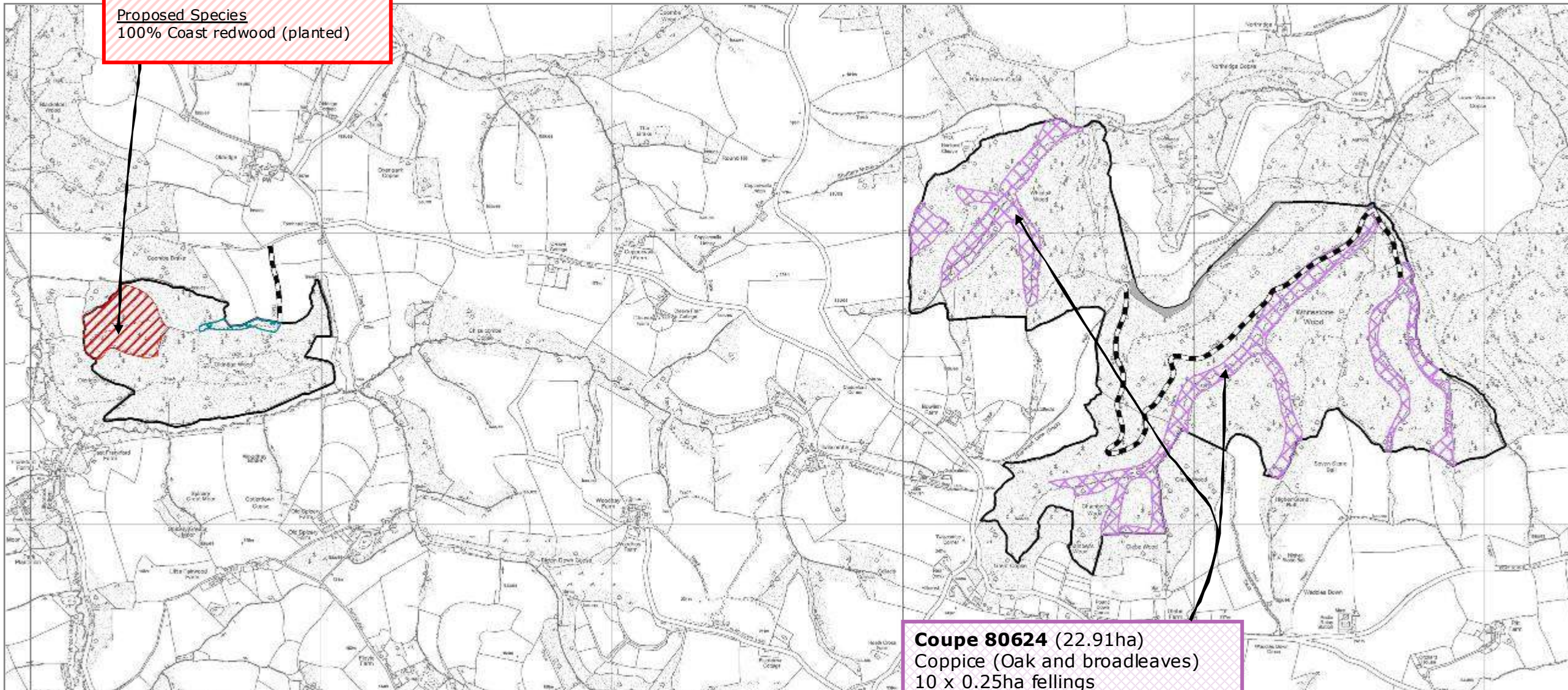


Felling and Restocking Oldridge & Whitestone 2018 - 2028

Coupe 80001 (5.15a)
Fell 2018-21 (Sitka spruce)

Restock 80001a (5.15ha)
100% Evergreen conifer

Proposed Species
100% Coast redwood (planted)



Legend

- Fell 2017 - 2021
- Fell 2022 - 2026
- Fell 2027 - 2028
- Coppice
- Group Shelterwood
- Wood Pasture
- Retentions
- Minimum Intervention
- Natural Reserve
- Open
- Class A/B Roads
- Class C Roads

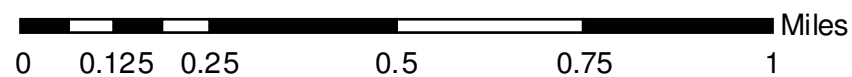
Coupe 80624 (22.91ha)
Coppice (Oak and broadleaves)
10 x 0.25ha fellings

2.5ha in Plan period

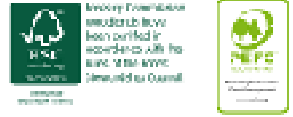
Restock 80624a (22.91ha)
100% Native broadleaf (coppice)

Declaration by FC as an Operator.

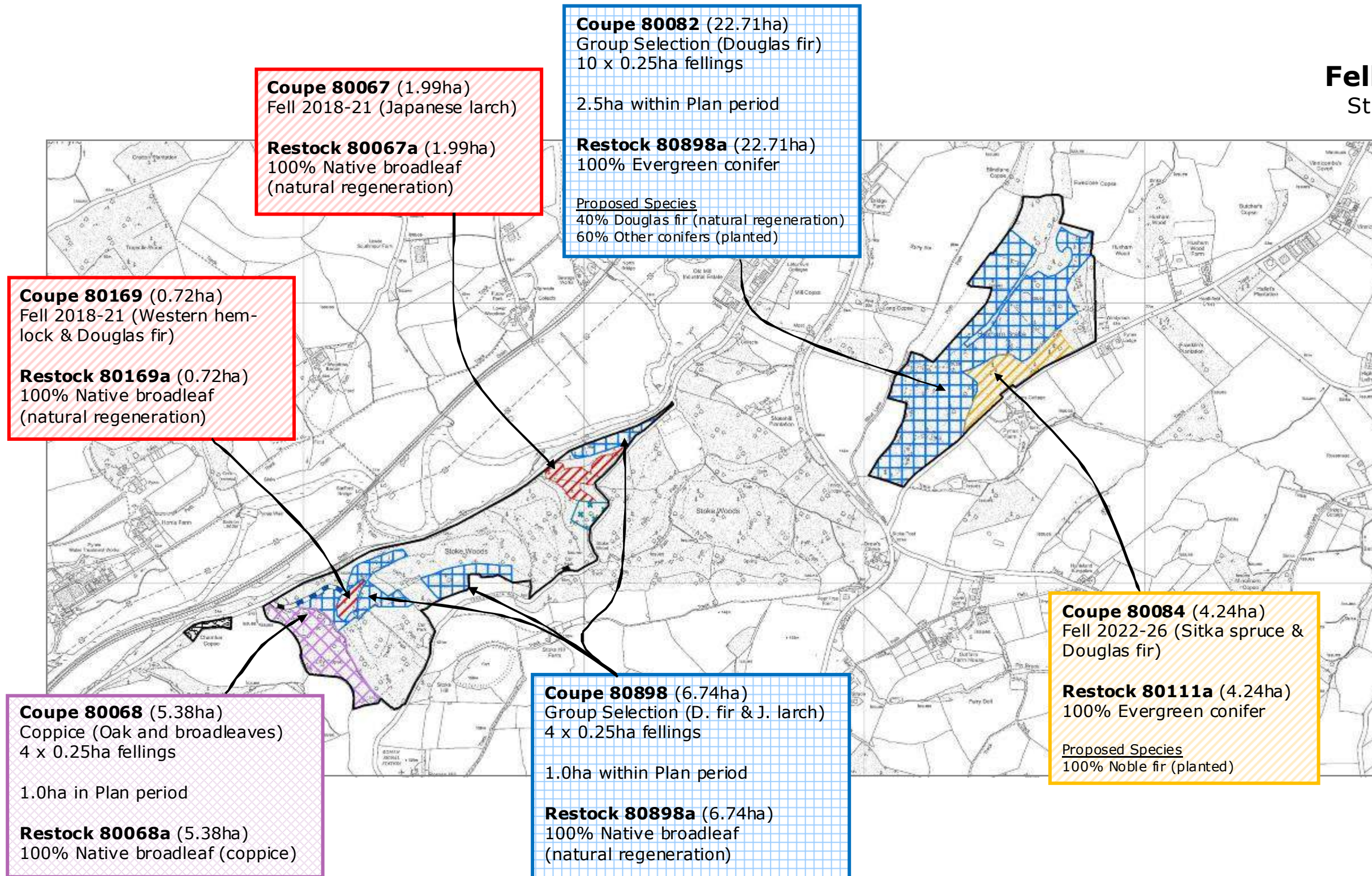
All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)



NB. Whilst 'Restock Proportion' is often prescribed at 100% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.



Felling and Restocking Stoke Woods & Huxham Brake 2018 - 2028

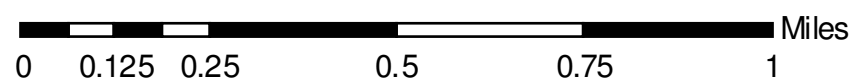


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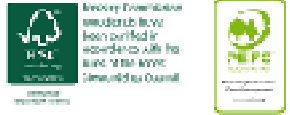
- Fell 2017 - 2021
- Fell 2022 - 2026
- Fell 2027 - 2028
- Coppice
- Group Shelterwood
- Wood Pasture
- Retentions
- Minimum Intervention
- Natural Reserve
- Open
- Class A/B Roads
- Class C Roads

Declaration by FC as an Operator.

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

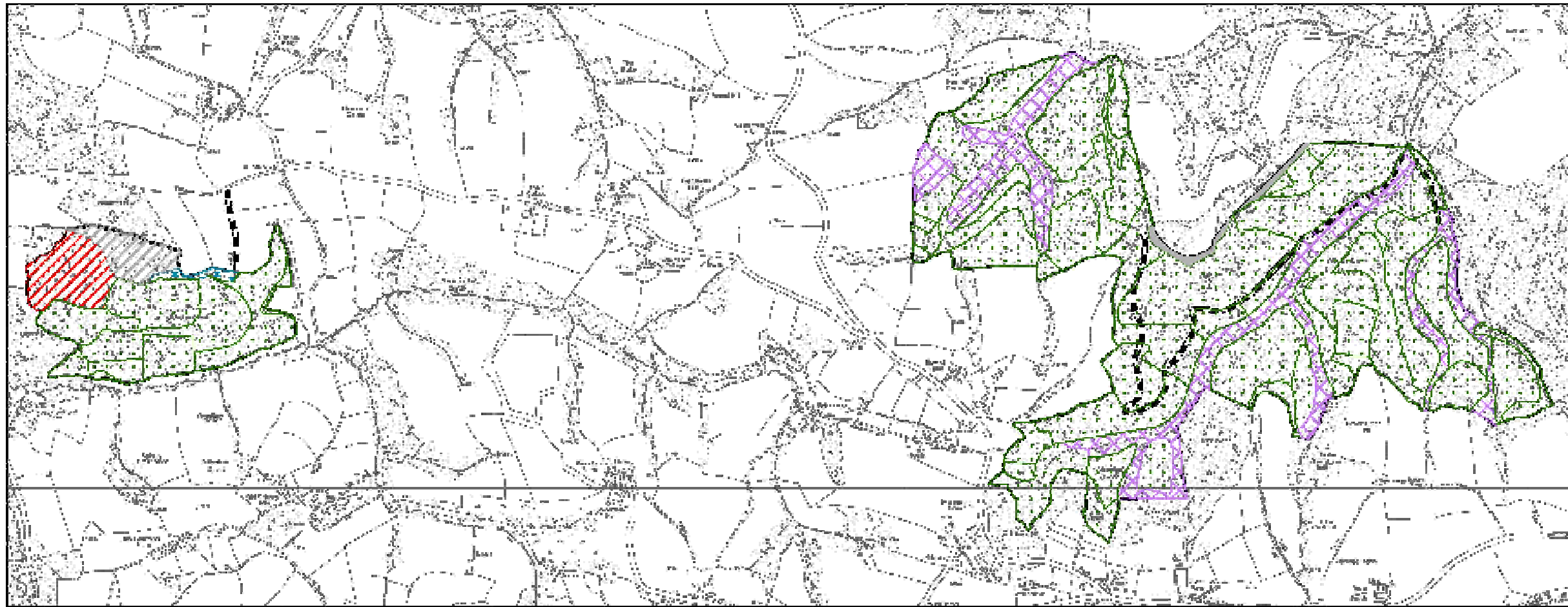


NB. Whilst 'Restock Proportion' is often prescribed at 100% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.



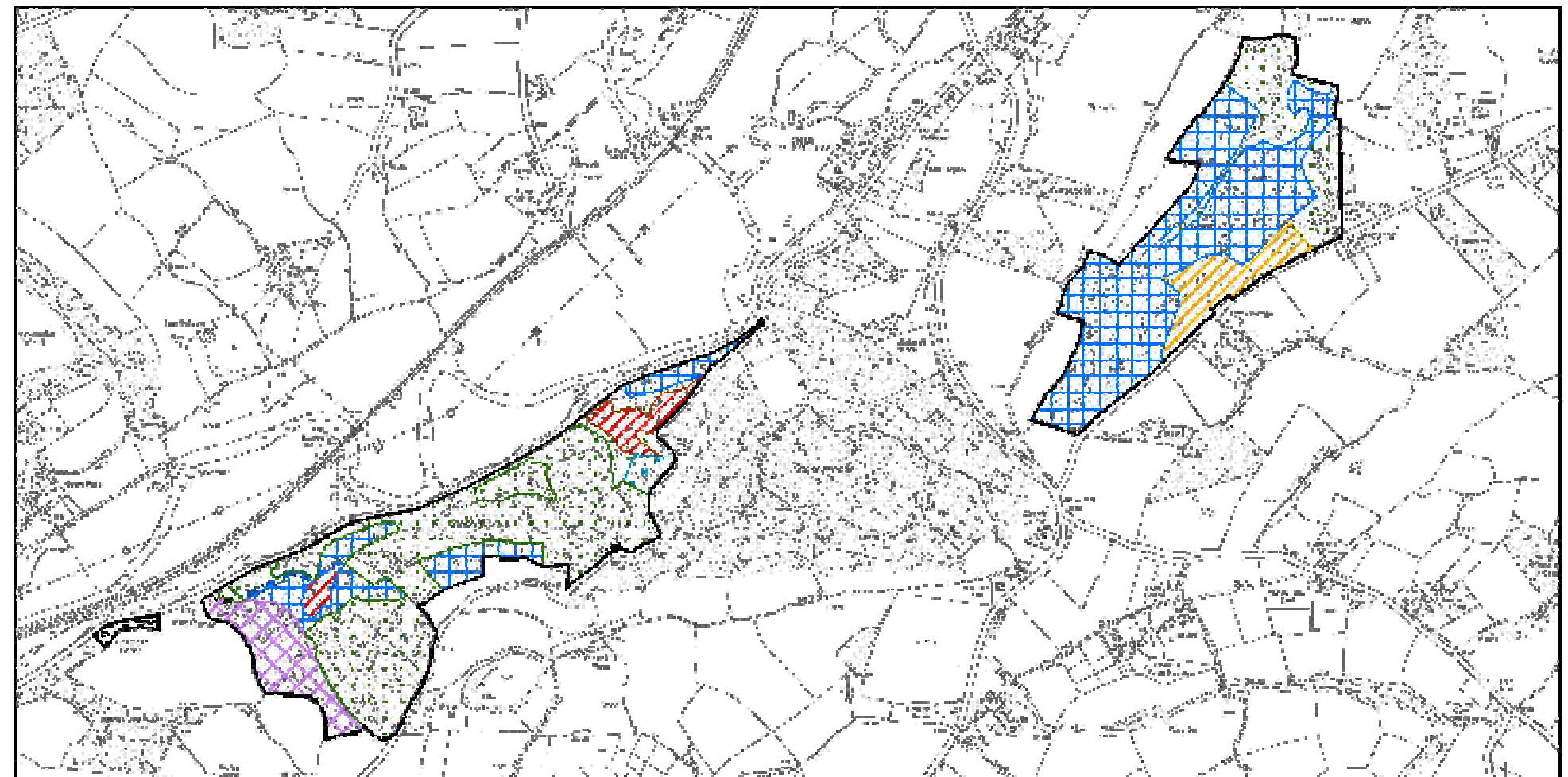
Management Prescriptions 2018 - 2047

An outline of the intended management prescriptions for the Plan area for the next 30 years, including silvicultural, felling and open proposals.



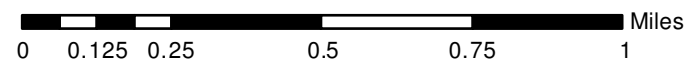
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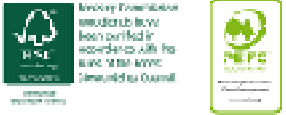
- | | | | |
|--|---------------------------|--|----------------------|
| | Alternatives to Clearfell | | Fell post 2046 |
| | Fell 2018 - 2021 | | Coppice |
| | Fell 2022 - 2026 | | Wood Pasture |
| | Fell 2027 - 2031 | | Retentions |
| | Fell 2032 - 2036 | | Minimum Intervention |
| | Fell 2037 - 2041 | | Natural Reserve |
| | Fell 2042 - 2046 | | Open |
| | | | Class A/B Roads |
| | | | Class C Roads |



Declaration by FC as an Operator.

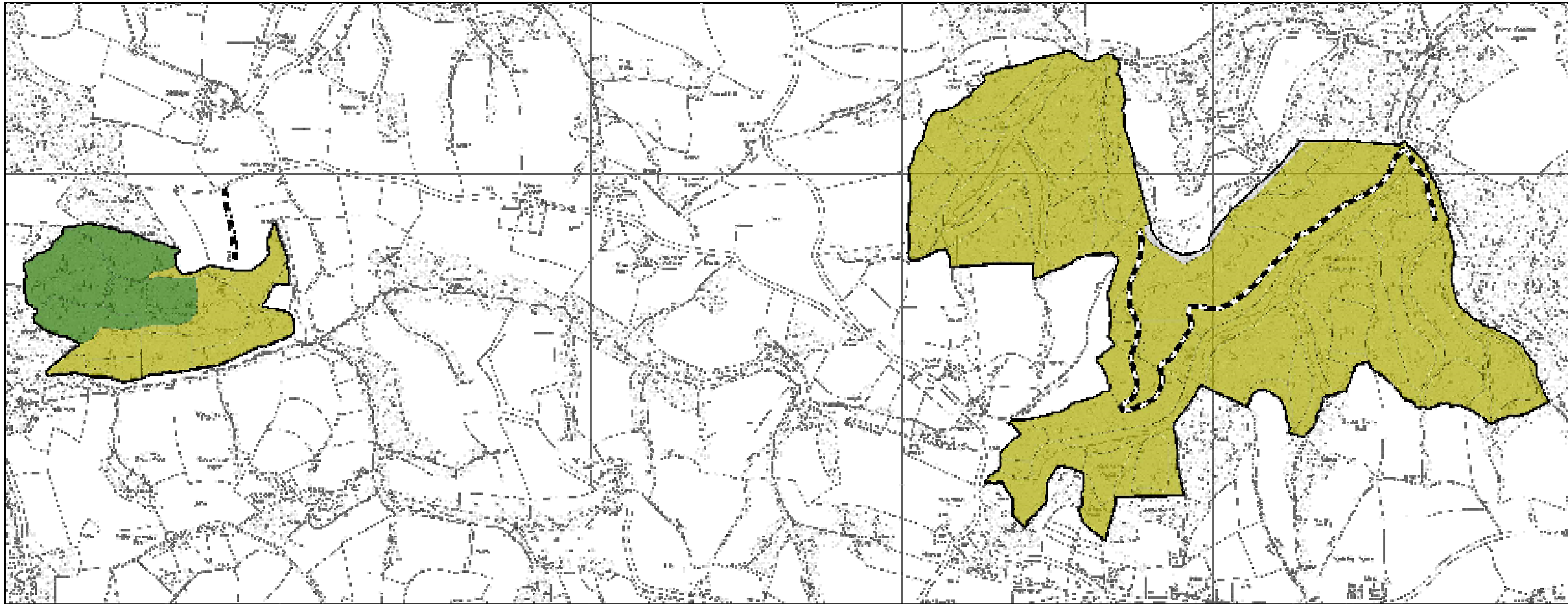
All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)





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.

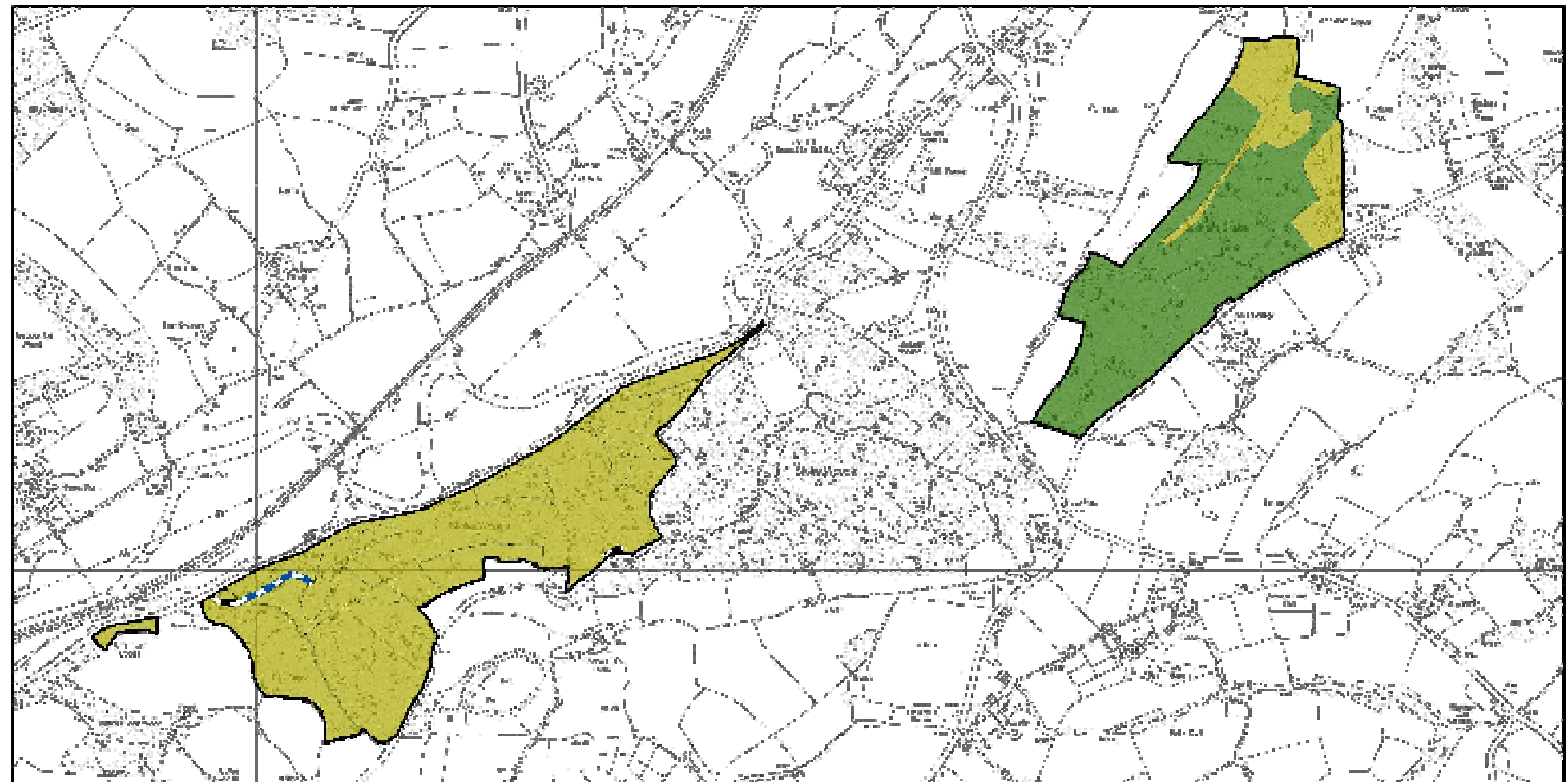
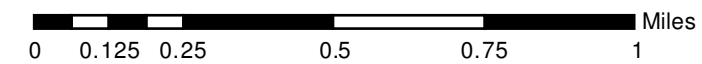


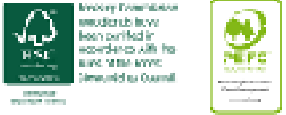
Legend

- Conifer dominated forest
- Broadleaf dominated forest
- Open/other
- Class A/B Roads
- Class C Roads

Declaration by FC as an Operator.

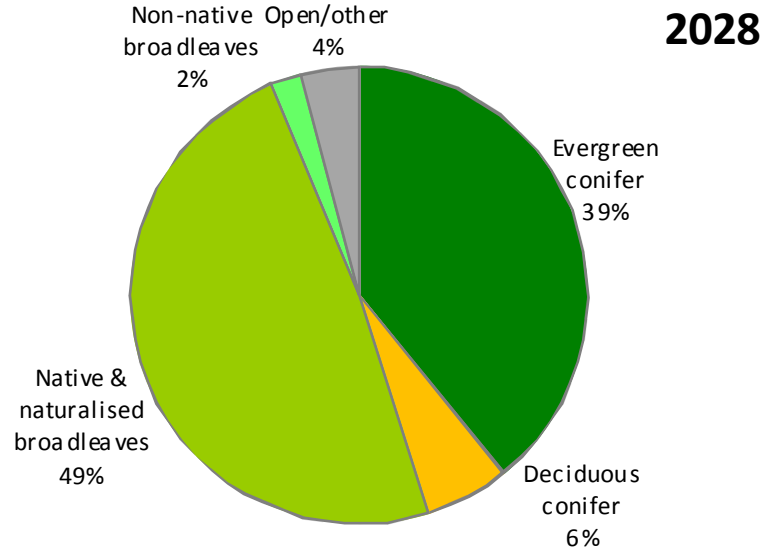
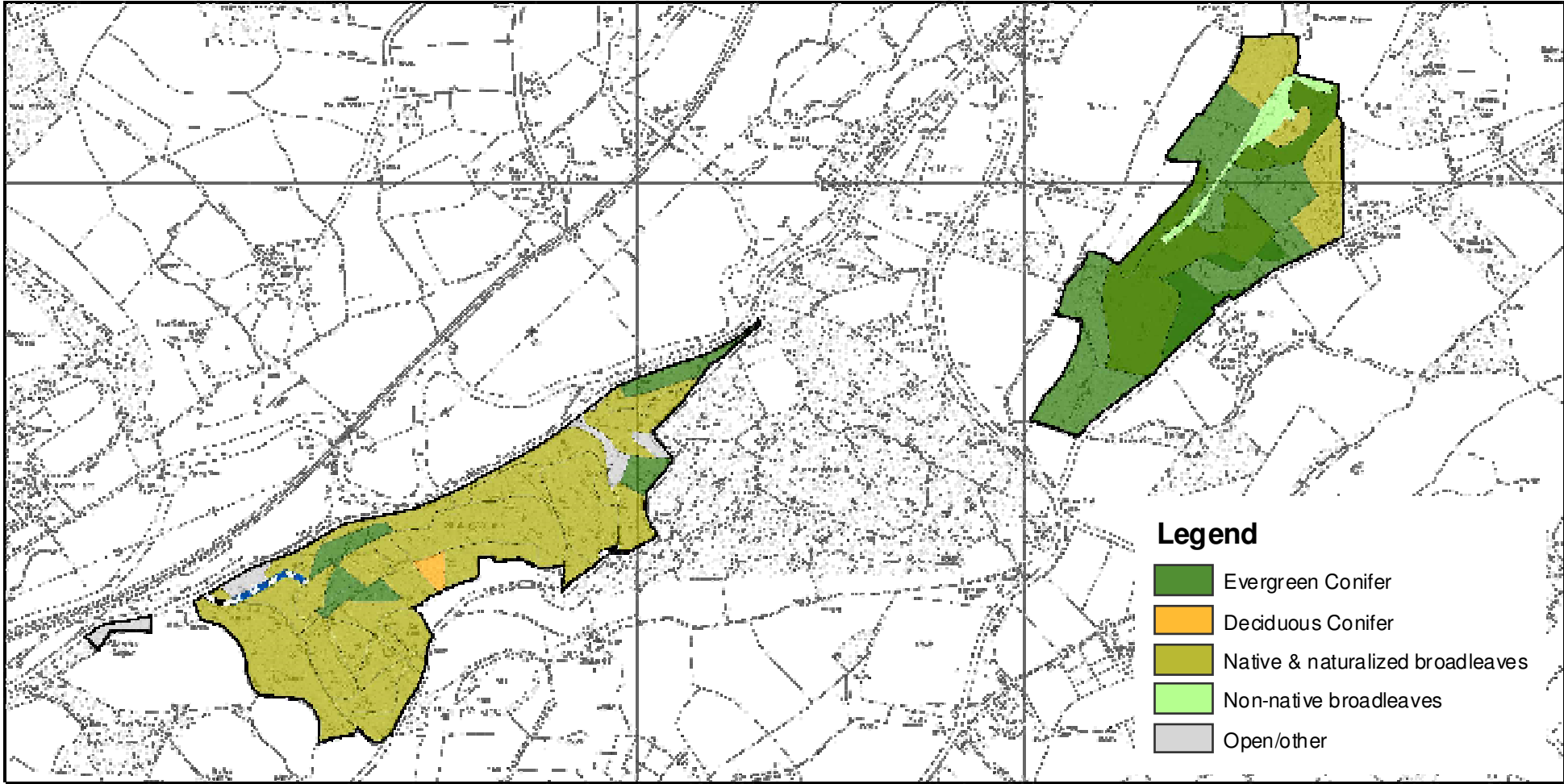
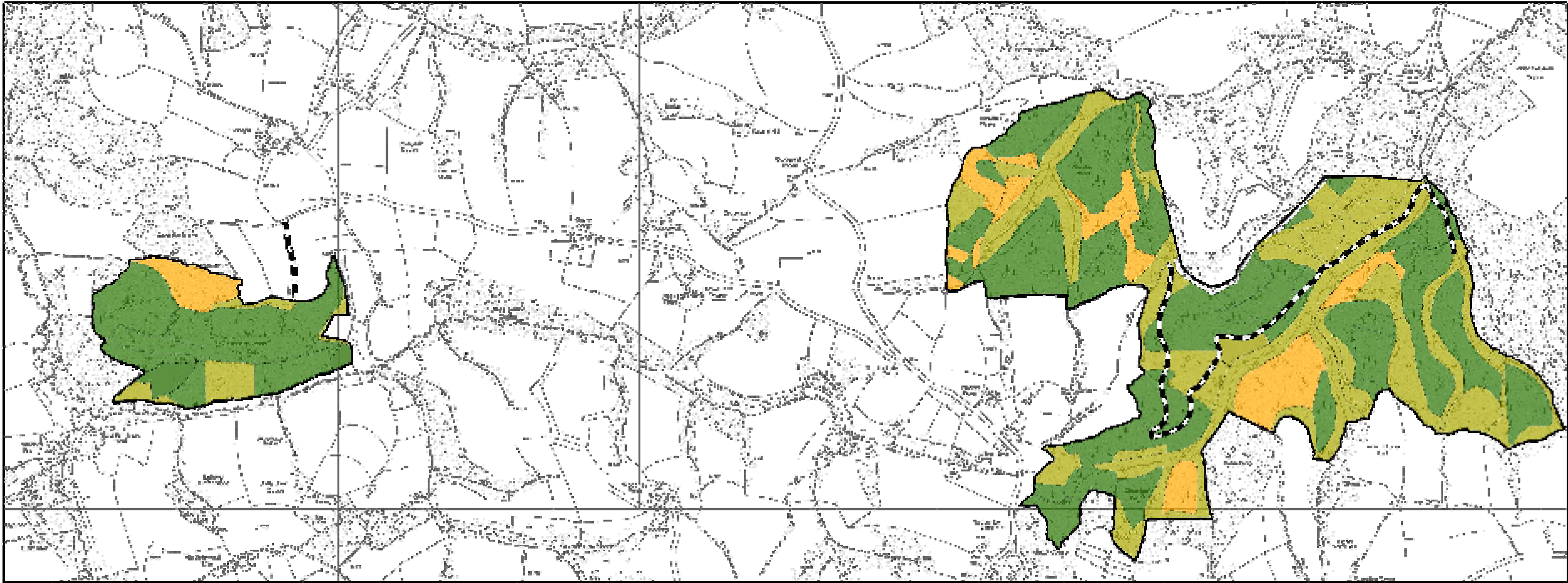
All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)



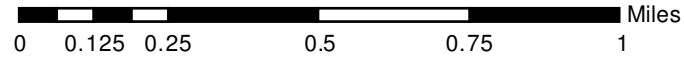


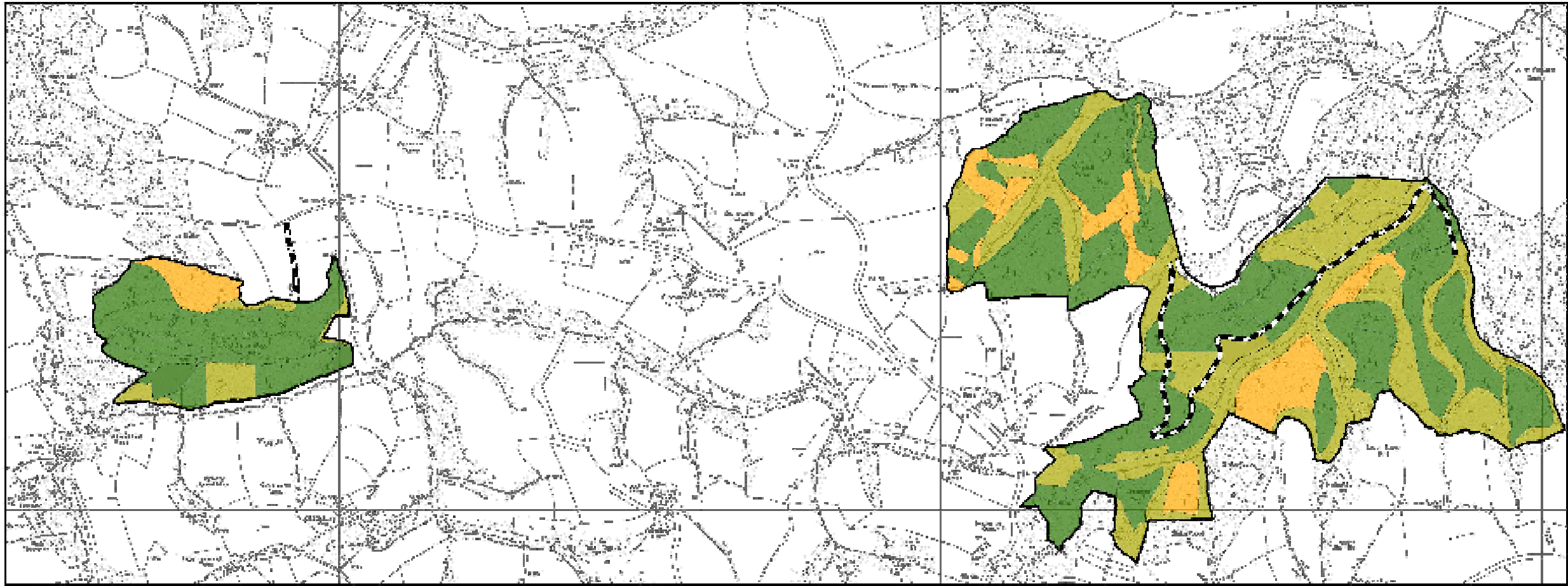
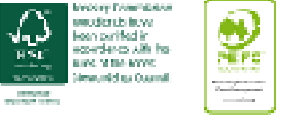
Indicative Future Species 2028

The projections made are indicative of species composition in ten years time. 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.



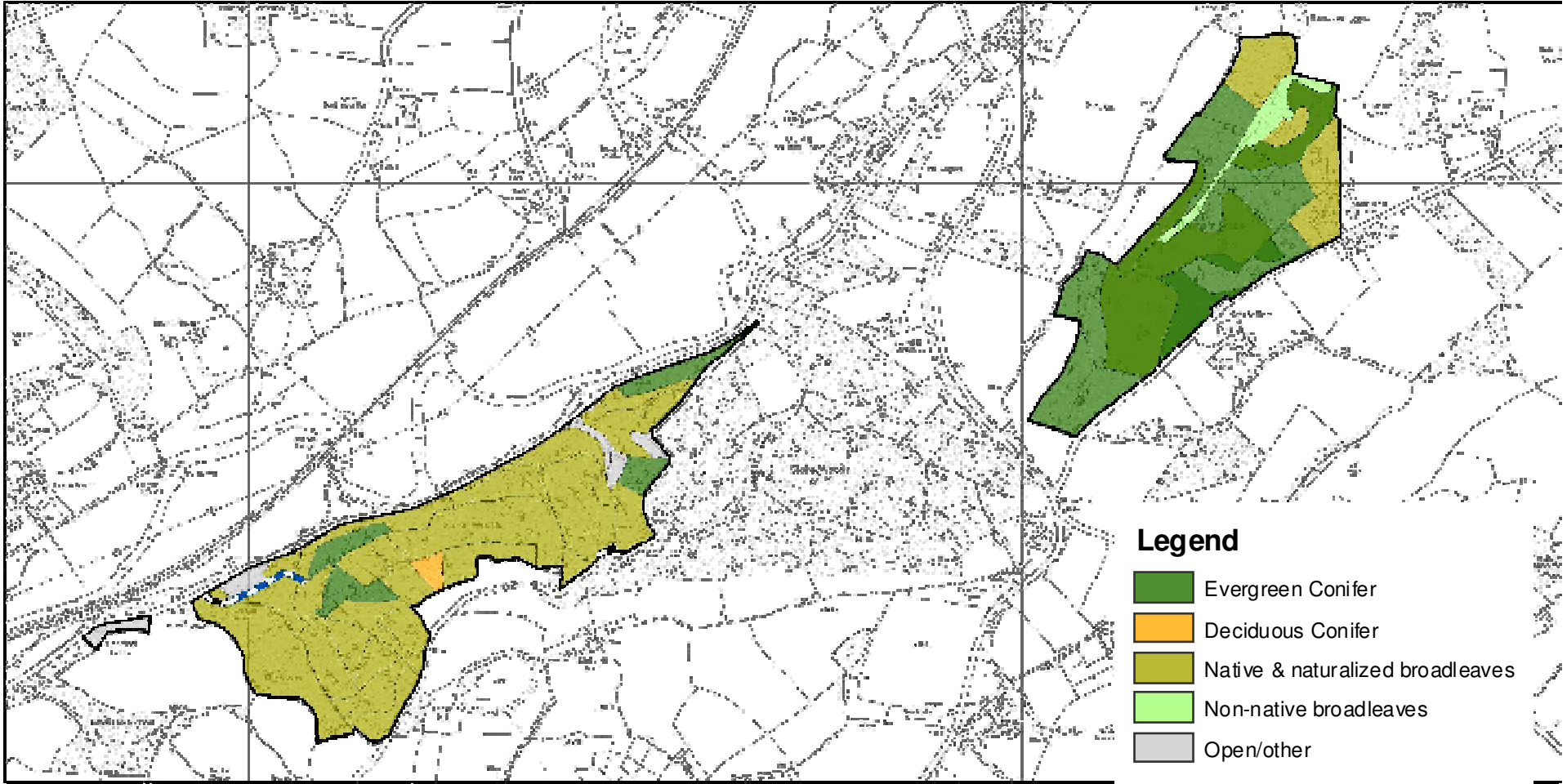
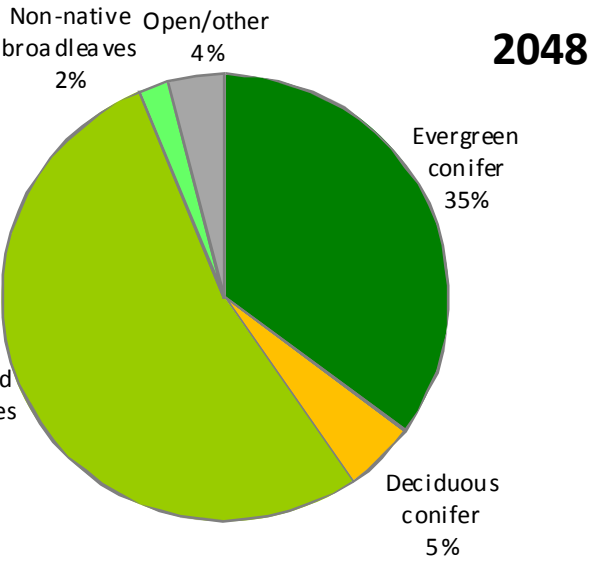
Declaration by FC as an Operator.
All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)



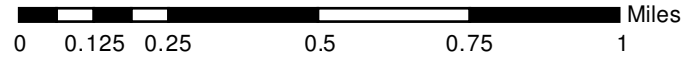


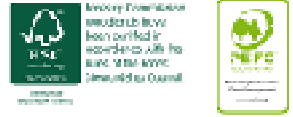
Indicative Future Species 2047

The projections made are indicative of species composition in thirty years time. 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.

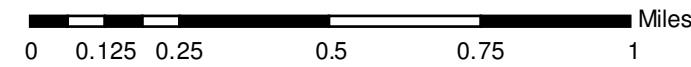
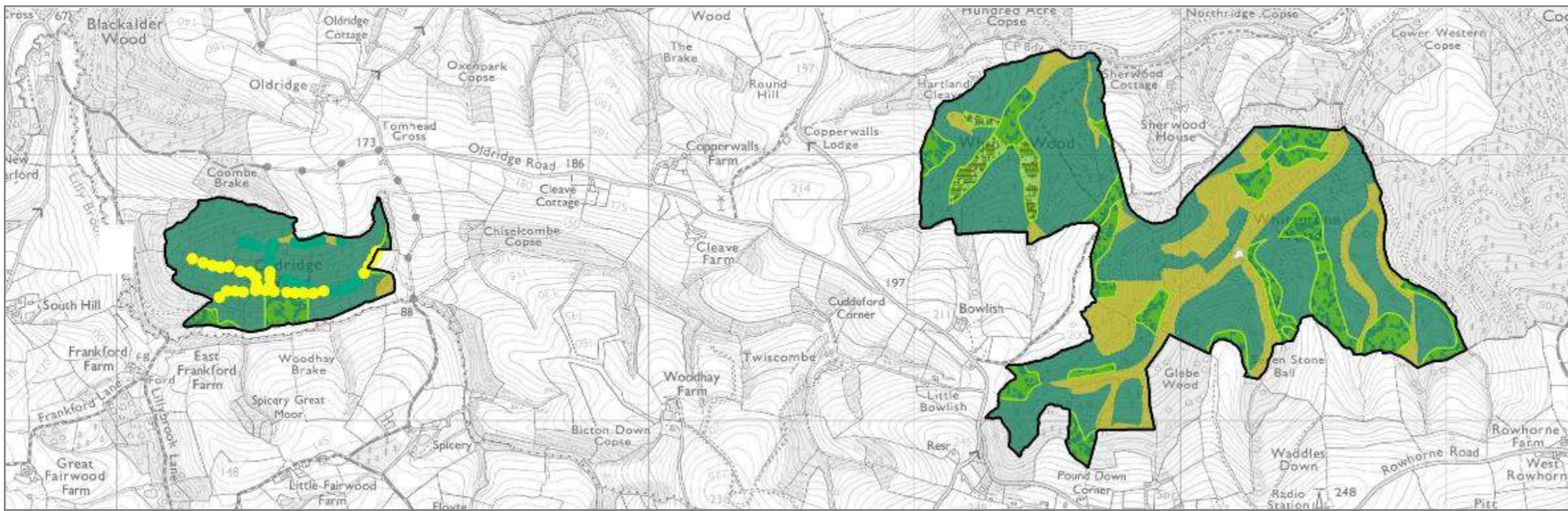


Declaration by FC as an Operator.
All timber arising from the Forest Enterprise estate represents a negligible risk under EUTR (No 995/210)





Conservation - Habitats



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Ordnance Survey [100021242]

Legend

- Moor and Heath
 - Hedgerow
 - Forest Road Edge
 - Conservation + Recreation
 - Public Roadside
 - Windthrow protection
 - Watercourse
 - Broadleaved Belt
- | | | |
|--|----------------------------------|-------------------|
| | Lowland beech/yew woodland | Priority habitats |
| | Wet woodland | |
| | Lowland mixed deciduous woodland | |
| | BROADLEAVED; MIXED/YEW WOODLANDS | |
| | CONIFEROUS WOODLANDS | |

Wet Woodland Habitats

The streamside and wet woodland found at the bottom of hollows and small valleys remain predominantly willow dominated broadleaf woodland. The majority of these sites will be managed at the time of intervention to aid the recruitment of suitable wet woodland species such as alder, willow and birch encouraged as well as patchy open space to create dappled shade and light penetration.

Corridor Habitats

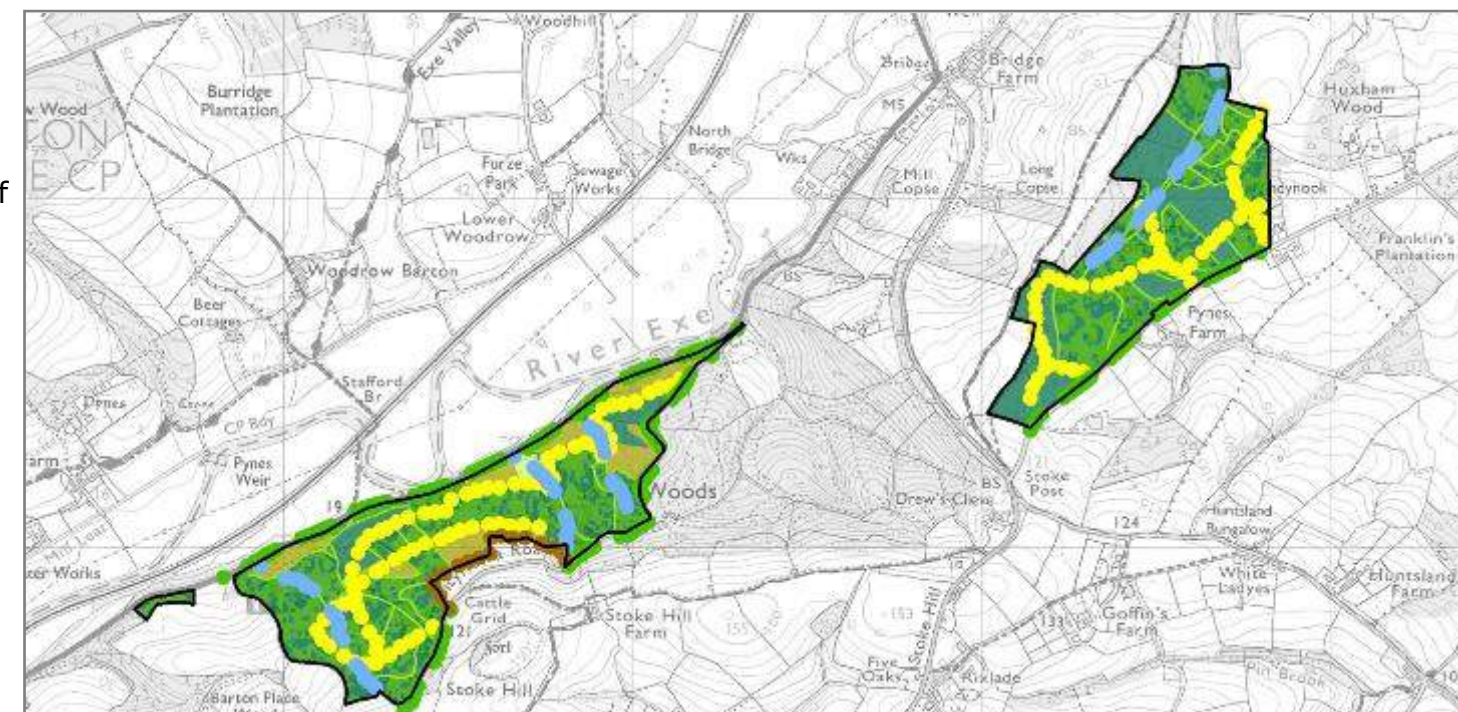
Road and ride sides will conform to the prescriptions outlined in the District document, *Design and Management of Environmental Corridors* (Lucas, 2006). The road and ride network within the Plan area will be utilised to extend and connect ride side habitats and transient open spaces, this will be achieved through targeted widening and unstocking of edges to some coupes following felling operations to create a mixed transient open and scrubby habitat for a multitude of species. In practice this means that regenerating vegetation on road sides will be regularly cut where access is easiest to create a dynamic edge habitat which the likes of Lepidoptera, insects and small birds choose to inhabit. Whilst wetter and often remote rides which are not used for deer control will be allowed to regenerate to provide habitat and linkage for a variety of species.

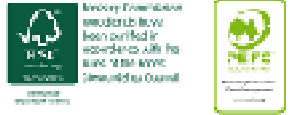
Deadwood

Mature established broadleaved trees with their moss and fauna will be retained as much as possible, and allowed to develop in senescent habitats. A variety of deadwood will be retained according to the level of ecological value and in line with Guidance (Humphrey & Bailey, 2012). Retaining decaying snags and logs as well as senescent trees throughout the forest will create suitable deadwood habitat for numerous associated species including raptor, smaller birds and an array of insects.

Lowland Mixed Deciduous Woodland

A number of areas of remnant lowland mixed deciduous woodland (as shown right and above) are found across the Plan area. These are predominantly made up of Sessile oak, ash, birch and beech. Some evidence of coppicing of hazel exists and looks to reassert. Management of these areas will be sensitive to ensure the quality is maintained in perpetuity. Thinning will be reviewed on a ten yearly cycle with the aim of enhancing and improving the condition of the habitat. Removal of invasive or un-suitable species, such as laurel, rhododendron or Western hemlock will ensure that this habitat is maintained and used as a building block for future native broadleaf restoration.





Trees of significance - are found throughout the Plan area and will be retained for perpetuity. The majority of these trees are either oak (as shown) or sweet chestnut, as well as a number of specimen Wild service trees. When crops are thinned crowns will be released slowly to minimise the impact of sudden exposure to desiccating winds and sun scorch. Management will be in line with FC Guidance (Ops No. 31).



Conservation - Features

The Forest Plan area is used by an array of common and rare flora and fauna some of which are highlighted below. On the other hand some non-native flora and grazing fauna species can have a detrimental impact on the forest and its features if their numbers are too high. Species such as rhododendron, wild deer and squirrel will all be managed in line with District Strategy to ensure that their pressure does not have a negative impact on the condition of habitats and crops.

The introduction of new palatable tree species, in the bid to diversify the forest structure means that deer and small mammal impact will need to be taken into account. It is likely that protection and control will need to be increased and strategically targeted. This could include fencing, planting design and new deer glades which could be created following felling.

Unscheduled Monuments - are found across the Plan area, demonstrating its rich cultural significance. Huxham includes a post medieval quarry or extractive pits as well as field boundary and enclosure bank system in the south of the plantation. Stoke Woods includes a number of earthwork mounds and a significant boundary bank, possibly associated with the nearby Iron Age Hillfort on Stoke Hill. Oldridge includes the site of Frankham Cottage which dates from at least the 1880s.

These features and the internal surrounding landscape needs to be preserved, and enhanced where possible, to retain and develop the Plan Area's cultural heritage. All unscheduled monuments will be identified and treated sympathetically at the time of operation in consultation with the county archaeology team.




Source: RSPB

Raptor - notably goshawk (above) and buzzard are known to nest and hunt within the forest areas. Many of the species choose to rest in high well branched conifer trees and then feed over open ground, making the forests ideal raptor habitat in an otherwise varied landscape. The management of appropriate large or potentially large trees for long retentions will ensure that habitat provision is maintained.

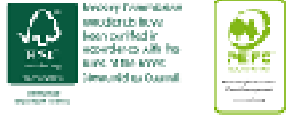


Dormouse favourable habitat is found throughout the Plan area and this species is known to be inhabiting the woodlands some of which use National Dormice Monitoring Programme nestboxes. This European Protected Species requires pinch points across corridors to allow habitat connectivity between broadleaved woodland, particularly in stands with a high hazel and/or sweet chestnut components. The increase in coppicing in hazel dominated stands will significantly enhance habitat quality with prescriptions outlined in the Environmental Corridors document also ensuring appropriate habitat provision and management will be in line with Best Practice Guidance (FC & NE, 2007).

Legend

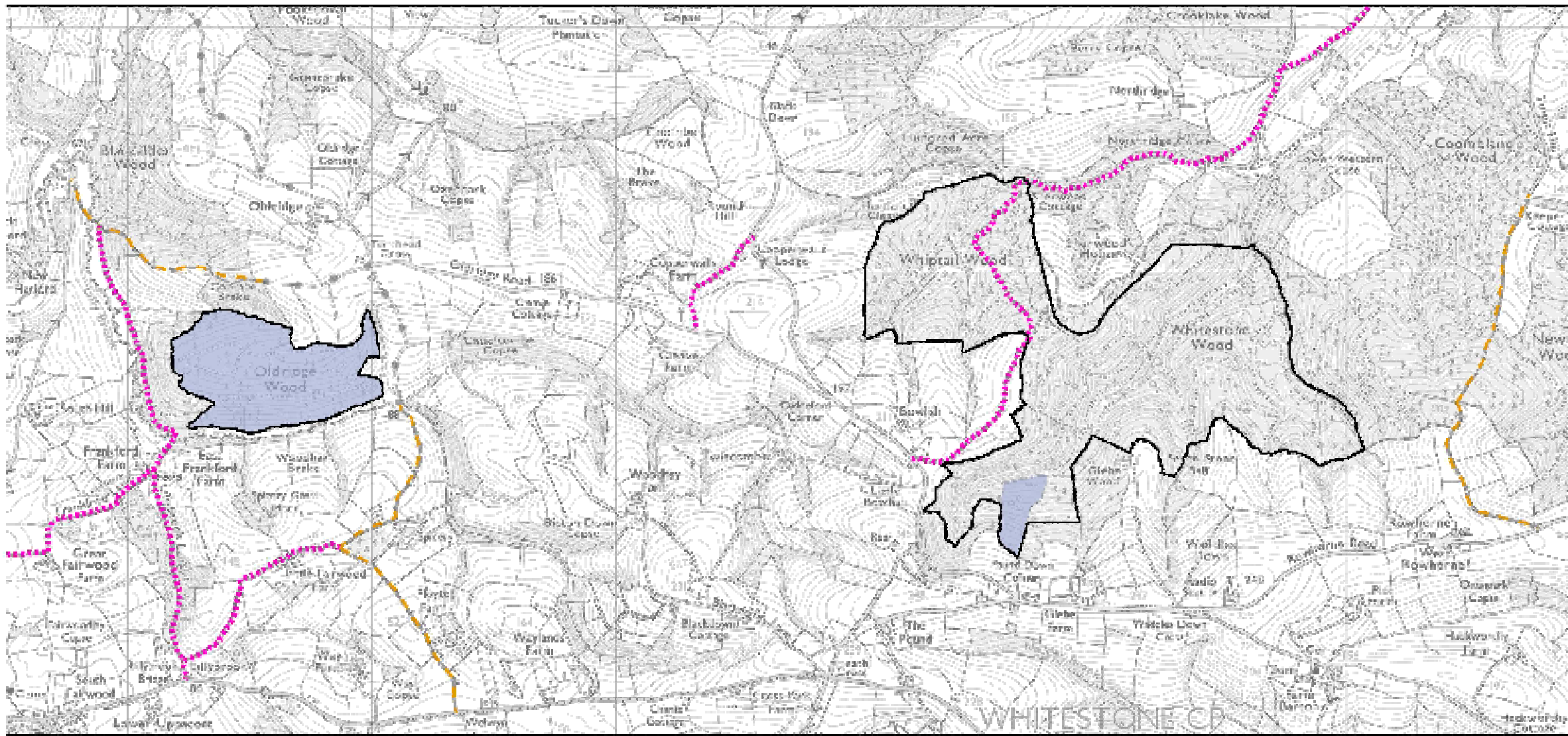
 Favourable Habitat





Recreation and Access

Mid Devon Forest Plan area experiences a high level of low-key recreational usage. The majority of the Plan area is Open Access, this is confirmed by the Countryside Rights of Way Act with the exception of Whitestone which is de facto access due to the nature of the landholding. The use of the Plan area by local individuals as well as numerous visitors and tourists demonstrates the value of the forests to the local community, these features will be maintained in balance with ecological value.

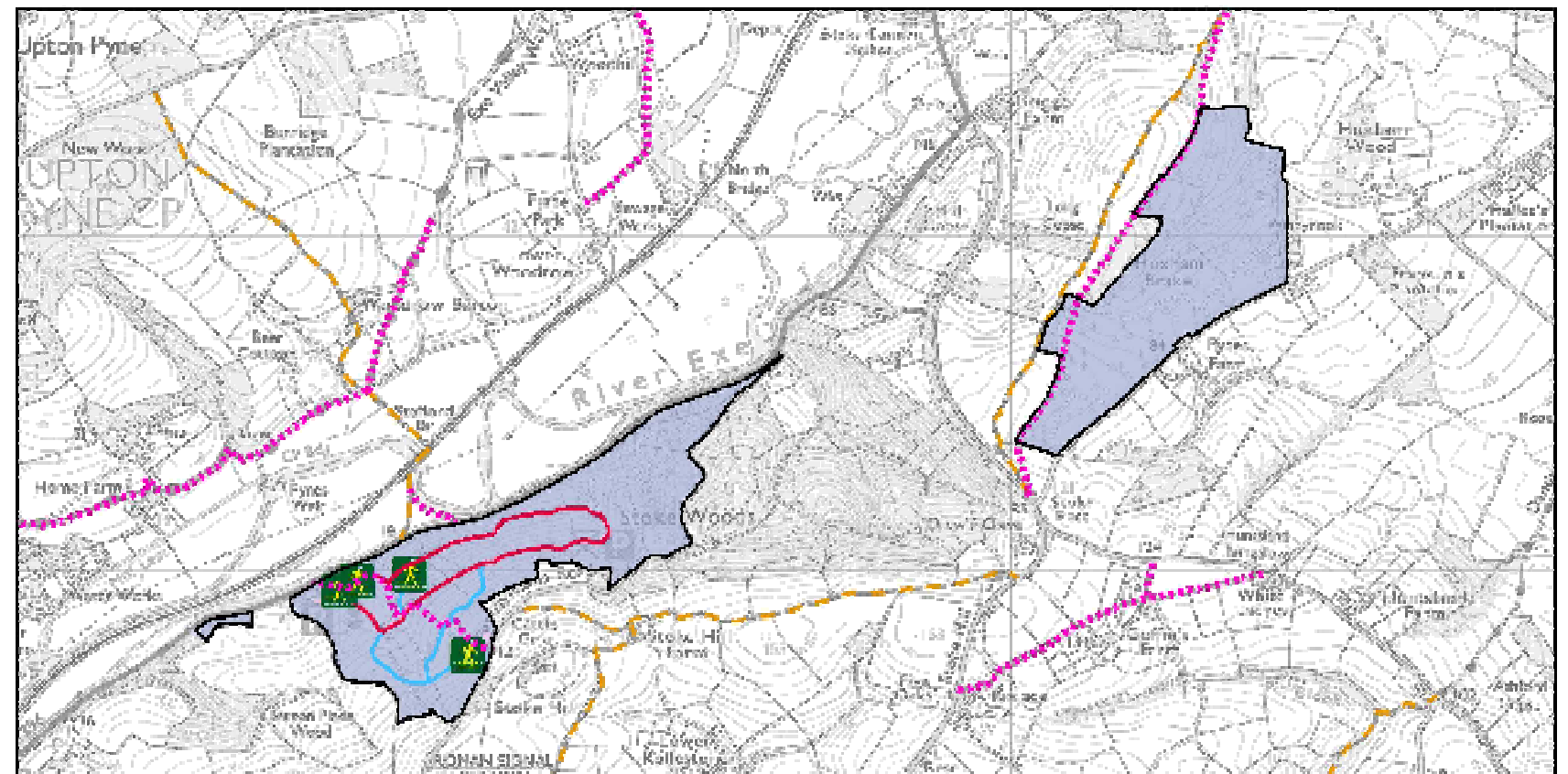
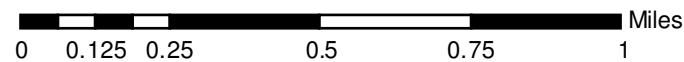


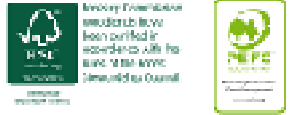
Two maintained car parks are found at Stoke Woods and a number of Public Rights of Way in the form of footpaths and bridleways traverse the Plan area and connect with the surrounding landscape. Many of these Rights of Way are designated and/or signposted.

Numerous one-off and annual permissions are granted throughout the Plan area for recreational purposes. These include educational visits and community events.

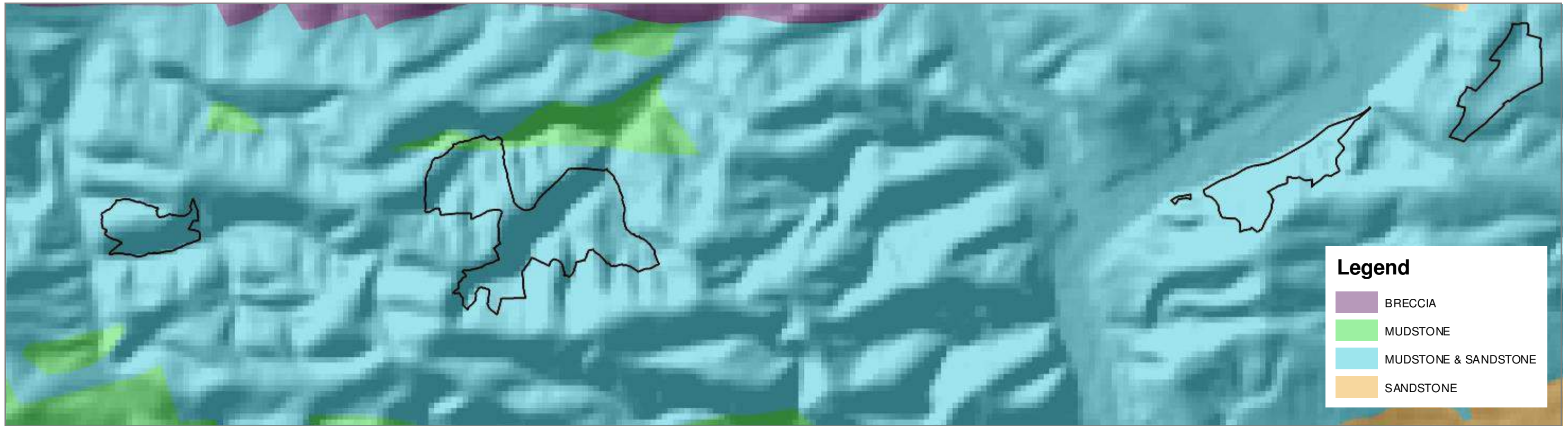
Legend

- Footpath
- Bridleway
- Byway
- Easy
- Moderate
- Difficult
- Open Access

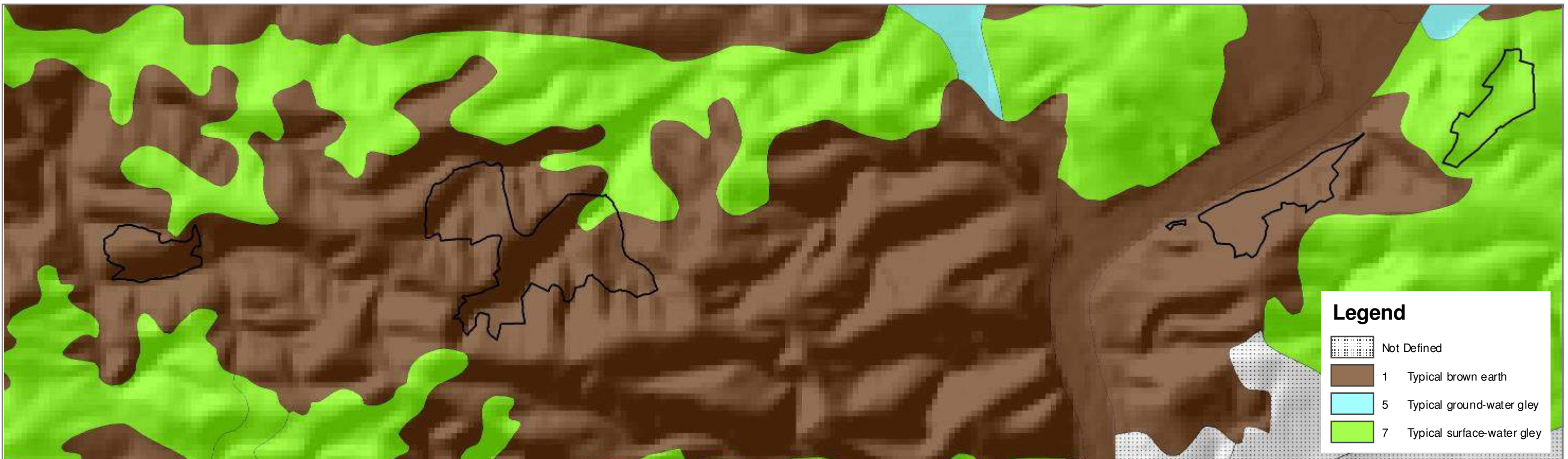


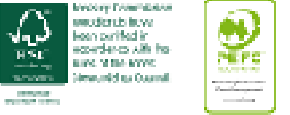


APPENDIX 1- Geology



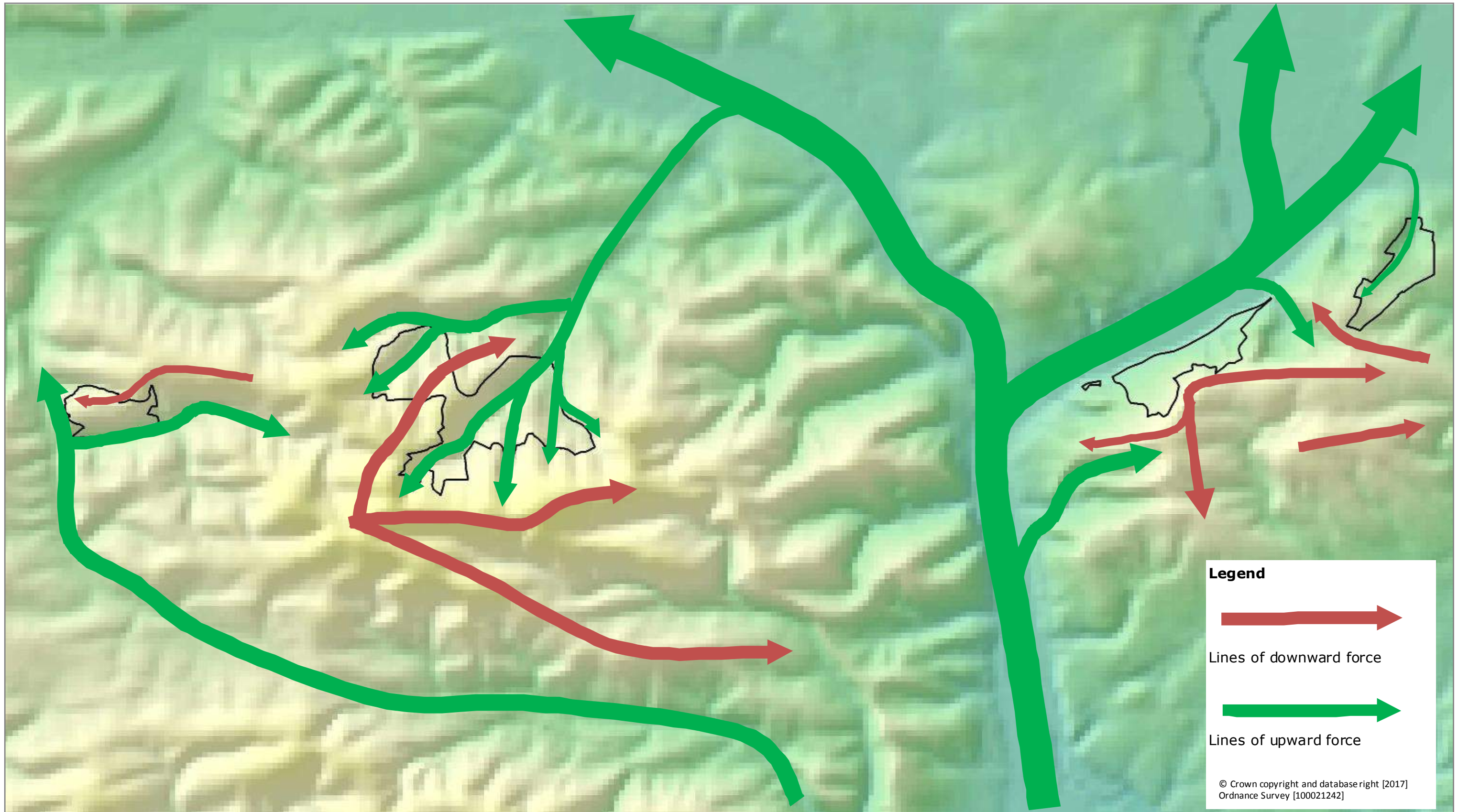
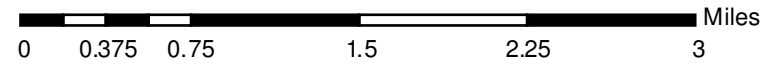
Soils



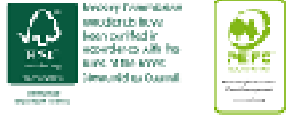


Landform Analysis

The landscape analysis is used to assess the landform patterns and demonstrates how it is in keeping with the surrounding landscape character. One's eye is naturally drawn up the valleys and down the ridges. These principles will be used to design the shape of future coupes. Following the principles of good landscape design the shape and size of felling and restocking will ensure forests do not detract from the landscape appearance and character.



Landscape Analysis



The proposed felling and restocking of coupes has been analysed from a number of significant viewpoints. These viewpoints have been identified because of the amount of foot and vehicle traffic they experience and the influence the forest has at these locations. Given the nature of the landscape around the Plan area, there are minimal settlements from which the Forest Plan area can be seen. The majority landscape analyses have been done along highpoints of these roads.

Area of oak dominated ASNW borders the forest, along streamsides and adjacent field system, this intersects well with conifer.

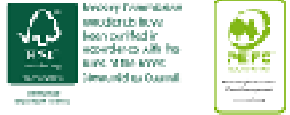
Coupe 80001 - p.60 Western hemlock will be felled in 2018-21. This will fit well into the landscape and ensure hemlock does not threaten the other crops. Restocking with conifer will retain the high landscape value of the woodland.

Douglas fir crops on Secondary woodland and PAWS will be managed through continuous cover forestry. Those on PAWS will be gradually removed through thinning to favour native broadleaf regeneration.

Coupe 80898 — Douglas fir along roadside will be managed through group selection to accelerate ancient woodland restoration within SSSI, minimise impact to infrastructure and create a dynamic roadside corridor. The crop will also shield the impact of the Coupe 80067 clearfell.

Coupe 80067 — Japanese larch which continues to pose a plant health concern is well obscured in the landscape. Clearfelling with retention of broadleaf understorey where possible and then the natural regeneration of native species will improve the condition of the SSSI.

Whilst the woodland sits in a high landscape value area the impact of woodland and work undertaken is limited to short distance impacts.



Water & Riparian Management

Riparian Management

All watercourses and riverine areas will be managed sensitively to protect and enhance water and soil quality in line with best practice. The 'riparian zones' (13ha) identified will be developed to create and maintain areas of up to 50% continuous forest cover through gradual regeneration or enrichment with site appropriate tree species, such as *Alnus*, *Salix* and *Ulmus* spp. A gradual change to this type of wet woodland habitat through coppicing at the time of intervention (usually clearfell), will create an environment of dappled shade with good light penetration and aeration as well as buffer the riverine systems from forestry operations.

Clearfells within the area have been designed and phased to minimise surface water runoff and soil erosion ensuring the riverine systems and SSSI are protected and improved into the future. All felling and restocking operations will work within the guidelines set out in UKFS, Forests and Water with the aim of developing further riparian areas at the time of intervention to stimulate native species regeneration.

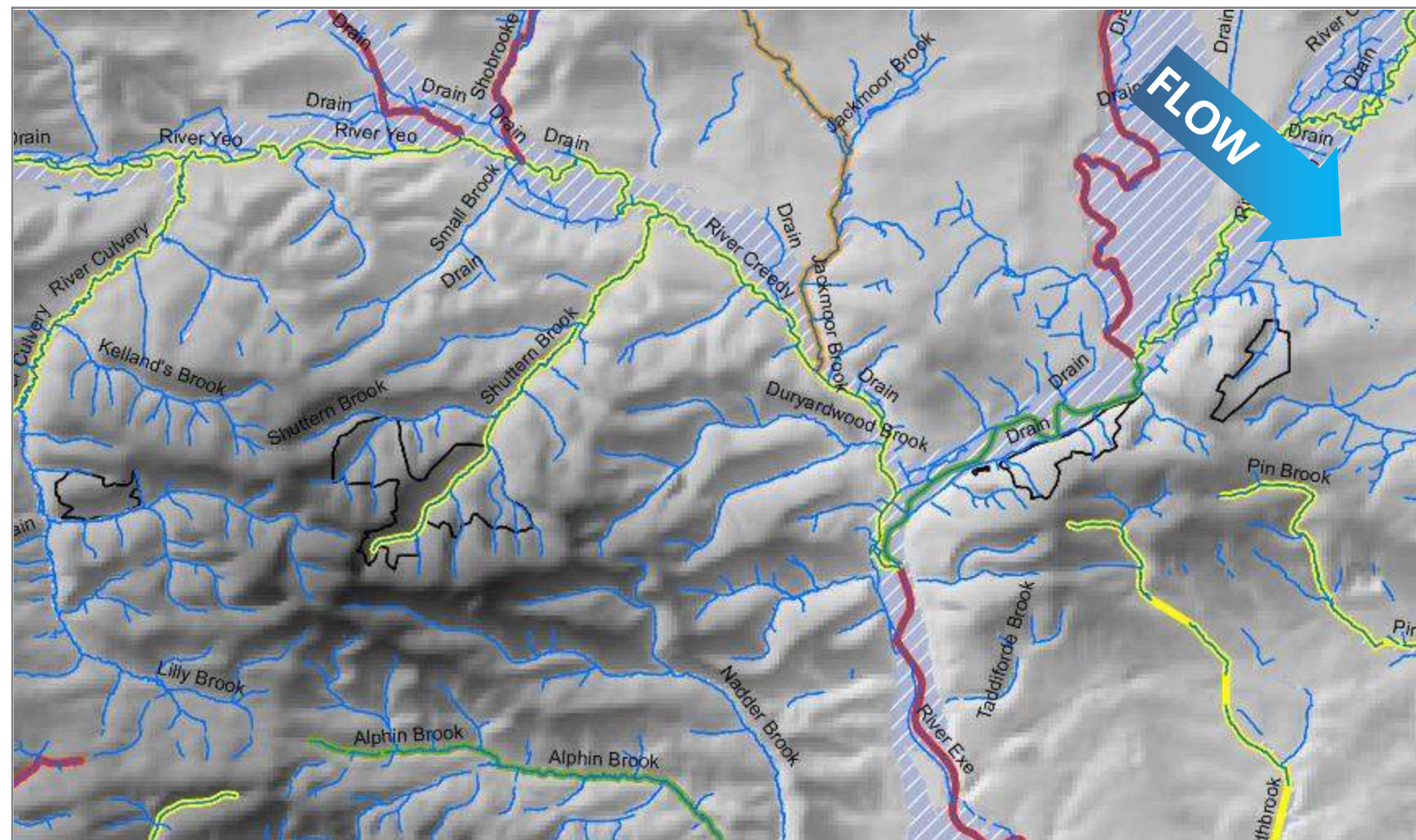
The Mid Devon Plan area is a component of flood alleviation for the Exe Valley catchment through soil stabilisation and surface runoff, retaining forest cover and a move towards continuous cover systems together with maintained drains and water storage will ensure this continues to slow down peak flows into the future.

South West Catchment District

Just over 3 million people live in the South West River Basin District. The economy is dominated by the service sector, and each year millions of visitors to the district make a vital contribution to the economy. However, the resulting seasonal fluctuations in population bring challenges for protecting the water environment, especially in coastal areas.

The district has a huge network of internationally, nationally and locally recognised wildlife sites, from the uplands of Dartmoor and Exmoor and outstanding rivers such as the Camel and Hampshire Avon, to the fantastic estuaries and coastline. There are two national parks, and the Jurassic Coast in Devon and Dorset is the only natural world heritage site in England.

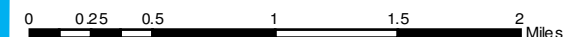
The farming and land management sector has a big role in looking after and improving the quality of the rural environment. Agriculture accounts for approximately three quarters of the land area in the South West River Basin District.



Legend

- Watercourse
- High
- Good
- Moderate
- Bad
- Poor
- Floodzone

Environment Agency Grading

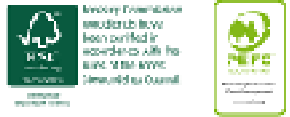


East Devon Basin

This catchment is characterised by diverse habitats ranging from the moorland of Exmoor National Park at the headwaters of the River Exe, to the Exe Estuary at Exmouth, the gateway to the Jurassic Coast World Heritage Site.

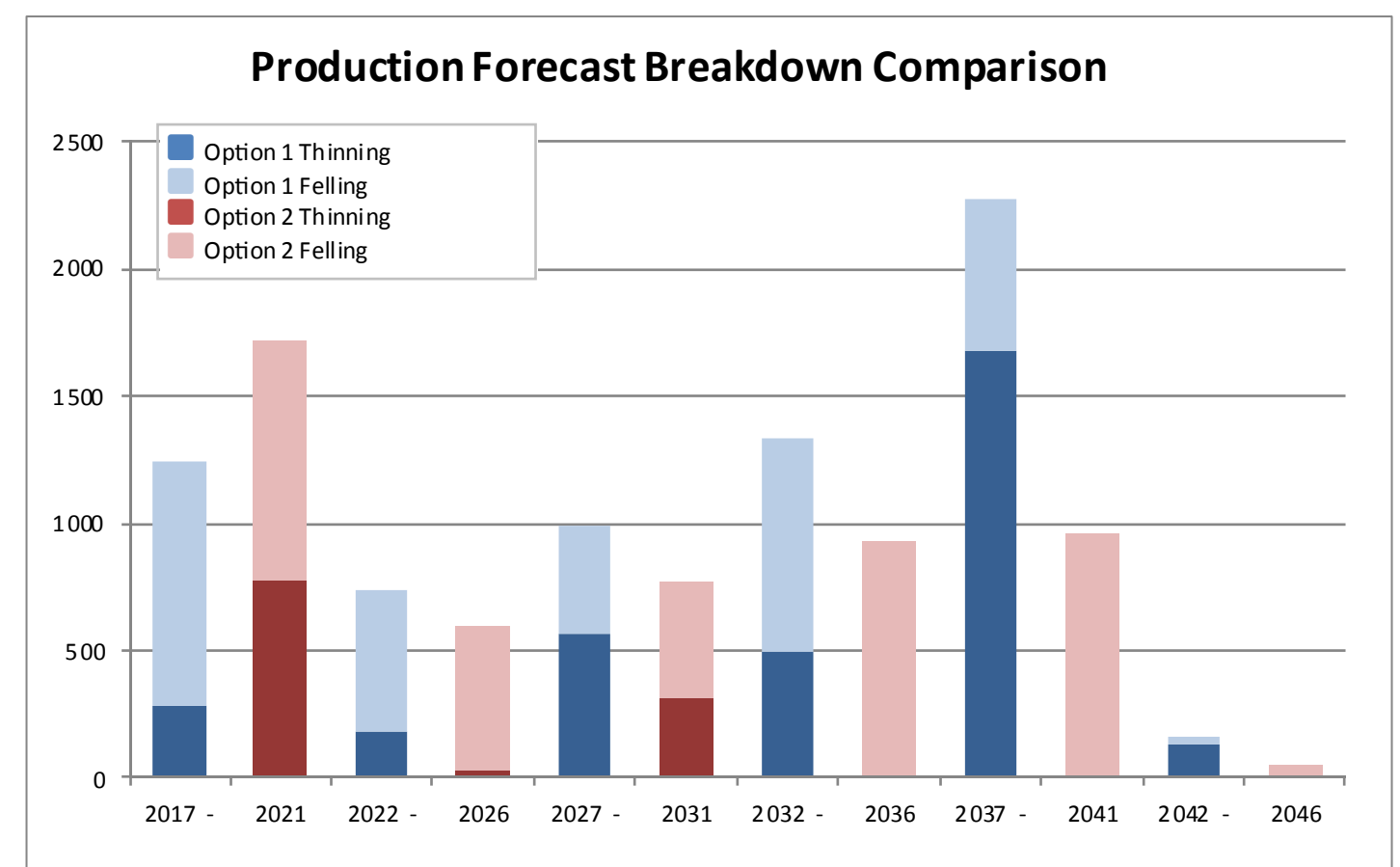
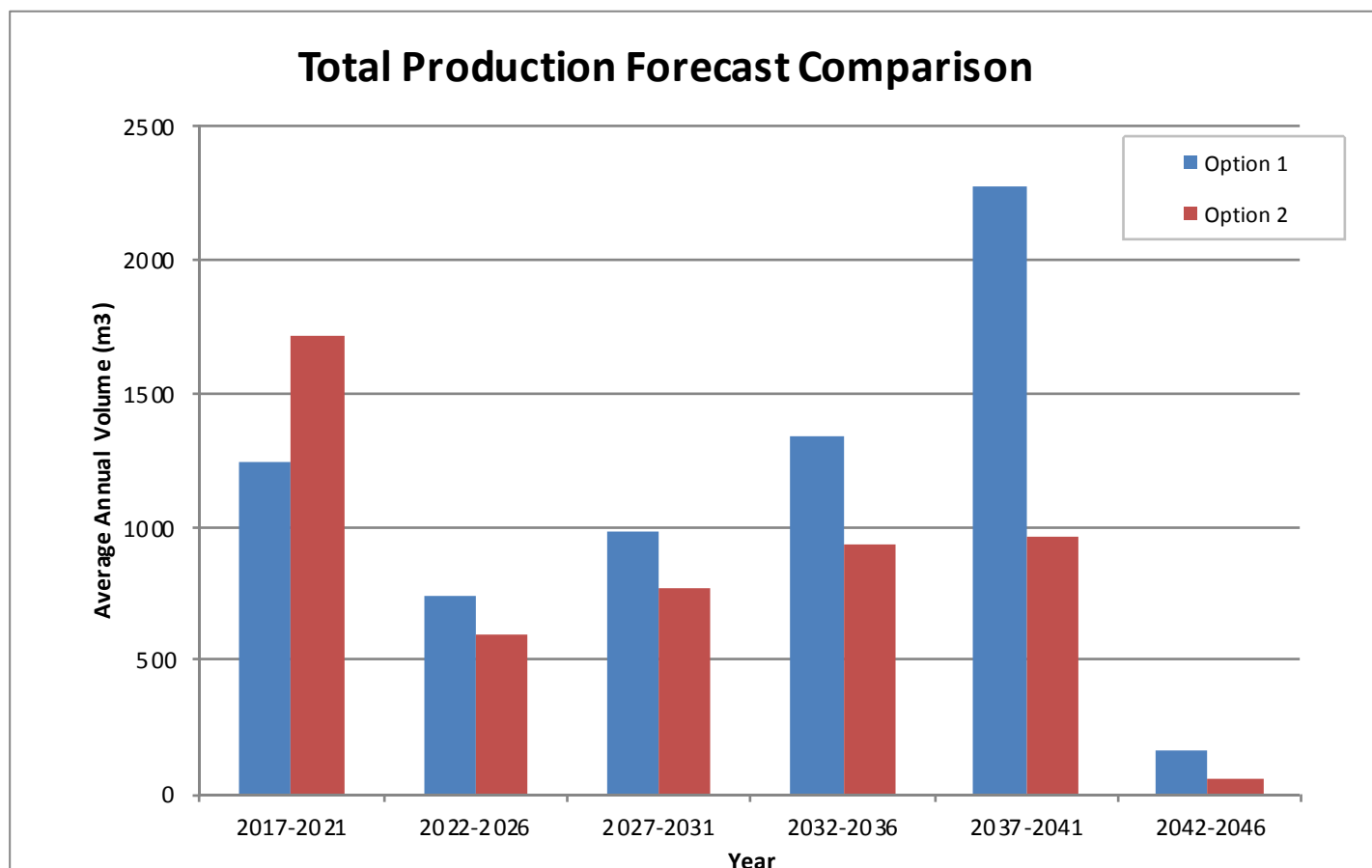
There are 103 river water bodies in the catchment, with a combined length of almost 1050 km, and four lakes. Currently, 27 per cent of surface waters (260 km or 25 per cent of river length and three or 75 per cent of the lakes) achieve good or better ecological status/potential. Waters at good status now include the Lowman, part of the Otter and large parts of the Exe catchment.

The main reasons for less than good status are, in order, impacted fish communities, high levels of phosphate, impacted diatom communities and physical modification. 33 per cent of waters assessed are at good or high biological status now.



APPENDIX 2 - Option Testing






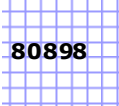


Option 1 – Current Forest Plan (Master)	Option 2 – Proposed Forest Plan (Scenario)
The continued production of sustainable and marketable woodland products.	
The production of timber is somewhat reliant on volume resulting from clearfelling. This felling programme is experiences some periods significant of peaks and troughs. This combines together to make a less sustainable production model for woodland products.	The Plan attempts to spread the production over a longer period by extending rotations and moving towards CCF where possible.
The protection and enhancement of woodland and open habitats and their associated species. - The restoration and management of the Site of Special Scientific Interest. - To protect and enhance areas of Ancient Semi-natural Woodland and restore areas of PAWs in line with 'Keepers of Time'.	
Some acknowledgement is made of the need to restore ancient woodland (particularly within Stoke Woods which is designated). Restoration would be achieved through a mixture of clear felling and restocking, and group selection through natural regeneration over a short period.	The Plan integrates SSSI and PAWS management with a clear strategy for PAWS restoration through thinning and group felling together with native species enhancement will ensure a proactive restoration of the SSSI and ancient woodland will occur over time.
The provision and maintenance of recreation facilities.	
The Plan acknowledges the role of informal recreation and public rights of way.	The Plan acknowledges the role of informal recreation and public rights of way as well as the role Stoke Woods has to play in the social context given its proximity to Exeter.
Deliver well-designed forests that both protect and enhance the internal and external landscape in keeping with the local landscape character	
The proposals consider the landscape context but do not demonstrate delivery of high quality, well design forests both internally and externally.	The majority of coupes have been retained. Where appropriate these have been altered in an attempt to extend rotations and address wind issues. This has then been modelled to ensure proposals contribute to a high value landscape. Coppicing and group felling remains a key component to retain high landscape value.
To conserve, maintain and enhance cultural and heritage assets.	
The makes minimal reference to location and importance of cultural landscape and heritage assets.	The Plan looks to integrate unscheduled heritage assets into management as well as considering the cultural significance of the landscape and forests role within this.



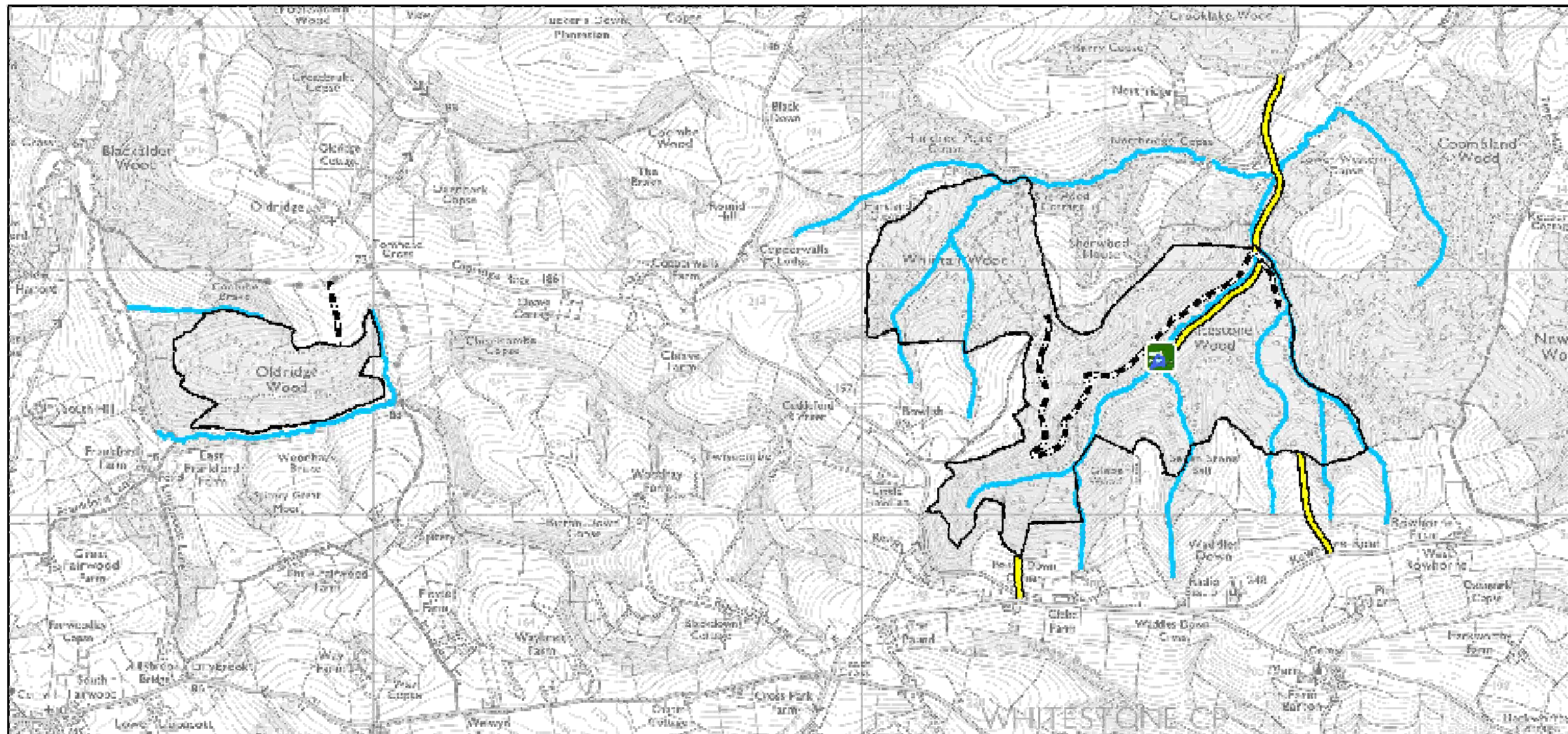
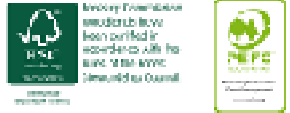


-  Fell 2017 - 2021
-  Fell 2022 - 2026
-  Fell 2027

Coupe Prescriptions












	Coupe	Area (ha)	Existing Crop	Rationale/Prescription	Restock	Area (ha)	Restock Proportion	Rationale/Prescription
Oldridge	 80001	5.15	p.60 WH	Crop has reached maturity, can not be converted to CCF given previous thinning intensities and seed is beginning to broadcast into neighbouring Douglas fir crops and an ancient woodland site.	80001a	5.15	100% Ev. Conifer	Site is relatively exposed but most is north facing and therefore likely to be cold. Planting of relatively hardy productive conifer species which thrives on rich soils should be pursued. Consider Douglas fir, coast redwood or Serbian spruce.
	 80624	22.91	p.40-70 OK & MB	Up to 10 coppice fellings of 0.25ha in size totalling 2.5 ha within Plan period (across nearly 23ha) will be used to diversify and stimulate the riparian corridors and associated ecosystems.	80624a	22.91	100% N. Broadleaf	Coupes may need to be temporarily fenced to allow coppice to regrow unimpeded by browsing. No planting should be needed and should only be considered for the purposes of diversifying composition to aid better resilience.
Stoke Woods	 80067	1.99	p.56 JL	Crop has reached maturity, is located on an ancient woodland site and continues to pose a plant health concern. Given its limited accessibility, proximity to large public roads and significant broadleaf intrusion clearfelling is appropriate over gradual thinning out of conifer.	80067a	1.99	100% N. Broadleaf	Minimal replanting should be required given the sites propensity to naturally regenerate oak and hazel. Consider enriching in clusters with Pedunculate oak, elm, cherry and wild service.
	 80345	0.72	p.59 DF p.63 WH	Crop has reached maturity, can not be converted to CCF given previous thinning intensities and that hemlock seed is broadcast heavily into neighbouring broadleaved crops on an ancient woodland site. This operation is in line with the agreed SSSI Management Plan and will contribute to an improvement in the site's condition.	80345a	0.72	100% N. Broadleaf	Minimal replanting should be required given the sites propensity to naturally regenerate oak and hazel. Consider enriching in clusters with Pedunculate oak, elm, cherry and wild service.
	 80068	5.38	P.1862 OK p.75 HAZ	Up to 4 coppice fellings of 0.25ha in size totalling 1.0 ha within Plan period (across 5 ha) will be used to continue the historical coppice with standards management regime which has been used for many years within this SSSI. This will ensure continued delivery of diverse and productive woodland ecosystem.	80068	5.38	100% N. Broadleaf	Coupes may need to be temporarily fenced to allow coppice to regrow unimpeded by browsing. No planting should be needed and should only be considered for the purposes of diversifying composition to aid better resilience.
	 80898	6.74	P.68-69 DF P.69 JL	Group fellings totalling 1.0 ha within Plan period used to diversify stand structure and accelerate native woodland cover restoration. Group fells should start furthest from car park and trails to minimise impact.	80898	6.74	100% N. Broadleaf	Minimal replanting should be required given the sites propensity to naturally regenerate oak and hazel. Consider enriching in clusters with Pedunculate oak, elm, cherry and wild service.
Huxham	 80084	4.24	p.65 SS p.66 DF	Crops have reached maturity, are located on thin soils and are relatively exposed. Sitka spruce continues to appear stressed, is blowing in a number of locations and is beginning to suffer from <i>Dendochtronus micans</i> .	80084a	4.24	100% Ev. Conifer	Site is relatively exposed, flat and with relatively thin soils. Planting of relatively hardy productive conifer species which can prosper on thin neutral soils should be pursued. Consider Serbian spruce, noble fir or Leyland cypress.
	 80082	22.71	p.63-66 DF	Up to 10 group fellings totalling 2.5 ha within Plan period will be used to diversify Douglas fir stand structure and enable conifer regeneration and underplanting.	80082a	22.71	100% Ev. Conifer	Site is complex which becomes increasingly richer and soils deeper to the north and east. Wholesale underplanting of shade tolerant conifer species regardless of group fellings may be appropriate. Otherwise in the group felling areas consider Douglas fir coast redwood or Western red cedar.

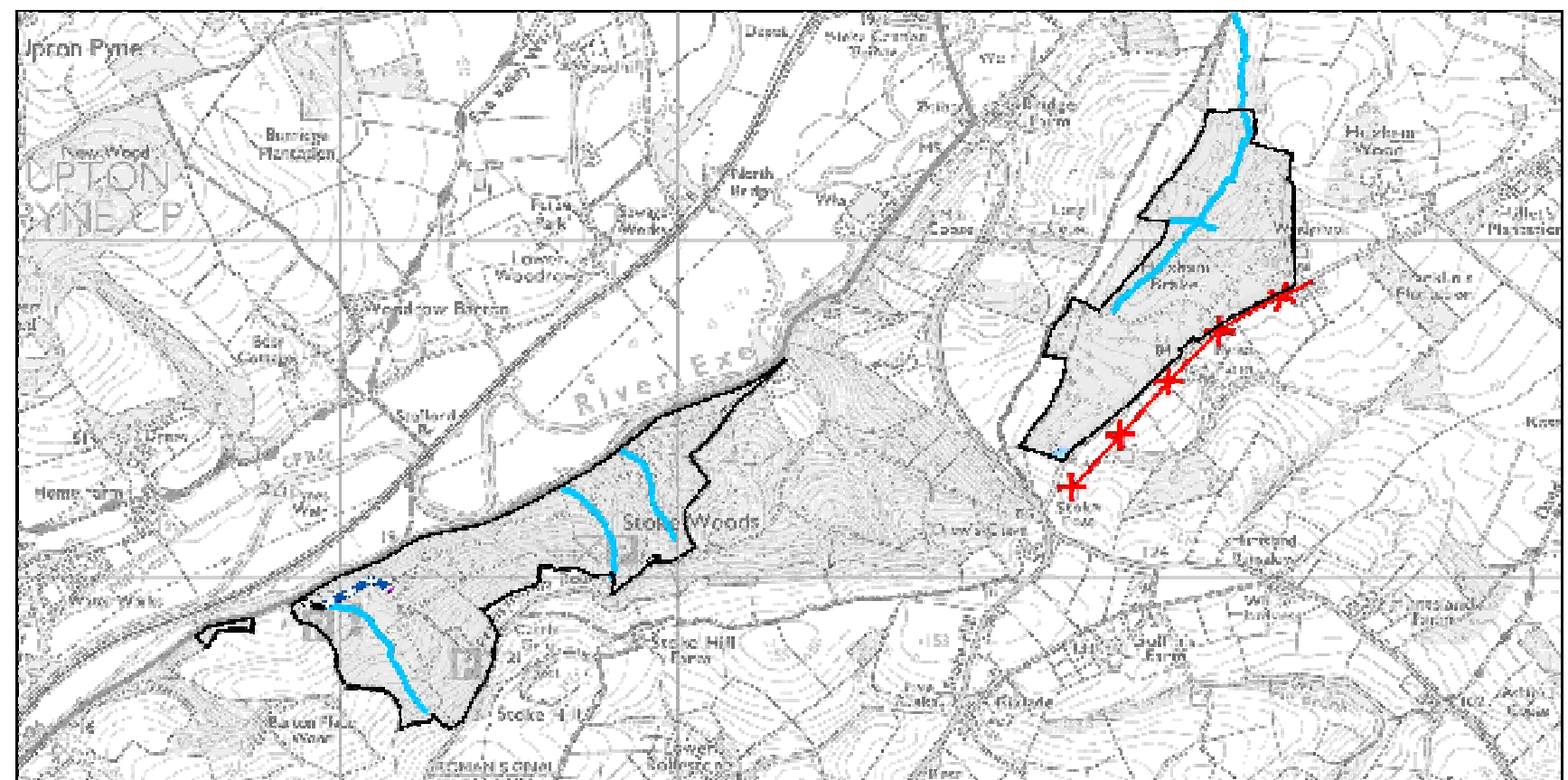
NB. Whilst 'Restock Proportion' is often prescribed at 100% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

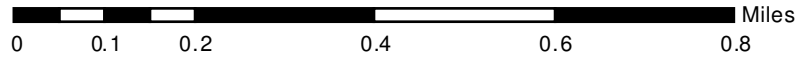


Utilities

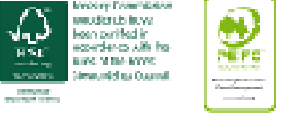
Legend

-  Dams
-  Bridges
-  Class A/B Roads
-  Class C Roads
-  Legal access/Unclassified
-  Classification unassigned
-  Loading/transfer point
-  Powerline Overhead
-  Drain
-  Water courses
-  Open water



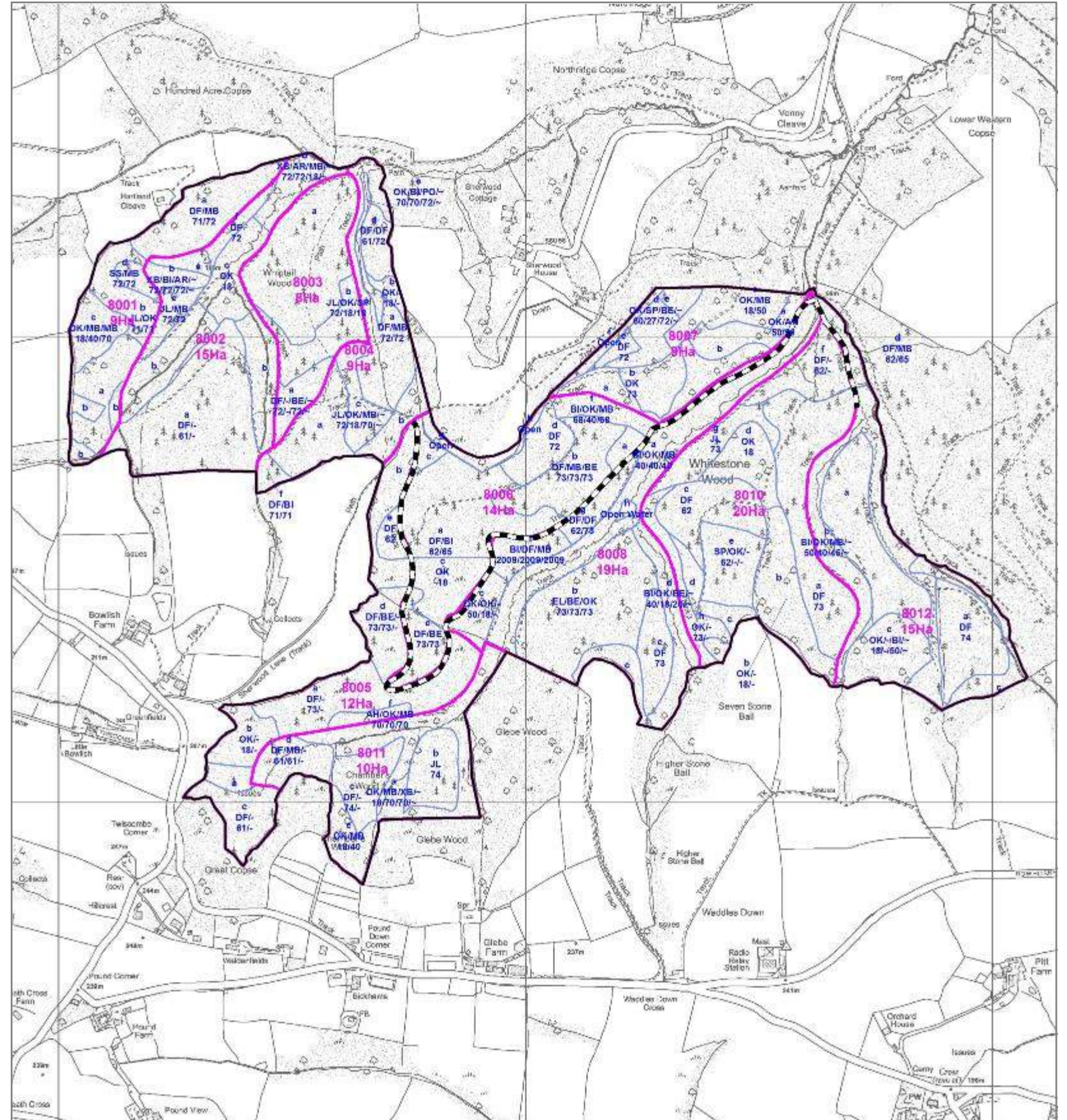
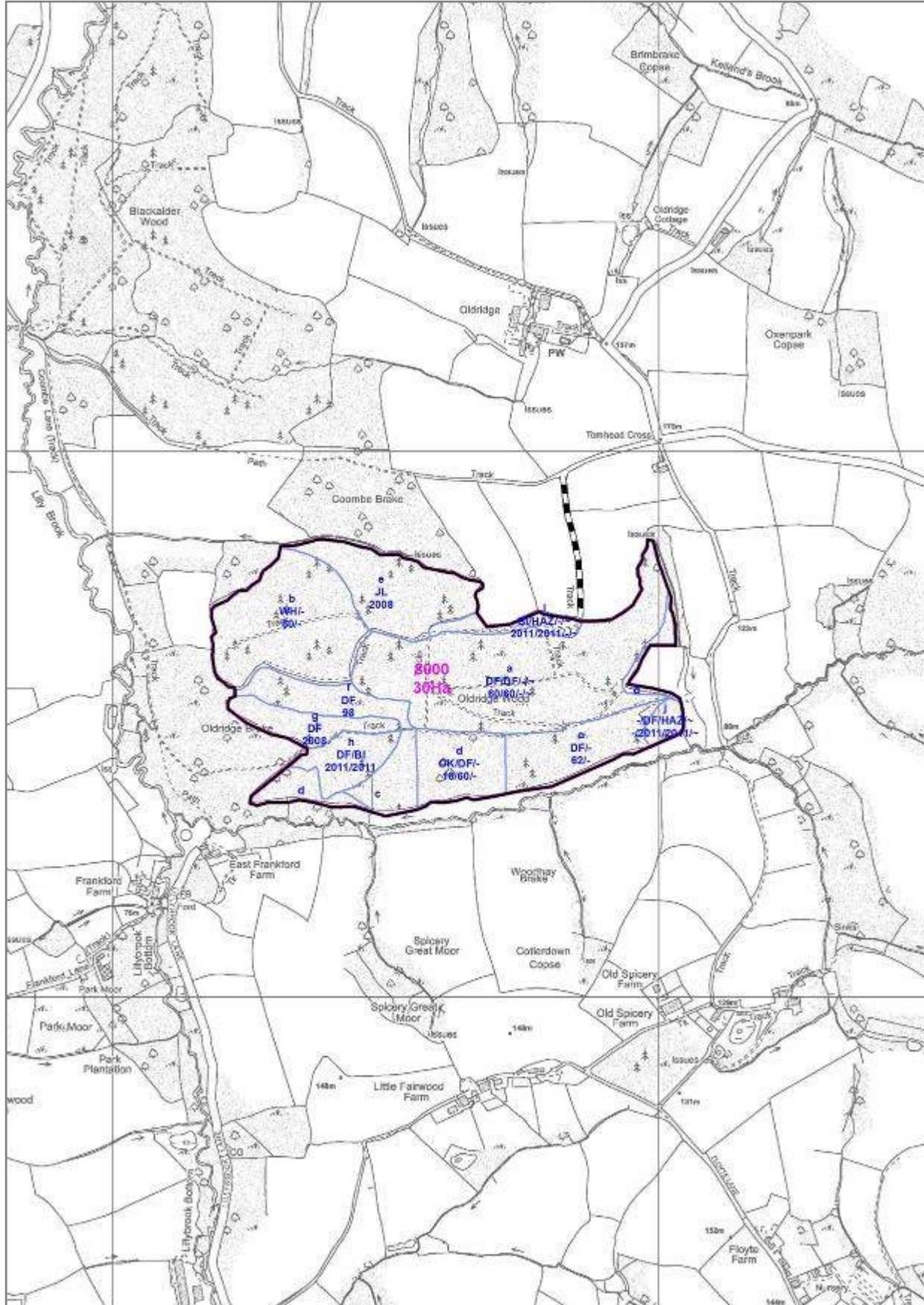


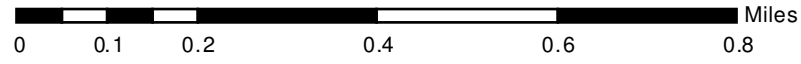
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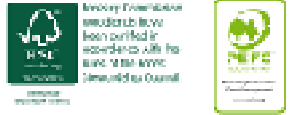
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Oldridge





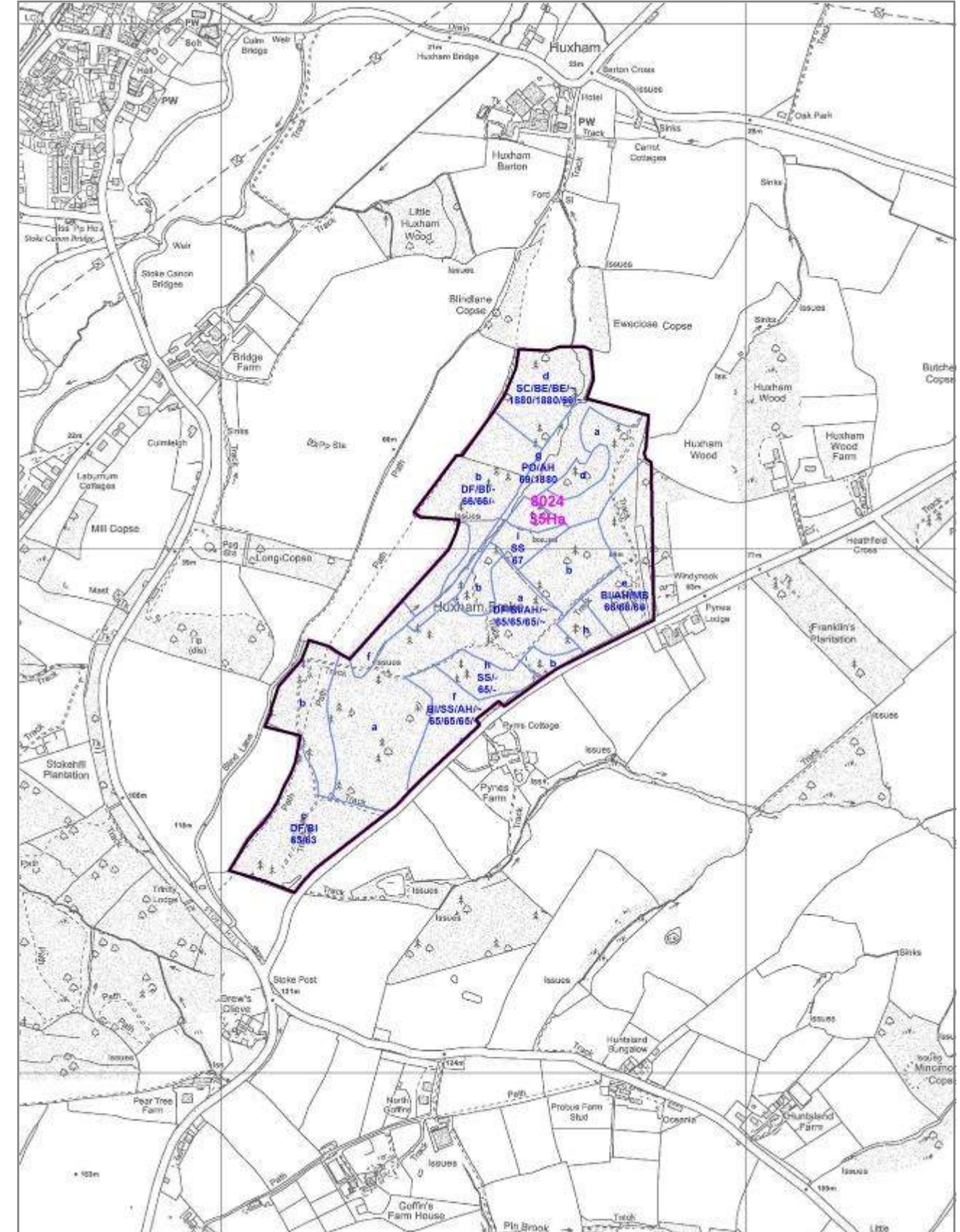
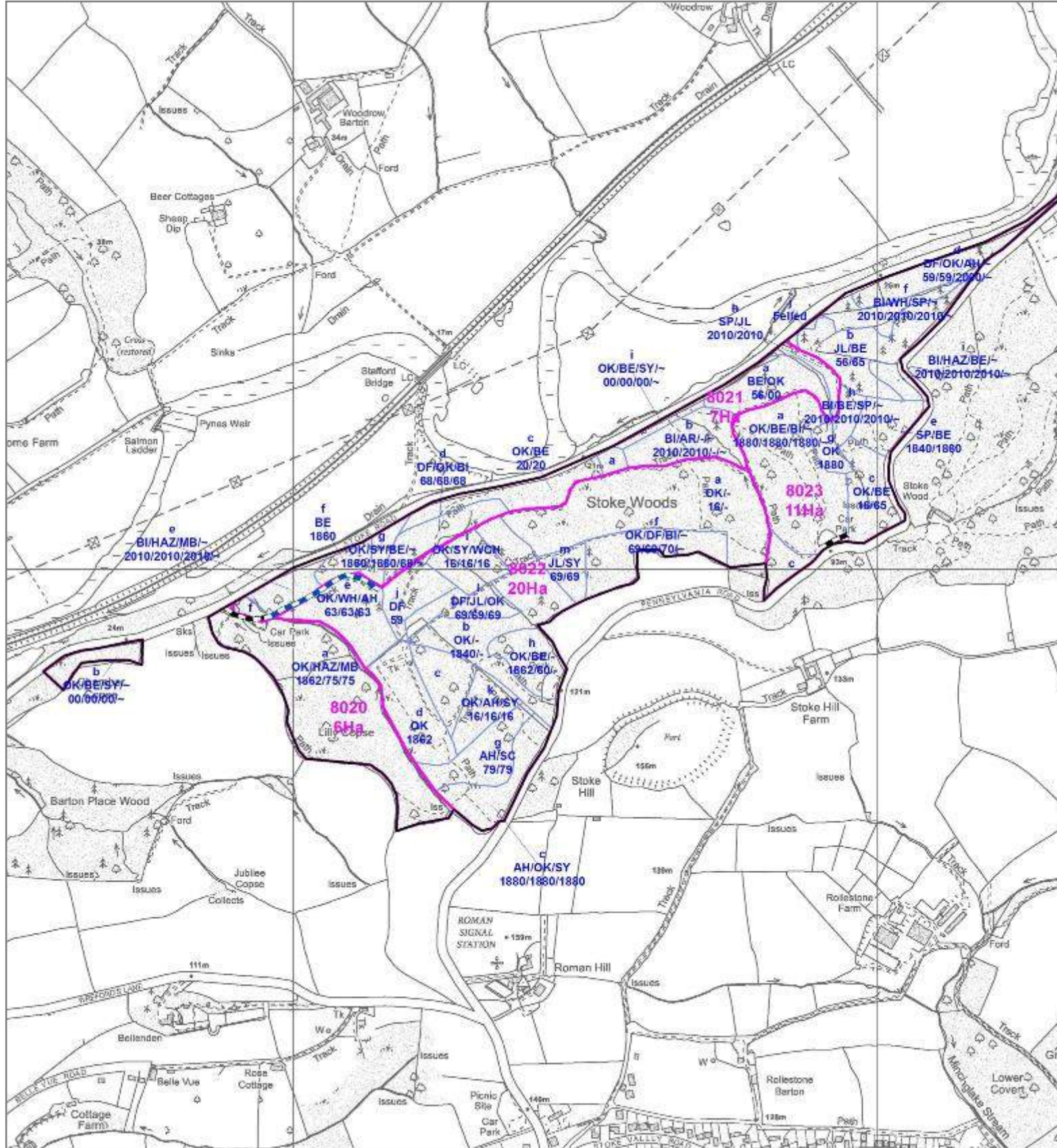
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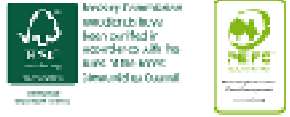


Stock Data 2017

Huxham Brake

Stoke Woods





Pests & Diseases

Name: *Dothistroma Needle Blight (DBN)*

First appearance: mid 1990s

Attacks: Pine species

Often referred to as Red Band Needle Blight (RBN) and can reduce growth rates by between 70 and 90%. Effects of RBN are managed through thinning the wood more heavily than you would normally to introduce higher levels of air flow through the remaining crop. However, only Whitestone and Stoke Woods contain a relatively small component and therefore its impact has been fairly limited.

Name: *Phytophthora ramorum (PR)*

First appearance: 2009

Attacks: Larches

P. ramorum was first found in the UK in 2002 and until 2009 in the woodland environment had largely been associated with rhododendron species acting as a host from which spores are produced. In August 2009 *P. ramorum* was found on a small number of dead and dying Japanese Larch in South West England, causing particular concern since some affected trees were not close to infected rhododendron and showing a significant change in the dynamics of the disease than experienced previously. Following this testing in Devon and west Somerset confirmed the presence of PR in mature Japanese larch as well as species in its under-storey, including sweet chestnut, beech, birch, oak, Douglas fir and Western hemlock. On some sites there is little or no rhododendron present. It is now known that Japanese larch can produce very high quantities of disease-carrying spores when actively growing in spring and summer, at much higher levels than those produced by rhododendron. These can be spread significant distances in moist air. PR is a notifiable disease dealt with by felling the infected area under a statutory plant health notice (SPHN) issued through FERA and the Forestry Commission.

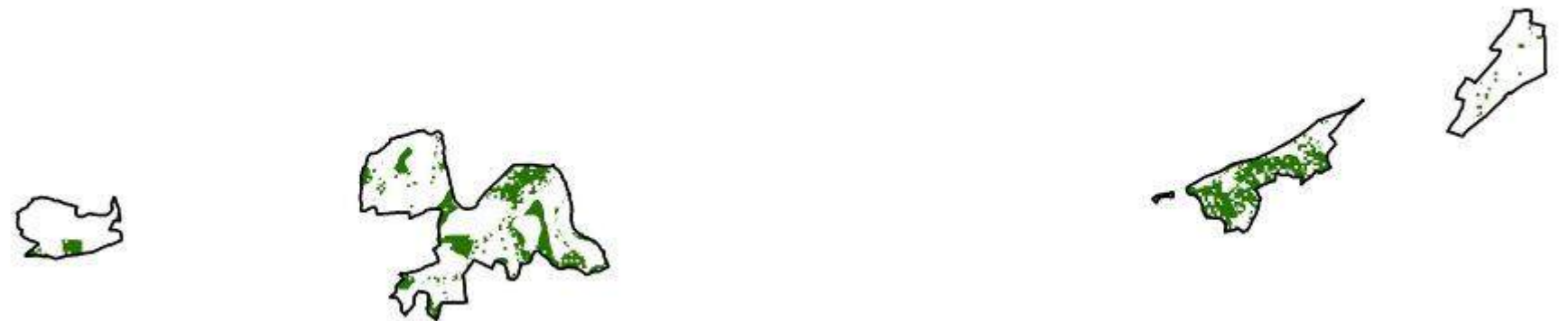


Name: Oak 'dieback' or 'decline'

First appearance: unknown

Affects: Oak

Oak 'dieback' or 'decline' is the name used to describe poor health in oak trees and can be split into Chronic decline and Acute decline. Chronic decline is protracted taking effect on the Oak over a number of decades whilst Acute decline is much swifter acting over much shorter periods usually five years or so. Symptoms can be caused by a range of living agents e.g. insect and fungal attack, or non-living factors, e.g. poor soil and drought. Factors causing decline can vary between sites, as can the effects of the factors through time. Oak decline is not new; oak trees in Britain have been affected for the most part of the past century. Both native species of oak are affected, but Pedunculate oak (*Quercus robur*) more so than Sessile oak (*Quercus petraea*). This disease poses a significant risk to the Plan area given the proportion of oak found within it. The Stoke Woods SSSI will be used as a gauge of the progress of any decline, whilst the rest of the Plan area will be also monitored closely.



Name: *Hymenoscyphus fraxineus*

First appearance: currently N/A

Attacks: Ash

First confirmed in Britain in 2012, Chalara dieback of ash, also known as 'Chalara', ash dieback or Chalara ash dieback, is a disease of ash trees caused by a fungus called *Hymenoscyphus fraxineus*. The disease is now widespread throughout England and poses a threat to areas of the Plan area dominated by Ash, e.g. NVC type W8.



APPENDIX 3 Glossary

Term	Abbreviation	Description
Ancient Semi-Natural Woodland	ASNW	An ancient woodland site, where trees and other plant species appear to of established naturally rather than having been planted. Predominantly these sites will contain 80% or over of site native species or species native to the surrounding area.
Alternatives to Clearfell	ATC	Alternative to Clearfell is similar to CCF and refers to management systems where stands are regenerated without clearfelling.
Ancient Woodland Site	AWS	A site that has technically been wooded since 1600AD and is unlikely to have been converted to farmland in the last few centuries.
Continuous Cover Forestry	CCF	Continuous Cover Forestry is an approach to forest management that enables an owner of woodland to manage the woodland without the need for clearfelling. This enables tree cover to be maintained, usually with one or more levels and can be applied to both conifer or broadleaf stands. With Conifer it is possible to regenerate the crop a lot faster than in broadleaf crops, where the canopy is generally removed a lot slower and over a much longer time span. A decision to use CCF must be driven by management objectives and will have long-term vision often aimed at creating a more diverse forest, both structurally and in terms of species composition. There are no standard prescriptions meaning CCF is very flexible in ensuring opportunities can be taken advantage of as they arise. This development of a more diverse forest is a sensible way to reduce the risks posed by future changes in the climate and biotic threats.
Clearfell	C/F or CF	To cut and remove all trees from a certain area of woodland.
Crop		A stand of trees. Often associated with stands completely or partially managed for its timber. Just as farmers manage crops so does forestry the only difference is a farmers' rotation is shorter and often realised in 1 year. Trees are a much longer term crop with rotations varying from 6 years to 400 years. (also see definition for rotation)
Enrichment planting		Planting different species within areas of regen that helps diversify the range of species in a wood and in doing so can make it more resilient to future climate change and future threats from disease. Enrichment may be desirable in areas where success of regeneration is uneven, patchy or where a regen crop is limited by the number of species present.
Group felling / group planting		This is where small areas of woodland are felled hence the name "group felling" and then either allowed to develop through the use of nat-regen or in this case planted hence "group planting". These techniques can help to develop structure* within a wood over a given length of time and is often used in conjunction with continuous cover. *Either in terms of age or number of tree species present, since shelter and shade are provided by the remaining upper storey one can consider a larger number of tree species when deciding what to plant.
Hectare	Ha	Unit of area equating to 2.47 acres.
Native (and honorary native)		The trees making up the woodland are part of England's natural, or naturalised flora. Determined by whether the trees colonised Britain without assistance from humans since the last ice age (or in the case of 'honorary natives' were brought here by people but have naturalised in historic times); and whether they would naturally be found in this part of England.
Natural Regeneration	Regen or nat-regen	Trees growing on a site as a result of natural seed fall, and can be used as a management process and can allow cleared areas of woodland to germinate, grow and develop naturally. This process can happen anywhere and woods can be managed to encourage nat-regen although there is no guarantee of success. In these instances, or if nat-regen is unlikely for a variety of reasons, one can use enrichment planting or group planting to achieve the same affect. The process usually relies on an overstorey of "parent trees" being present or on parent trees being close by to provide the seed. These parent trees will usually of been thinned and managed with natural regeneration in mind. Existing areas of nat-regen are then usually developed through carefully thinning the surrounding woodland over a number of years, to give more light and space to ensure the young trees can establish themselves into larger trees eventually allowing them to be incorporated ('recruited') into the main crop for the next rotation at some point in the future. Usually done in small groups or in strips this system can allow a varied woodland structure to develop over time. Protection from competing plant species and mammal browsing might be required in the early stages by fencing or using tree shelters.



<p>Rotation</p>		<p>Generally a commercial term used to describe the length of time an area of trees is growing for, from the time of planting to the time of felling. For broadleaves a rotation is generally a lot longer than that of conifer species* and can broadly speaking be anywhere between 80 years to 3-400 years, as opposed to conifer crops whose rotation is generally shorter but can vary from 20-25 years to 120 years plus.</p> <p>*The exception being that of coppice where rotation length can vary from 5 or 6 years up to 30 years plus depending on management objectives.</p> <p>“First rotation” would refer to an area of wood planted on open ground not previously wooded. And so “second rotation” is one where woodland has been cleared and replanted.</p>
<p>Shelterwood</p>		<p>A management system that is applicable to conifer or broadleaf, where tree canopy is maintained at one or more levels without the need to clear-fell the whole site. Felling can occur, but generally in small “groups” whose size shape and spatial distribution will vary depending on site conditions. The “groups” are then either: allowed to develop and establish by the use of natural regeneration, are planted or are established using a mixture of both techniques. This known as a “group shelterwood system”</p> <p>A variation on this is “Single tree selection”. This variation removes individual trees of all size classes more or less uniformly throughout the stand to maintain an uneven-aged stand and achieve other stand structural objectives. While it is easier to apply such a system to a stand that is naturally close to the uneven-aged condition, single tree selection systems can be prescribed for even-aged stands, although numerous preparatory thinning interventions must be made to create a stand structure where the system can truly be applied.</p>
<p>Silviculture</p>		<p>A term coined during late 19th century from the Latin <i>silva</i> meaning 'wood' and the French <i>culture</i> meaning 'cultivation' and so Silviculture is the art and science of controlling the establishment, growth, composition, and quality of forest vegetation to achieve a full range of forest resource objectives.</p>
<p>Stand</p>		<p>A group or area of trees that are more or less homogeneous with regard to species composition, density, size, and sometimes habitat.</p>
<p>Thin</p>	<p>TH</p>	<p>Selective removal of trees from a wooded area, giving remaining trees more space to grow into larger trees. Thinning is done to:</p> <ul style="list-style-type: none"> Improve the quality and vigour of remaining trees. Remove trees interfering with mature or veteran broadleaf trees. Give space for tops (or “crowns”) of broadleaf trees to develop and potentially act as a future seed source. Give space for natural regeneration to grow and develop with the intention of recruiting these younger naturally grown trees as a part of the future woodland structure. Create gaps for group planting or enrichment. Remove species of tree that may compromise the intended management objective of the woodland eg: non-native or invasive species such as Sycamore, Western Hemlock or birch. Improve the economic value of a wood. Help realise opportunities to enhance ecological value. <p>NOTE: This list is not in any order of priority and will vary depending on management objectives.</p>
<p>Yield Class</p>	<p>YC</p>	<p>A method of measuring the growth rate or “increment” of a crop of trees by age and height; measured in m³ per Ha per annum. E.g. A crop with a YC of 16 is one that has an annual increment of more than 16m³ but less than 17m³, although generally only even numbers are used when stating YC.</p>



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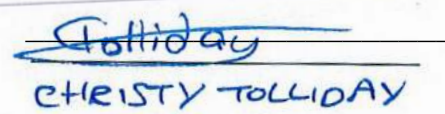
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1. Agreement and Consent

District West England Forest District
Name of SSSI Stoke Woods SSSI
Compartment Numbers 8020, 8021, 8022, 8023
OS Grid reference SX 930963
Period of Plan January 2018 – November 2028

South Devon Team

Date:




CHRISTY TOLLIDAY

09/03/2018

West England Forest District

Date:



I.G. STANWARO

3rd DECEMBER 2017

The signing of this plan by Natural England gives the necessary consent under Section 28 (6) of the Wildlife and Countryside Act (1981), as amended, for the management prescriptions detailed in this plan and to be undertaken without necessity to consult prior to each operation during the plan.

FC England will keep a written record of work carried out during the period of this plan.

2. SSSI Notification

County Devon
Site Name Stoke Woods
District West England Forest District
Status Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended
Local Planning Authority Devon County Council
 Exeter City Council
National Grid Reference SX 930963
Area 46.1ha
Ordnance Survey Sheet 1:50,000: 192
 1:10,000: SX 99 NW
Date Notified (Under 1949 Act) 1956

The Forestry Commission managed unit of the SSSI is in Unfavourable Recovering condition



Mixed high Forest

The majority of Stoke Woods, some 23 hectares in total, is mixed high forest. The soil conditions range from reasonably base rich in the west to more acidic in the east. In the west, old sessile oak, planted in the 1862 exists within a mixture of species including pedunculate oak (*Quercus robur*), beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*). A well developed under-storey of sweet chestnut (*Castanea sativa*), holly (*Ilex aquifolium*), hazel coppice (*Corylus avellana*), hawthorn (*Crataegus monogyna*), beech and sycamore is also present.

Throughout the more base rich area, the ground flora is abundant and consists of wood spurge (*Euphorbia amygdaloides*), wild garlic (*Allium ursinum*), dog's mercury (*Mercurialis perennis*), lesser celandine (*Ranunculus ficaria*), wood ruff (*Galium odoratum*) and abundant wood anemone (*Anemone nemorosa*).

Much of this area was last thinned in 2006 and the successive opening up of the canopy coupled with the coppicing of hazel coupes on rotation has led to an increasingly abundant and diverse under-storey. Together with the more base-rich conditions, a more diverse lowland deciduous woodland type has developed than would normally be expected in a typical western oakwood.

This woodland structure is not suitable for the more westerly breeding bird assemblage for which this site is designated, as it does not support the favoured sparse under-storey and limited ground flora to which this suite of birds is adapted. It does, however, provide habitat for a range of more lowland species including dormice, blackcap and garden warbler that required dense under-storey for nesting.

Because of the changing climate and the need for climate adaptation, a more diverse woodland structure and range of tree species should be accepted. However oak is an important component of this woodland type and provides habitat for many of the important bird species. Despite the number of mature seed producing sessile oak trees, the amount of oak natural regeneration is very limited in comparison to the prolific beech, holly and sycamore regeneration.

At the next thinning due in 2018, mature oak should be halo thinned to provide significant gaps in the canopy to encourage the regeneration of oak. The prolific sycamore and beech regeneration should be reduced to allow more light to the woodland floor and to encourage oak regeneration. Some enrichment planting has taken place, although this is getting browsed by deer. Planting should be considered as a last resort if natural regeneration of oak continues to fail.

Throughout the high forest area there are significant old-growth trees, mainly sessile oak, beech and pedunculate oak with the occasional sycamore. These old-growth trees should be retained (including some of the largest and oldest sycamore) to provide habitat for hole-nesting birds, lichens and bryophytes. As discussed, the oak should be halo thinned to encourage natural regeneration of oak. Decaying wood, both standing and fallen, should be retained in-situ to provide habitat for a range of saprophytic invertebrates and fungi. Where standing deadwood is present near paths it should be made safe and retained.

Roe deer are present throughout Stoke Woods, however due to the high public use of the site deer management by the Forestry Commission is very limited. Deer browsing in Stoke Woods is evident however there is also significant regeneration of species that are able to regenerate under a dense canopy. A certain amount of browsing is important to retain the relatively open woodland floor favoured by wood warblers, pied flycatchers and tree pipits but if oak regeneration is thought to be suffering due to deer, measures should be put in place to protect the regeneration and to perpetuate the oak.

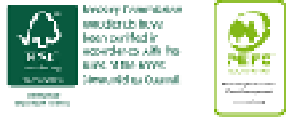
A National Dormouse Monitoring Programme (NDMP) managed by Exeter City Council, throughout the western high forest area and small hazel coppice coupes are present throughout this area. Hazel coppice should continue to be managed in small coupes on a 15-20 year rotation to ensure it continues to provide suitable habitat for dormice. Hazel and other nectar rich trees provide an important food source and consideration should be given to these trees during subsequent thinning operations.

In the east of the wood, the high forest is on much thinner and more acidic shales, the ground flora illustrates this with abundant heather (*Calluna vulgaris*), bilberry (*Mercurialis perennis*) and common cow wheat (*Melampyrum pratense*). There is also bluebell (*Hyacinthoides non-scripta*) and wood anemone (*Anemone nemorosa*) on the deeper soils. There is a lower diversity of tree species in comparison to the west of the site with mature old growth sessile oak (*Quercus petraea*) and beech (*Fagus sylvatica*) being the dominant species with a sparser and beech and holly understorey and a more open parkland feel.

Stoke Woods is in part a westerly-distributed assemblage usually associated with high sessile oak forest and sparse under-storey. Pied flycatchers, tree pipits and wood warblers depend on holes in mature oak trees or mature, well spaced oak woodland with little shrub layer and a low herbaceous layer and the mixed high forest at the west of the site provides more suitable conditions for this range of species.

There is some cherry laurel (*Prunus laurocerasus*) and rhododendron (*Rhododendron ponticum*) present in this part of the wood, it is fairly minimal however it should be managed before it starts to encroach further and become more costly and difficult to manage.

Management Prescriptions for the period 2018 - 2028		1	2	3	4	5	6	7	8	9	10
1	Selectively thin around a proportion of the mature sessile oaks to encourage oak natural regeneration			◆					◆		
2	Significantly reduce the amount of sycamore and beech in the understorey			◆					◆		
3	Coppice two ash,, sycamore and hazel coupes (approx. 0.25 ha) on a 15 -20 year cycle throughout the NDMP area		◆					◆			
4	Cut and treat cherry laurel and rhododendron mainly in compartment 8023 but scattered in small quantities		◆					◆			



Overstood oak Coppice

Just over 5 hectares of Stoke Woods is dominated by overstood sessile oak coppice, planted in 1916 and last coppiced in the forties. It is the densest oak within Stoke Woods, almost uniform in structure with a limited under-storey of holly, birch, hazel and the occasional rowan.

This area has a very different character from the high forest with low diversity of tree species and a sparse ground flora of great wood rush (*Luzula sylvatica*), honeysuckle (*Lonicera periclymenum*) and bramble (*Rubus fruticosus*). The overstood coppice has a woodland structure more characteristic of a typical western Atlantic Oakwood (NVC W17), providing habitat for birds such as the wood warbler, which depend on dense canopy, limited under-storey and sparse ground flora.

A significant number of the oak stools have already been singled, presumably to create gaps in the canopy to promote the natural regeneration of oak. However oak regeneration is practically non-existent in this area of the wood, presumably due to lack of light and browsing by deer. To ensure the sessile oakwood is perpetuated, two gaps, each of approximately >150m² should be created to allow light to reach the woodland floor and to encourage natural regeneration. If successful a further two coupes should be cut and fenced several years later. However if no natural regeneration takes place after five years, enrichment of local provenance mixed native broadleaves in tubes should be carried out within the two original coupes.

Non-native invasive rhododendron (*Rhododendron ponticum*) and cherry laurel (*Prunus laurocerasus*) occurs in distinct patches throughout this central area of Stoke Woods and should be removed by cutting and follow-up herbicide treatment.

Management Prescriptions for the period 2018 - 2028		1	2	3	4	5	6	7	8	9	10
1	Group fell two coupes (>150m ²) to encourage natural regeneration and diversify age structure. If successful, cut another two coupes in year 8.		◆					◆			
2	Cut and treat cherry laurel and rhododendron scattered in small quantities.	◆					◆				

Plantation conifer and beech

According to the Ancient Woodland Inventory, 17 hectares of Stoke Woods is Plantation on Ancient Woodland Site. Approximately 11 hectares of this is currently under mature conifer, or conifer, beech and broadleaf mixtures.

The whole conifer crop was thinned to favour the broadleaves during 2006, and significant amounts of broadleaf now coexist alongside the conifer. Conifer across the site is generally well-thinned, has a reasonably diverse age-structure and adds variety and interest to the site.

Conifer sub-compartments will continue to be thinned to favour the broadleaves. Whilst there will be a very gradual reversion to semi-natural woodland over time, there is a recognition that the conifer component adds significant structural, ecological and aesthetic diversity to the woodland. Removal of the conifer crops will be carried out in line with the Forest Plan and current ancient woodland policy and for the most part be achieved through a process of single tree selection rather than a clearfell/restock system.

Although most of the western hemlock was removed through clearfell in 2006, some mature western hemlock still remains above the lower car park and there is considerable regeneration of this species throughout Stoke Woods. Young regenerating western hemlock will be removed when the conifer and broadleaf crops are thinned to ensure it does not reach thresholds that impact on the naturalness of the ancient woodland sites

Small areas of Japanese larch (*Larix kaempferi*) will be monitored for the presence of *Phytophthora ramorum*, and if found to be infected will be removed through clearfelling.

A sub-compartment of Scot's Pine (*Pinus sylvestris*) planted in 1840 exists alongside mixed broadleaves and this will be retained.

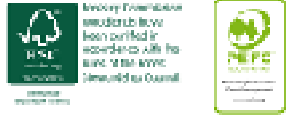
The sub-compartment of beech in compartment 8023 is very even-aged with an under-storey of mixed conifer and beech. To diversify the age structure and create a more open structure, small group fellings of beech will take place.

Management Prescriptions for the period 2018 - 2028		1	2	3	4	5	6	7	8	9	10
1	Thin on rotation to favour oak and other broadleaves		◆					◆			
2	Carry out a two small group fellings of beech to diversify age structure.			◆					◆		



3. Potentially Damaging Operations

Ref. No.	Type of Operation
1	Cultivation, including ploughing, rotovating, harrowing, and re-seeding.
2	Changes in the grazing regime, including type of stock or intensity or seasonal pattern of grazing and cessation of grazing.
3	The introduction of stock feeding and changes in stock feeding practice.
4	The introduction of mowing or other methods of cutting vegetation and changes in the mowing or cutting regime, including cessation.
5	Application of manure, fertilisers and lime.
6	Application of pesticides, including herbicides (weed killers).
7	Dumping, spreading or discharge of any materials.
8	Burning.
9	The release into the site of any wild, feral or domestic animal, plant or seed.
10	The killing or removal of any wild animal*, other than pest control.
11	The destruction, displacement, removal or cutting of any plant or plant remains, including shrub, herb, dead or decaying wood, moss, lichen, fungus, leaf-mould and turf.
12	Changes in tree and/or woodland management including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood, changes in species composition, cessation of management.
13a	Drainage (including use of mole, tile, tunnel or other artificial drains)
13b	Modification of the structure of watercourses (eg. streams), including their banks and beds, as by re-alignment, re-grading or dredging
13c	Management of aquatic and bank vegetation
14	The changing of water levels and tables and water utilisation, including irrigation, storage and abstraction through boreholes.
15	Infilling of ditches, ponds, pools or marshes
16a	The introduction of or subsequent changes in freshwater fishery production and/or management, including sporting fishing and angling.
20	Extraction of minerals, including topsoil and subsoil.
21	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.
22	Storage of materials
23	Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.
26	Use of vehicles likely to damage or disturb features of interest.
27	Recreational or other activities likely to damage the trees and epiphytic lichens.
28	Introduction of game management and changes in game management and hunting practice.



4. Important Evaluation Criteria

Diversity

Stoke Woods is surprisingly diverse, considering its relatively small size. A range of woodland habitats including mixed high forest with old growth and diverse under-storey, overstood oak coppice, a network of open and successional habitat, as well as streams and wet flushes coexist, providing a range of conditions suitable for a diverse range of species such as dormice, silver-washed fritillary and wood warbler.

Naturalness

The woodland, although planted with conifer and beech in the 1960's, and more latterly colonised in part by non-native invasive species including cherry laurel and rhododendron, does support extensive areas of ancient semi-natural woodland. Much of this woodland supports old growth trees, often on fairly inaccessible ground, where a light touch approach to management, has been the norm.

Intrinsic Appeal

Stoke Woods is an appealing place to visit, situated high over the River Exe, with exceptionally rich and varied wildlife interest, it is sometimes difficult to believe the wood is just two miles from the centre of Exeter City.

Rarity

Stoke Woods is an interesting example of a Western Atlantic Oakwood, characteristic in many ways of the wetter, poorer soils of the north west of England, but with southern characteristics brought about by past management practices and a diverse surface geology. This has led to a diverse range of rare species coexisting in a small wood including rare lichens, western bird assemblages, dormice and birds more dependent on woodland edge and scrub.

5. Factors Influencing Management

Public Pressure

Situated on the edge of Exeter City Centre, with good public access, two car parks and a number of way marked trails and less formal footpaths, Stoke Woods SSSI receives a high number of recreational visits. Fly tipping along the southern boundary of the wood adjacent to Pennsylvania Road is a problem. Managing deer and squirrels is difficult due to the risk to public safety and has implications for the natural regeneration of native species.

Breeding Birds

Due to the importance of Stoke Woods for its rare Western Atlantic Oakwood breeding bird assemblage, wherever possible all work will be timed to avoid the bird nesting season, i.e. 1st March until the 31st July inclusive. Where this is not possible a breeding bird survey will be carried out prior to the commencement of works.

