

# Exmoor Forest Plan

## 2021 - 2031

### West England Forest District

Ben Robinson

FE File Ref: OP10/61

OLD Ref: PE36, PE38, PE39/1 & PE39




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responsible forestry




## Application for Forest Plan Approval

Forest District:	West England FD	
Woodland or property name	Croydon Hill Wootton Courtenay Chargot & Hazery Birds Hill, Tilsey Elworthy Willett Hill	
Nearest town, village or locality:	Minehead	
OS Grid reference:	SS 9779 4236	Nutcombe Bottom Car Park
Local Authority District/Unitary Authority:	Somerset West and Taunton	
Plan Area:	1328 ha	
Conifer Felling:	167.3 ha	
Broadleaved Felling:	0 ha	

- I apply for Forest Plan approval for the property described above and in the enclosed Forest Plan.
- I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders that FE agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of consultees, this is highlighted in the Consultation Record.
- I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
- I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed  .....  
Forest Management Director

Date 11/06/2020 .....

Signed  .....  
Area Director

Date of approval..... 23/7/2021 .....

Date approval ends..... 23/7/2031 .....



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Forestry England  
forests and woodlands  
have been certified in  
accordance with the UK  
Woodland Assurance  
Standard (UKWAS)



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# Summary

## About

The Exmoor Forest Plan area is made up of the plantations of Croydon Hill, with a number of surrounding forests such as Wootton Courtenay, Chargot, Hazery, Willett Hill, Birds Hill and Elworthy and is a prominent and distinct feature within an upland landscape and is made up of a number of large conifer dominated forests on high plateaus and reasonably steep sided valleys.

The Exmoor woodlands are situated a few miles south of Minehead in the parishes of Wootton Courtenay, Timberscombe, Dunster, Carhampton, Luxborough, Treborough, Stogumber and Elworthy on the north eastern flanks of Exmoor, almost entirely within the Exmoor National Park. The local authority is Somerset West and Taunton Council.

The Nation's Forests here is a predominantly conifer having been planted after the First World War to address the national timber shortage. The area is known to produce exceptionally large and high quality Sitka spruce and Douglas fir which makes up the vast majority of the trees here. 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. Some of the Nations Forest's here is ancient woodland and has been planted with conifer in the Twentieth Century (PAWS). Areas of remnant ancient semi-natural woodland do remain and are made up of oak and birch with ash and beech.

The Plan area is also an area of high archaeological importance, that has not yet been fully recorded, with a number of Scheduled Monuments but with many more undesigned sites likely to be of equal national importance particularly in the areas most recently forested.

The Plan area is a rich for ecology with habitat such as Priority Lowland Mixed Deciduous Woodland used by dormice, long-eared owls, nightjar, rare bats and raptor as well as other important flora and fauna species.

The vast majority of the Plan area is Open Access, confirmed by the Countryside Rights of Way Act. The exception is Willett, Side Wood, Slowley Wood, Tilsey and Elworthy where access is constrained to public rights of way due to it being leased from another landowner. Nutcombe Bottom is the main focus of recreational activity and is a particularly nice place to picnic, walk, run or ride thanks to the good path network and very large trees here. The woodlands are quietly enjoyed by local walkers and cyclists, as well as popular shoots, both retained and let.

## Objectives

The core aim of the Plan is to begin to progress the 50 Year Vision by producing woodlands which 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.
- Protect and enhance woodland and open habitats and their associated species.
  - To protect, enhance and restore areas of ancient woodland
- The provision and maintenance of recreation facilities.
- Deliver well-designed forests that both protect and enhance the internal and external landscape in keeping with the local landscape character and Exmoor National Park.
- To conserve, maintain and enhance cultural and heritage assets and their setting.

The current plan outlines management proposals including felling and restocking over several decades, with felling licence approval for operations up until 2031.

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

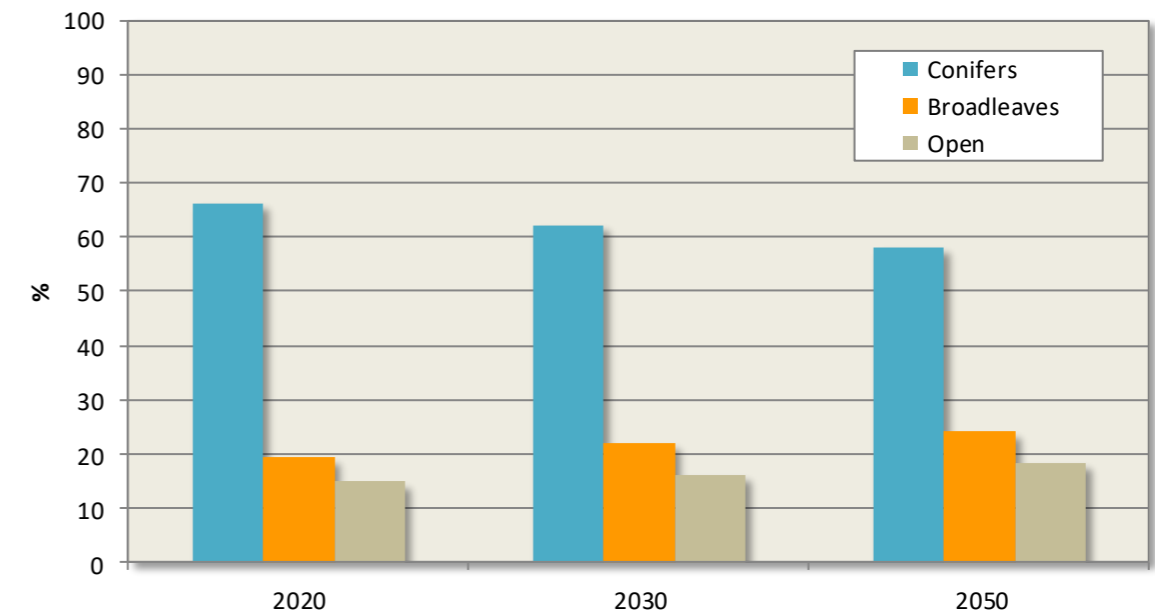
The Plan makes provision to ensure proposals are in keeping with the treasured upland moor farmed and wooded National Park landscape. Implementation and maintenance of an environmental corridor system will continue to increase diversity of habitat and internal landscaping.

The planned areas of clearfelling, restocking and permanent open space creation during the ten years to 2031 are summarised in the chart below.

HECTARES	Conifers	Broadleaves	Open space
Clearfelling	167.3	0	0
Restocking/Regeneration	145.4	3.8	18.1

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 Exmoor woodlands are situated a few miles south of Minehead in the parishes of Wootton Courtenay, Timberscombe, Dunster, Carhampton, Luxborough, Treborough, Stogumber and Elworthy on the north eastern flanks of Exmoor, almost entirely within the Exmoor National Park. The local authority is Somerset West and Taunton District Council.

The Exmoor Forest block is a prominent and distinct feature within an upland landscape and is made up of a number of large conifer dominated forests on high plateaus and reasonably steep sided valleys. The Exmoor Forest Plan area is made up of the plantations of Croydon Hill, with a number of surrounding forests such as Wootton Courtenay, Chargot, Hazery, Willett Hill, Birds Hill and Elworthy totalling 1328ha .

The majority of the land is at 120-300 metres above sea level and is undulating to steep in places. The climate is warm and fairly moist with annual rainfall of 800–1100mm, a soil moisture deficit of around 140mm, and an accumulated temperature over 5°C of 1800°C.

The soils across the Exmoor Plan Area are primarily medium to rich and fresh typical brown earths with an underlay of gley and/or an ironpan element in places.



## A 50 Year Vision

The Vision for the future of the Exmoor Plan area is bold but in keeping with Forestry England's key strategic goals and the local and national value which is placed on the area. The Plan is set against the backdrop of the National Park landscape whereby woodlands, *formerly an as area of heather moor, the hills and ridges are now cloaked by an interconnected series of managed coniferous plantations, making for a conspicuous landscape - the dense, dark green forest forming a strong contrast with surrounding areas in terms of colour, texture and landscape pattern* (Exmoor National Park, 2018). The Plan will make a targeted effort to soften some of these contrasts and deliver a forest that integrates better into the landscape.

This Vision looks to achieve an area which is a haven for wildlife, recreation and commerce. A key element of Plan for the Landscape Character Assessment Type (Exmoor National Park, 2018) is to develop a long-term and holistic plan for the area, which takes account of archaeology, biodiversity and recreation opportunities, as well as forestry requirements, identify areas for different management (e.g. as forest, woodland, heath and farmland) and introduce positive management accordingly. 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.

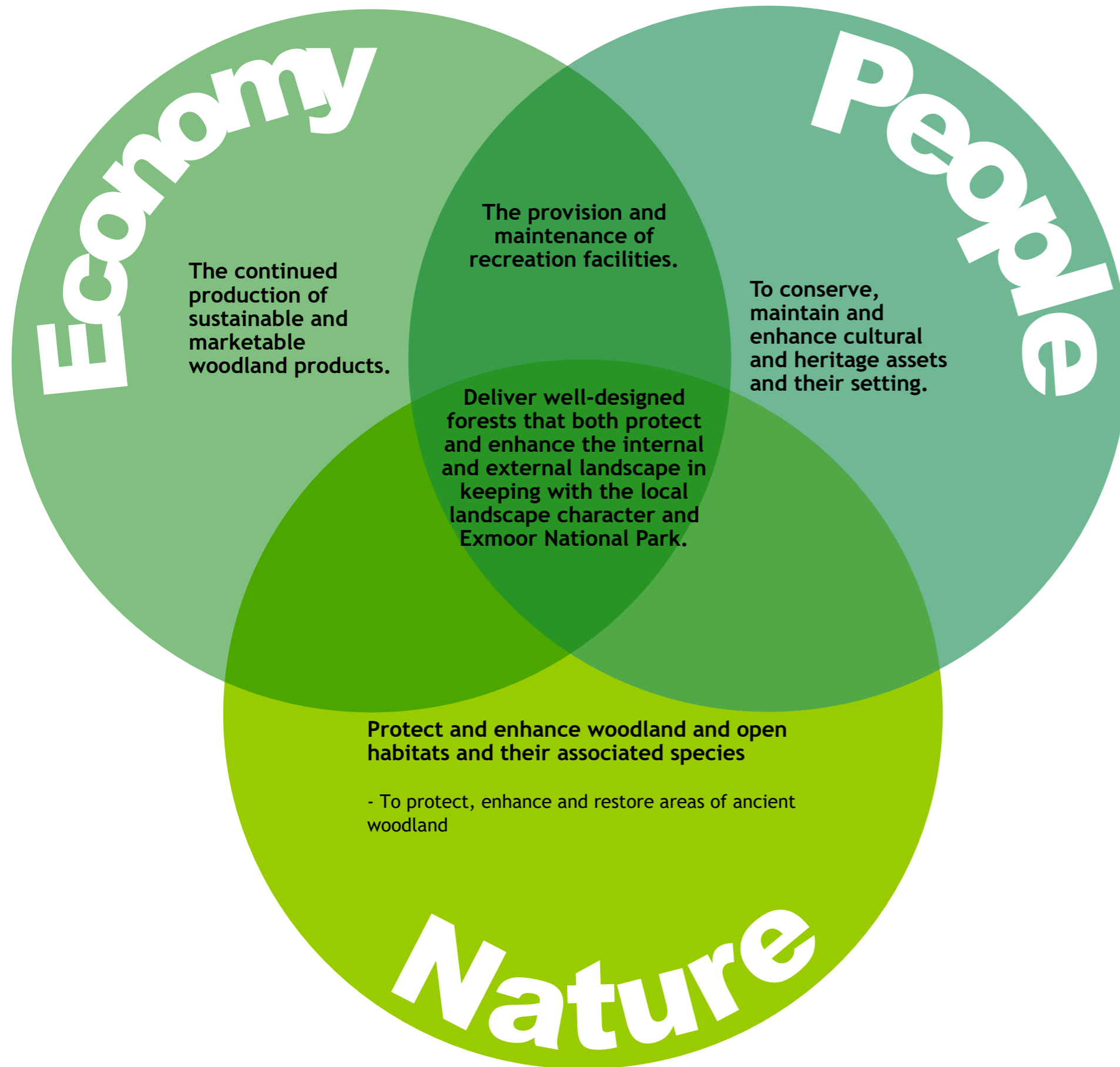
Conifer dominated forest will remain the the main habitat type; predominantly managed through clearfelling and restocking to contribute to a resilient and vibrant woodland economy. Rare and protected species, such a goshawk, hobby and nightjar will continue to call the forest home. The conifer forest will also be a popular and safe place to exercise, learn and relax in a robust natural environment. The trees will be valued not only for their ecological and social value but also as a timber product will provide 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. In addition areas where soils are deeper and less exposed the forest will be increasingly managed through continuous cover forest techniques, building resilience and structural diversity into the forest landscape.

Ancient and native woodland, a key part of the National Park landscape, will grow in size and improve in condition as restoration to native cover takes effect in historically wooded areas. Managed more sensitively but still with productivity in mind through thinning, these more secluded areas will become a haven for a multitude of micro habitats, species and ecosystem functioning. 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 bats, nightjar and raptors.

The considerable ride and roadside network will be wider than at present 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. Veteran, mature and future significant trees will be retained and allowed to breakdown providing deadwood habitat and nutrient cycling. We will strive to conserve and enhance archaeology features, historical landscapes, and other heritage assets. 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.

The 50 Year Vision outlined in this Plan will be delivered in part over the next 10 years through the Objectives outlined on pages 7 and 8 with the proposal and prescriptions following.





**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.



**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
<b>The continued production of sustainable and marketable woodland products.</b>	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 48,350m <sup>3</sup> (2021-2025) and 107,200 <sup>3</sup> (2021- 2031) with actual production at the Forest Plan (FP) five and ten-year review.
<b>Protect and enhance woodland and open habitats and their associated species.</b>  - To protect, enhance and restore areas of ancient woodland	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 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 Measured at Review stage through analysis of ongoing surveys and records.
<b>The provision and maintenance of recreation facilities.</b>	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.
<b>Deliver well-designed forests that both protect and enhance the internal and external landscape in keeping with the local landscape character and Exmoor National Park.</b>	Implementation of proposals will soften and better integrate the woodland with the surrounding landscape	Fixed point photography analysis at Forest Plan review stage
<b>To conserve, maintain and enhance cultural and heritage assets and their setting.</b>	Protect and enhance unscheduled sites at the time of intervention.  Delivery of Scheduled Monument Plans	Operational site planning of harvesting and restocking operations will help monitor the effect of management.







# Analysis & Concept

## Wootton Courtenay

Wootton Courtenay plantation is a steep south facing slope which is highly visible to residents of Timberscombe and from one of the main arterial routes into and out of Exmoor, the A396. The soils are reasonably fertile, free draining brown earths and together with a mild and wet climate produce quality conifer timber crops. The appearance of the majority of Wootton Courtenay is one of a steep face of dark conifers, bounded on the lower slope by broadleaf fringes and larger blocks of broadleaf. Beech hedgebanks bisect the darker conifer in straight lines up the hill. The conifer element is relatively even aged, exacerbated by under management in the past 15 years, which adds to the visual monotony. One feature that has produced mixed opinions in the past and is a prominent feature when on Dunkery Hill, is the commemorative ring of beech trees planted in 1937 to celebrate the coronation of King George VI. Wootton Courtenay has a number of public footpaths and bridleways and is heavily used by walkers, cyclists and horse riders.

A lack of decent haulage access in recent years has limited management to a point where crops are now stunted. Therefore the risk of windthrow is an ever-present threat and the design of the felling coupes needs to be carefully considered and take into account the landscaping implications as well as affording protection to the remaining crops and hedgebanks. Despite this, conifer production will continue in most areas with allowance for the high amenity and ecological value whilst building resilience through the diversification of stand structure and composition.

### Legend

-  Dunster Park and Heathlands SSSI
-  Commemorative Ring
-  Wooded Heath
-  Hedgebanks

**Analysis:** A commemorative ring was planted in 1937 to celebrate the coronation of King George VI. In the early 1990s, the severe gales blew many of the original trees over. In 2002, the ring was reinstated with the inner circle having been planted in 1994, and also around the outside of the ring to give a view today from Dunkery Hill as shown below.

**Concept:** The surrounding conifer crops will be retained for a number of years to allow better shelter and micro-climate for the broadleaf ring to establish, and to maintain the visual effect of the ring. After which time it will be felled leaving another broadleaf ring.



**Analysis:** Wooded heath creation has commenced to benefit the ecological features which thrive in transient habitats, such as nightjar, lepidoptera, reptiles and owls.

**Concept:** These areas will be considered and treated holistically across the coupe so that in time 50% of the ground is open space which is integrated into the efficient and sustainable management to ensure future viability.

**Analysis:** Dunster Park and Heathland SSSI has units adjacent to Wootton Courtenay plantation. The units are in unfavourable recovering condition as assessed by Natural England, primarily due to under grazing and scrub encroachment. Key species within this SSSI are Heath fritillary, nightjar, pink meadow cap and erratic ant.

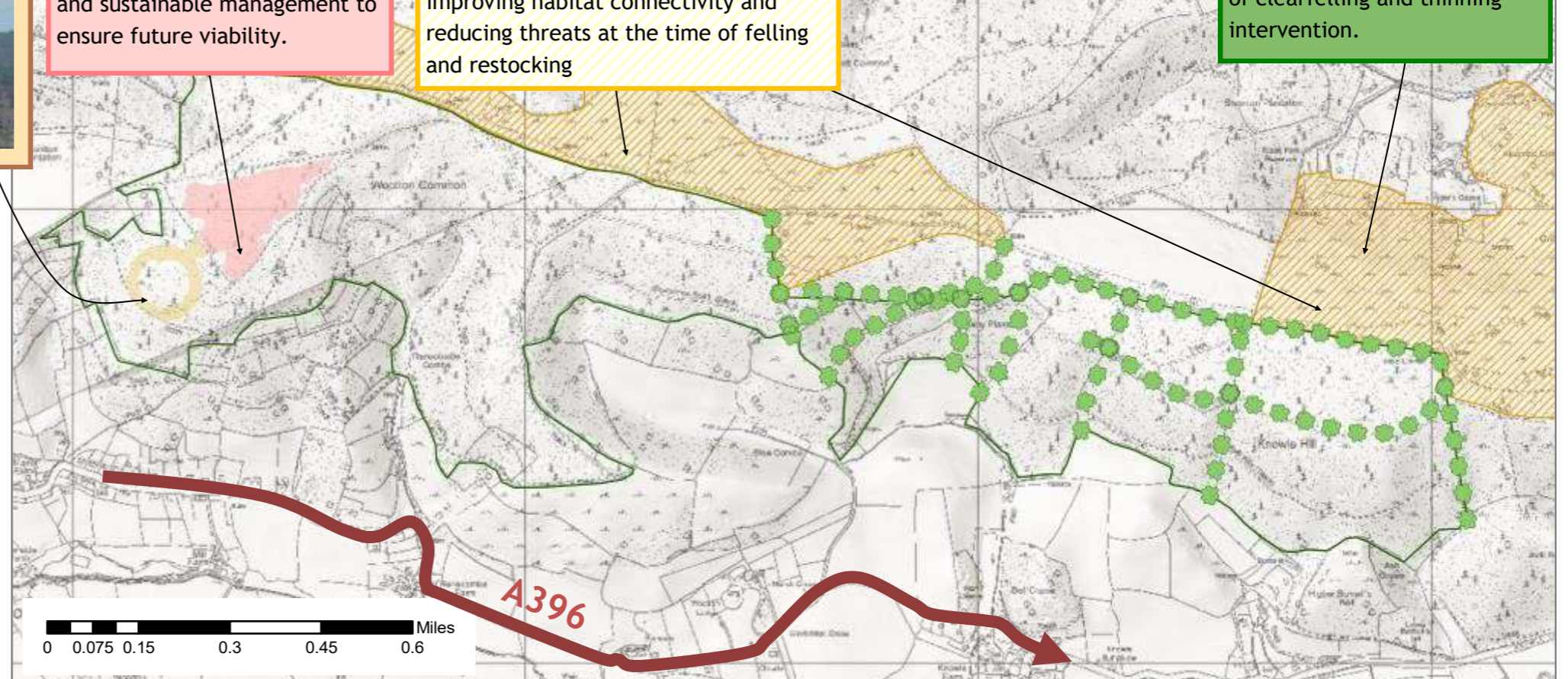
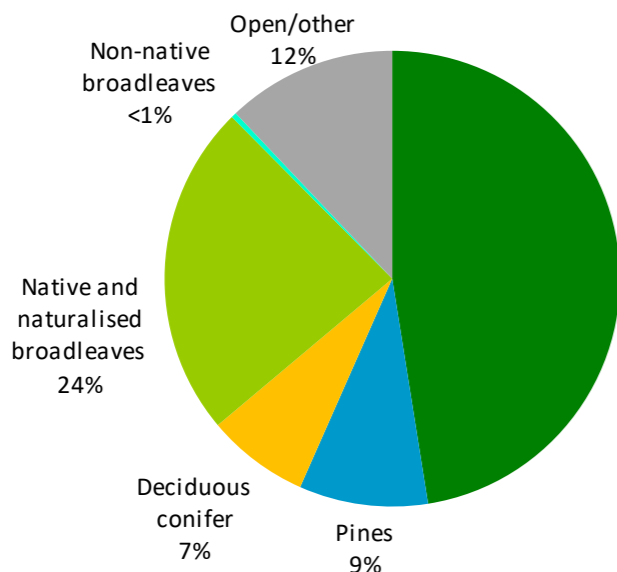
**Concept:** Proposals will complement the SSSI where appropriate and aid its recovery to 'favourable' condition by improving habitat connectivity and reducing threats at the time of felling and restocking

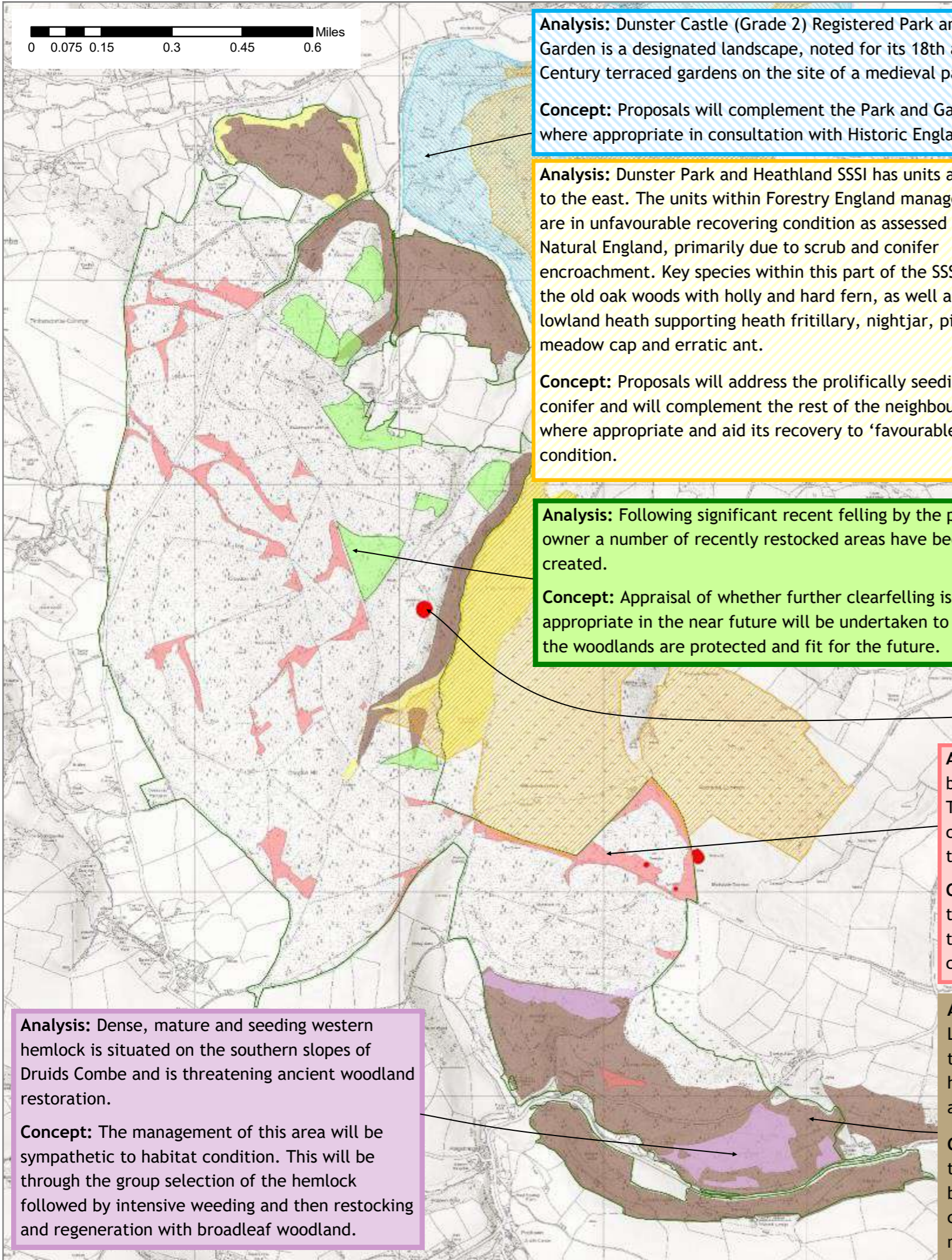
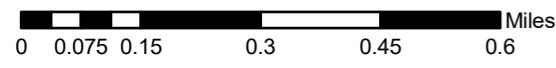
**Analysis:** Due to a lack of management i.e. rotational clearfelling as a result of poor road access in recent decades, crops have become overstood and past economic maturity.

**Concept:** A whole restructuring of the forest is required, reliant on a new road being constructed to ensure the long term economic and ecological resilience of the forest.

**Analysis:** Beech hedgebanks, a key feature of the National Park, bisect the forest vertically up the side of the hill. In winter and spring these features stand out in the landscape.

**Concept:** The hedgebanks need to be stabilised and enhanced to ensure their longevity this will need to be done gradually and at the time of clearfelling and thinning intervention.





**Analysis:** Dunster Castle (Grade 2) Registered Park and Garden is a designated landscape, noted for its 18th and 19th Century terraced gardens on the site of a medieval park.  
**Concept:** Proposals will complement the Park and Garden where appropriate in consultation with Historic England.

**Analysis:** Dunster Park and Heathland SSSI has units adjacent to the east. The units within Forestry England management are in unfavourable recovering condition as assessed by Natural England, primarily due to scrub and conifer encroachment. Key species within this part of the SSSI are the old oak woods with holly and hard fern, as well as lowland heath supporting heath fritillary, nightjar, pink meadow cap and erratic ant.  
**Concept:** Proposals will address the prolifically seeding conifer and will complement the rest of the neighbouring SSSI where appropriate and aid its recovery to 'favourable' condition.

**Analysis:** Following significant recent felling by the previous owner a number of recently restocked areas have been created.  
**Concept:** Appraisal of whether further clearfelling is appropriate in the near future will be undertaken to ensure the woodlands are protected and fit for the future.

## Analysis & Concept

### Croydon Hill

Croydon Hill and the adjacent forests of Broadwood and Druids Combe were planted primarily with conifers due to the poor soils and exposure over the majority of the area. The geology of Exmoor is mainly Devonian gritstone, sandstone, siltstone and mudstones. Croydon Hill soils consist mainly of ironpans covered to varying depths with peat, with small areas of brown earth and peaty gleys. Rainfall in the east of the National Park typically exceeds 800mm (32 inches) per year and seasonal storms from the west can be strong - there is no cover between the moor and the Atlantic. The past practice of creating sequential felling coupes has created a very favourable habitat for nightjars and this habitat will be maintained through continued sequential felling and replanting. The objective in these woodlands is to maintain continued timber production predominantly through clearfell/restock but, where appropriate, by lower impact silvicultural system methods, with native tree cover and associated ecosystem functioning where registered as ancient woodland. This will be done using a number of silvicultural methods, specifically addressing threats and long term sustainability concerns first.

**Analysis:** A series of bowl barrows lie within the Monkham Hill area.  
**Concept:** These, and unscheduled features, will be managed for preservation and enhancement. This will likely be through the widening and connecting of open space to improve the monuments' setting.

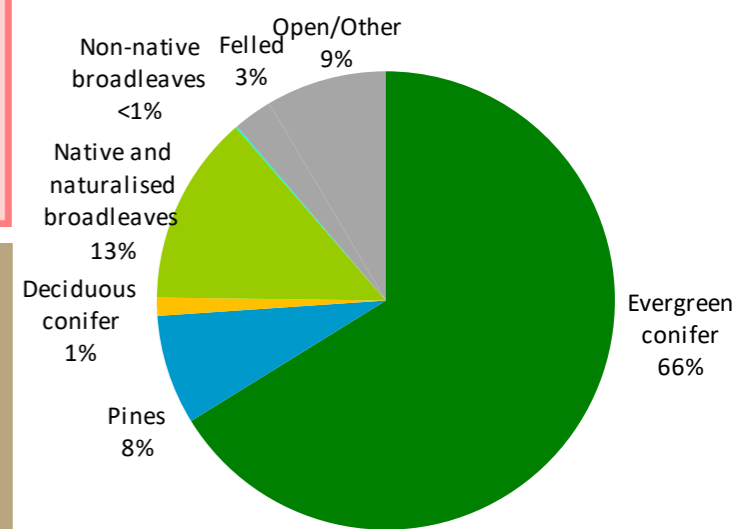
**Analysis:** 41 hectares of permanent open space have been created and maintained in the last 10 years. These are predominantly along ride and road corridors, to benefit the ecological features which thrive in transient habitats.  
**Concept:** Areas overdue to be created as well as those due in the next ten years will be considered but the commitment to a further 24 hectares in the coming 30 years will be fulfilled.

**Analysis:** Druids Combe, Whits Wood, Hur Wood and Long Wood are registered ancient woodland (NVC type W16) which was most likely managed as oak with hazel coppice in the past. The majority of these areas are now conifer dominated and therefore PAWS.  
**Concept:** Proposals will outline a plan of restoration to native species cover in line with policy. This will be achieved through a process of thinning out the conifer to favour ancient woodland features and native regeneration.

**Analysis:** Dense, mature and seeding western hemlock is situated on the southern slopes of Druids Combe and is threatening ancient woodland restoration.  
**Concept:** The management of this area will be sympathetic to habitat condition. This will be through the group selection of the hemlock followed by intensive weeding and then restocking and regeneration with broadleaf woodland.

### Legend

- Scheduled Monuments
- Sites of Special Scientific Interest
- Registered Park and Garden
- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Current open space
- Seeding hemlock on ancient woodland
- Recent restocking



# Analysis & Concept

## Brendon Hills

The woodlands of Kennisham Hill, Charget Wood, Parsons Close and Hazery Plantation all lie just to the north of the Brendon Hill ridge road that runs east/west between Raleighs Cross and Wheddon Cross with the highest point at 400m above sea level. The land adjacent to the woodland is almost entirely improved agricultural with large areas set aside for game crops that enhance the sporting value of both the woodland and surrounding land. Located within Exmoor National Park these woods have low levels of recreation. In general these woods are relatively undiscovered and play a lesser role in visitors plans than the wider expanses of the Exmoor uplands and the coastal areas.

Despite its altitude these woodlands are not particularly visible from any council roads to the north which is the aspect these woodlands face. The area is visible from Black Hill, Rodhuish Common, Croydon Hill and Wootton Courtenay by a considerable number of day visitors walking over these National Park upland areas but the external views are distant and intricate due to the underlying landform and surrounding agriculture and in general the woodlands look integrated and to scale from these distances.

The age range of tree species is limited and young which can be addressed over time as the forest matures through felling. For this reason, many felling coupes have been extended beyond their economical felling age and other areas are being managed as continuous cover. This management with ancient woodland areas will aid the protection of fragile native features and seed sources enabling future restoration.

The main objective within the ancient woodland areas is restoration to native species cover and the associated ecosystem functioning in an economically efficient way. In other areas the continued production and diversification of timber species will be pursued whilst maintaining a woodland valued for biodiversity, recreation and amenity.

### Legend

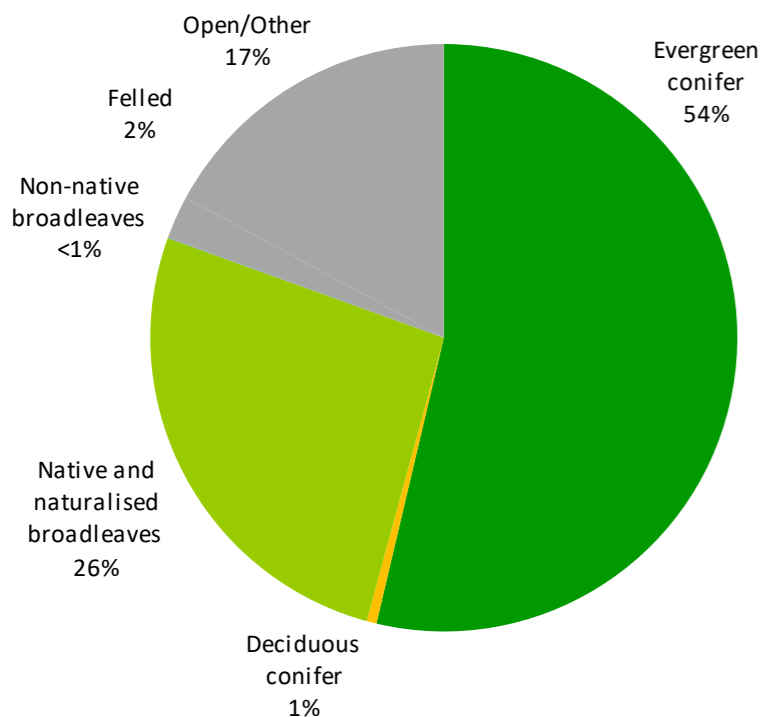
- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Recent restocking
- Uniform crop
- Scheduled Monument
- Riparian woodland management
- Watercourses

**Analysis:** The bottom of the valleys are predominantly open and grassy, surrounded by steep wooded slopes, following recent felling to favour riparian habitat, making ideal management and driven bird shooting.  
**Concept:** The management of this area will be sympathetic to the multiple purposes and needs of the woodland as well as the riparian and biodiversity value. We will work with the shoot lessors to ensure that any potential impacts of the shoot are limited by monitoring and setting limits for stocking.

**Analysis:** Much of Kennisham forest is of uniform species and age.  
**Concept:** Steps will be taken to diversify the stand composition and structure through a number of smaller clearfells and retentions.

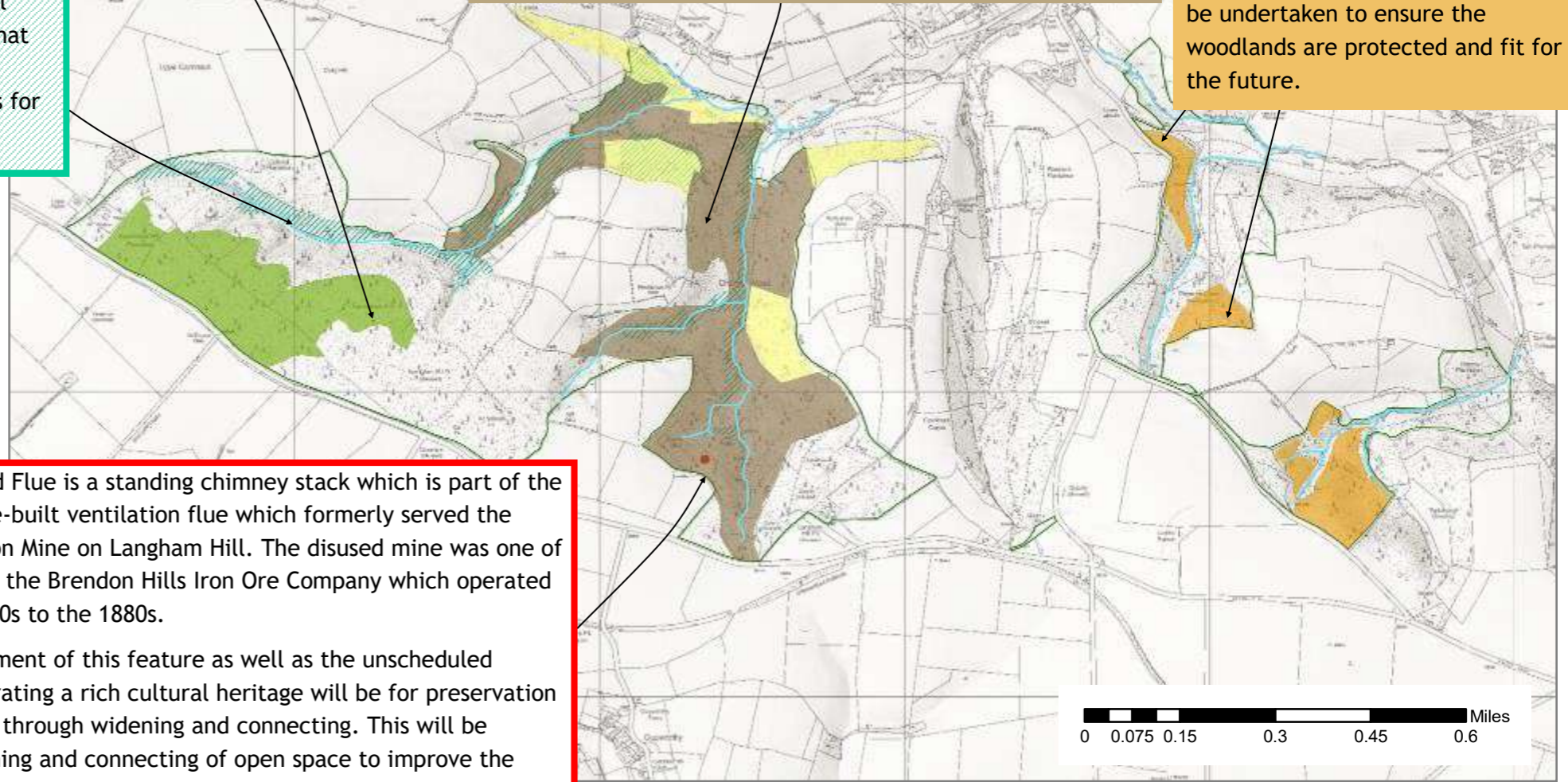
**Analysis:** Much of Charget Wood is Ancient Woodland and is NVC type 16 with areas of W10 which was most likely managed as ash and oak with hazel coppice in the past. The majority of these areas are now conifer and therefore PAWS.  
**Concept:** Proposals will outline a plan of restoration to native species cover in line with policy. This will be achieved through a process of thinning out the conifer to favour ancient woodland features and native regeneration.

**Analysis:** Following recent planned and reactive felling a number of recently restocked areas have been created, significantly altering the structural diversity of the forest.  
**Concept:** Appraisal of whether further clearfelling is right for the woodland in the near will future will be undertaken to ensure the woodlands are protected and fit for the future.



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Ordnance Survey [100021242]

**Analysis:** Bearland Flue is a standing chimney stack which is part of the remains of a stone-built ventilation flue which formerly served the Bearland Wood Iron Mine on Langham Hill. The disused mine was one of several opened by the Brendon Hills Iron Ore Company which operated from the mid- 1800s to the 1880s.  
**Concept:** Management of this feature as well as the unscheduled features demonstrating a rich cultural heritage will be for preservation and enhancement through widening and connecting. This will be through the widening and connecting of open space to improve the monument's setting.



# Analysis & Concept

## Birds Hill, Tilsey and Elworthy

The area surrounding Birds Hill, Tilsey and Elworthy is typically characterised by exposed grassy hills with large fields, some improved agricultural land, low beech hedges, other surrounding woodland and steeply sloping river valleys. Underlying geology comprises Palaeozoic slate, mudstone and siltstone with soil being of well drained fine loamy/silty variety.

The majority of crops consist of pure conifer planted in the late 1960s in Elworthy with similar types in Tilsey, whilst Bird's Hill block is characterised by mixtures of beech with areas of pure Scot's pine. Considerable areas of mature larch were removed in 2008 following disease outbreak in all three woodlands. Bird's Hill woodland is owned by Forestry England and therefore has full public access. It is not however a block that has high visitor usage as it is little advertised being unseen in the landscape, difficult to access by road with no public rights of way within the woodland, and the only access being on foot over a third party's land.

Tilsey and Elworthy blocks have no visitors as access is restricted by the lessor and there are no public rights of way within these two woodlands. These woodlands are used extensively by retained and let shoots which extend into the wider landscape.

The objective in these woodlands is to gradually restore to native tree cover and associated ecosystem functioning where registered as ancient woodland. This will be done using a number of silvicultural methods, specifically addressing threats and long term sustainability concerns first. On sites not registered as ancient woodland productive conifer production will be pursued, both through clearfell and Lower Impact Silvicultural System methods.

**Analysis:** Much of Birds Hill and Tilsey Woods are registered ancient woodland and was most likely managed as oak with hazel coppice in the past. The majority of these areas are now conifer dominated and therefore PAWS. One substantial area within Tilsey remains as valuable mature oak woodland

**Concept:** Proposals will outline a plan of restoration to native species cover in line with policy. This will be achieved through a process of thinning out the conifer to favour ancient woodland features and native regeneration.

**Analysis:** A series of ponds are situated within the woodland and further downstream. The woodland surrounding is locally known as Pond Wood.

**Concept:** Prescriptions will be sensitive to the important part the forests play in water management.

**Analysis:** Typical remnant Lowland Mixed Deciduous Woodland, also registered ancient semi-natural woodland is found to the north of Tilsey Wood. It is oak dominated NVC type W10.

**Concept:** The management of this area will be to preserve and protect them in perpetuity, through occasional and low impact intervention to build resilience and ecosystem functioning.

**Analysis:** All three woodlands are defined and focused around the watercourses which source and traverse them. Much has been coniferised in the past but now exposed following larch felling. These areas are fresh to wet in places and feed into the River Doniford.

**Concept:** Prescriptions will be sensitive to the important part the forests play in water management. This will be through targeted removal of some overly shade bearing conifers and management towards 50% open 50% dappled shade, provided by regenerated broadleaves.

**Analysis:** Following considerable compulsory felling of diseased larch crops and planned clearfells across the woodlands, a number of recently restocked and timber depleted (when in mixture) areas have been created, significantly altering the structural diversity of the forest.

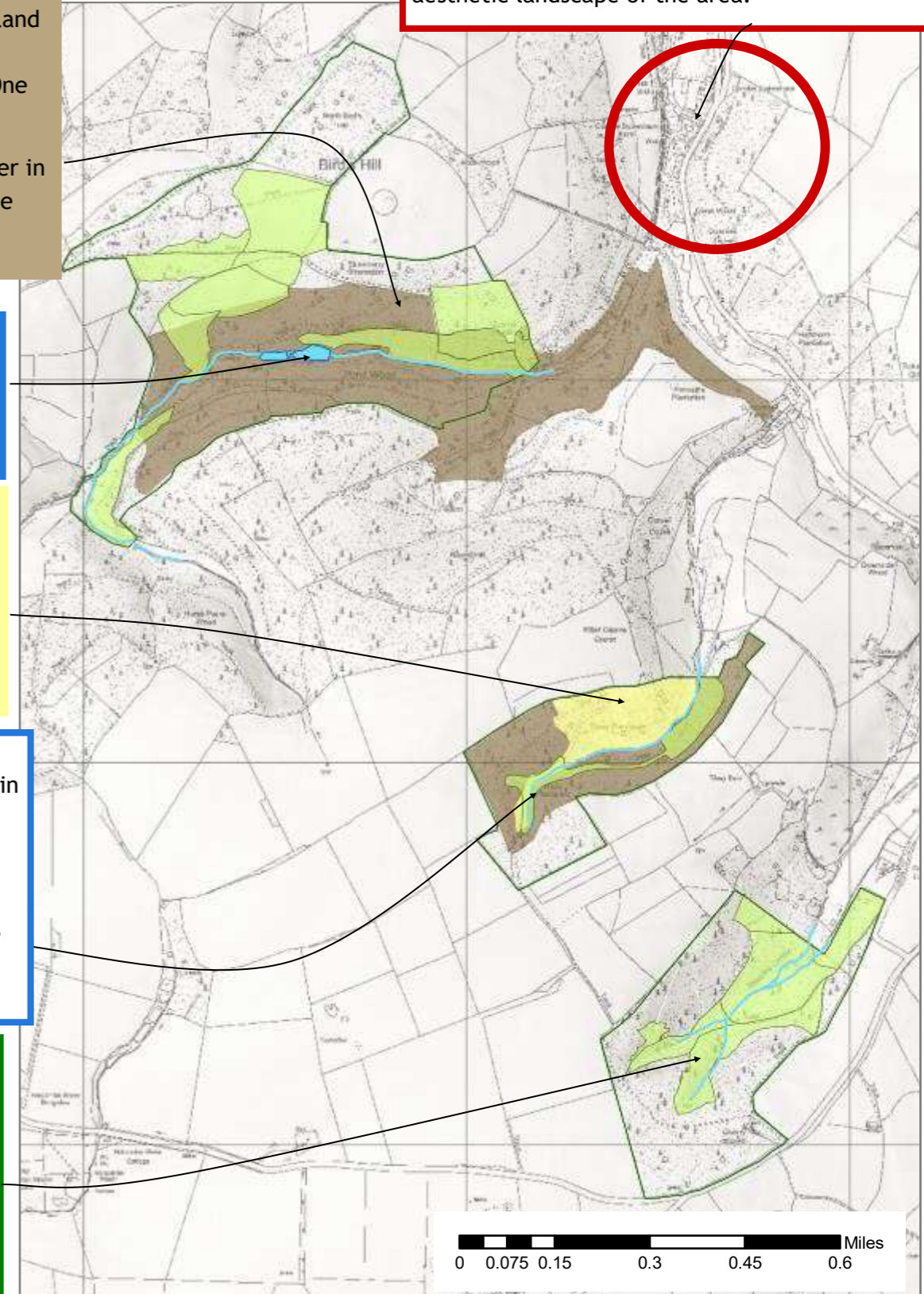
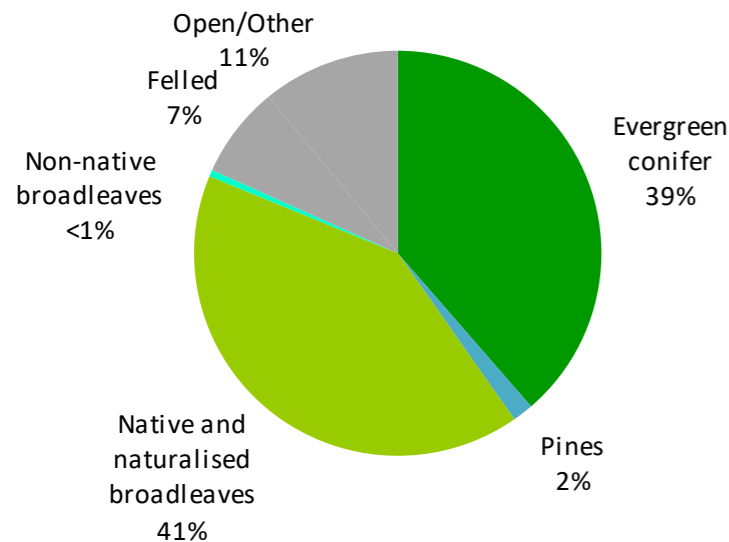
**Concept:** Appraisal of whether further work to improve the integrity and resilience of the site will ensure that these small woodlands are protected and fit for the future.

**Analysis:** Birds Hill acts as backdrop to Combe Sydenham Country Park: a Tudor house, on the site of a monastery, with a deer park and a re-created parterre planted with old roses.

**Concept:** Proposals maintain and enhance the aesthetic landscape of the area.

### Legend

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Open Water
- Watercourses
- Recent larch felling



# Analysis & Concept

## Willett Hill


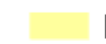



Willett Hill woodland totals 54.2 hectares, is leased by Forestry England and lies just outside Exmoor National Park and sits as a prominent hill within the Parish of Elworthy. At its highest altitude this woodland is around 270m above sea level where sits Willett Tower (a folly) which is Grade II listed. It is very prominent in the landscape and a striking landmark that can be seen from many viewpoints including dwellings, major and minor roads as well as from the much used public rights of way on the Quantock Hills to the north east.

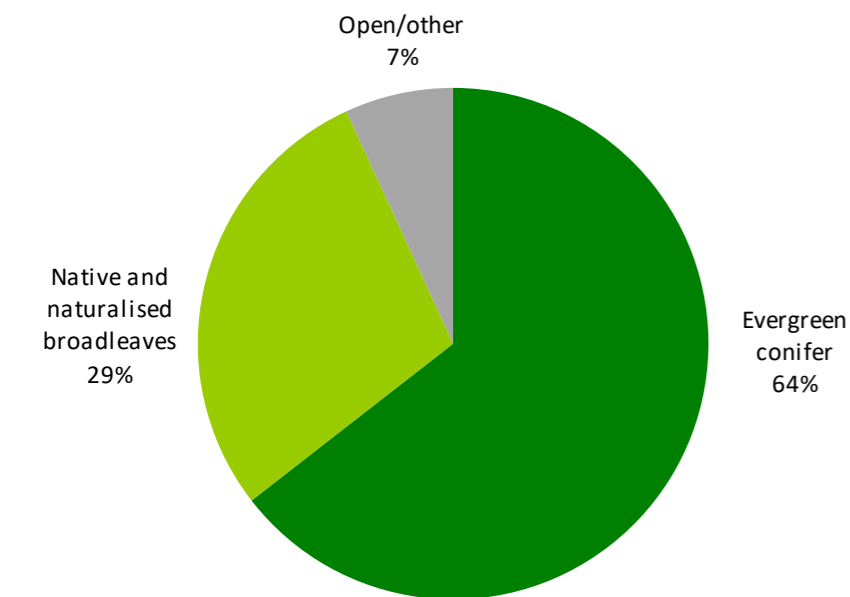
This woodland consists of mainly even aged conifer, growing on fertile but exposed brown earths, with 10 % of the area covered by broadleaves more than 100 years old. Crops vary with a higher proportion of conifer species in the north end of the woodland but then move to a more mixed feel in the southern areas where ash has regenerated freely in the past. Planting in future periods takes account of the exposure with Sitka spruce proposed on the windward flanks and Douglas fir on the leeward more fertile sites. Restocking with broadleaves is mainly by natural regeneration and is predominantly confined to areas with existing mixed broadleaves or regenerating ash on the lower flanks.

The areas around the Tower will remain a matrix of open space and existing yew/oak specifically to maintain external views for a longer period from the base of the Tower and to also keep it visible for the benefit of the local communities who see it regularly.

The main objective will be the continued production and diversification of timber species whilst maintaining a woodland valued for biodiversity, heritage and amenity, ensuring that the natural capital and landscape value are protected.

### Legend

-  Hedgebank
-  Mixed Shelterwood
-  Planned clearfells
-  Open/broadleaf matrix
-  Recent planting



**Analysis:** The original Forest Plan made a comprehensive review of the landscape and how best to ensure the effects of forest management do not adversely affect the internal and external views in the forest. No felling was planned between 2007-2017, however 2 clearfells are now due in the coming 10 years,

**Concept:** A review of these clearfells will be required, not least because of adjacent compulsory fellings. However efforts will be made to ensure the structure and order of the coupe design is maintained for the coming years.

**Analysis:** A beech hedgebank encircles the the forest around the side of the hill, on the contour as an additional feature to the tower. In winter and spring this feature stand out in the landscape.

**Concept:** The hedgebank needs to be stabilised and enhanced to ensure its longevity. This will need to be done gradually at the time of thinning so that shock following adjacent clearfelling is minimised.

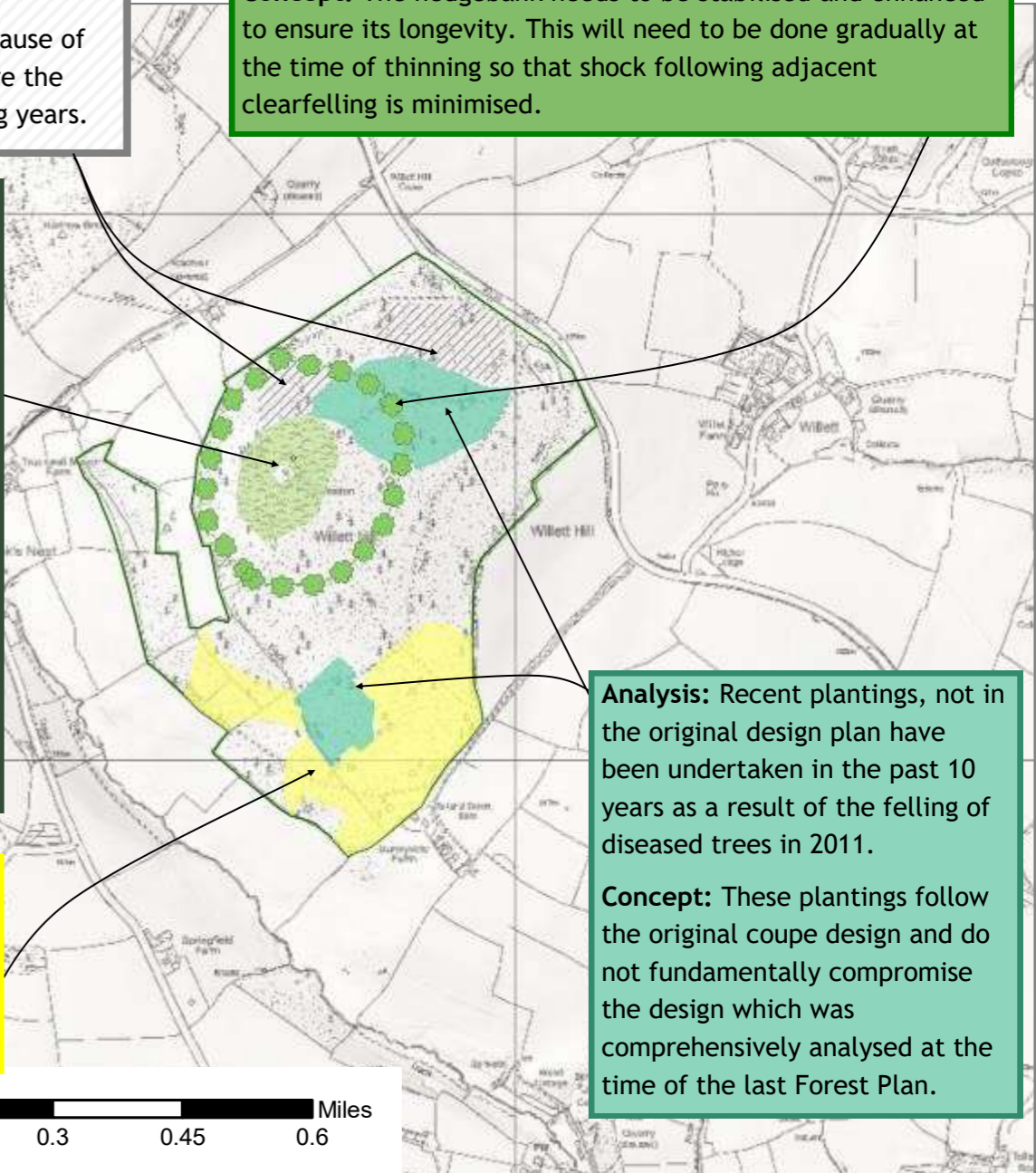
**Analysis:** Willett Tower which is very prominent in the landscape and a striking landmark that can be see from many viewpoints including local residents, public roads and public rights of way on the Quantock Hills.

**Concept:** The management of the land around the tower will ensure that the views or the structural integrity of the building are not diminished. Maintenance of the mixed open and broadleaf cover will complement the popular visual and cultural feature.



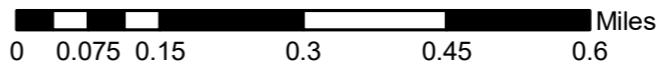
**Analysis:** Areas to the south of the woodland are to be managed through thinning, rather than clearfell in the rest of the woodland. This will be towards a more mixed composition.

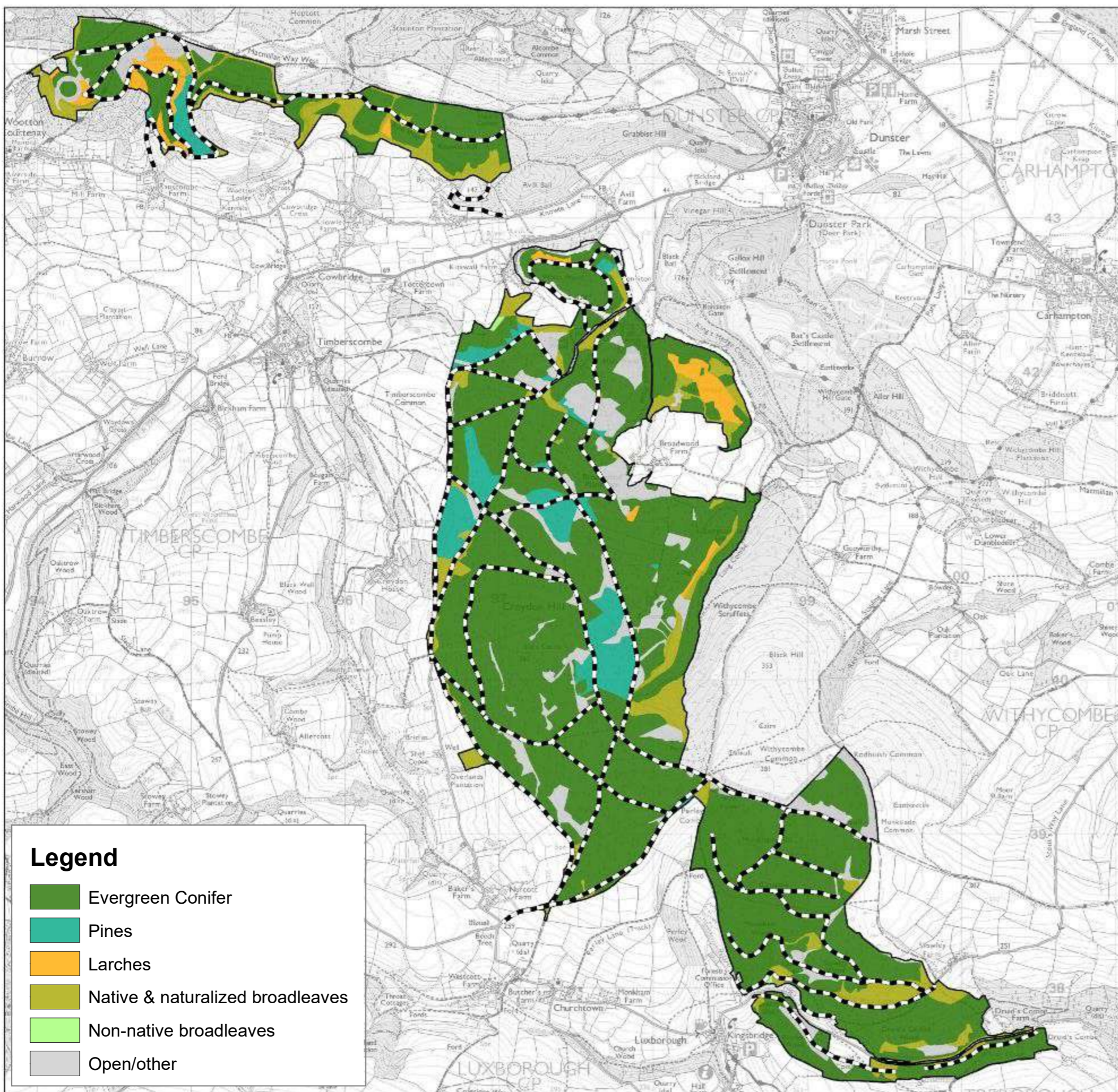
**Concept:** Crops will be thinned in a way which enhances broadleaf elements and features, through a shelterwood system.



**Analysis:** Recent plantings, not in the original design plan have been undertaken in the past 10 years as a result of the felling of diseased trees in 2011.

**Concept:** These plantings follow the original coupe design and do not fundamentally compromise the design which was comprehensively analysed at the time of the last Forest Plan.





## Current Composition

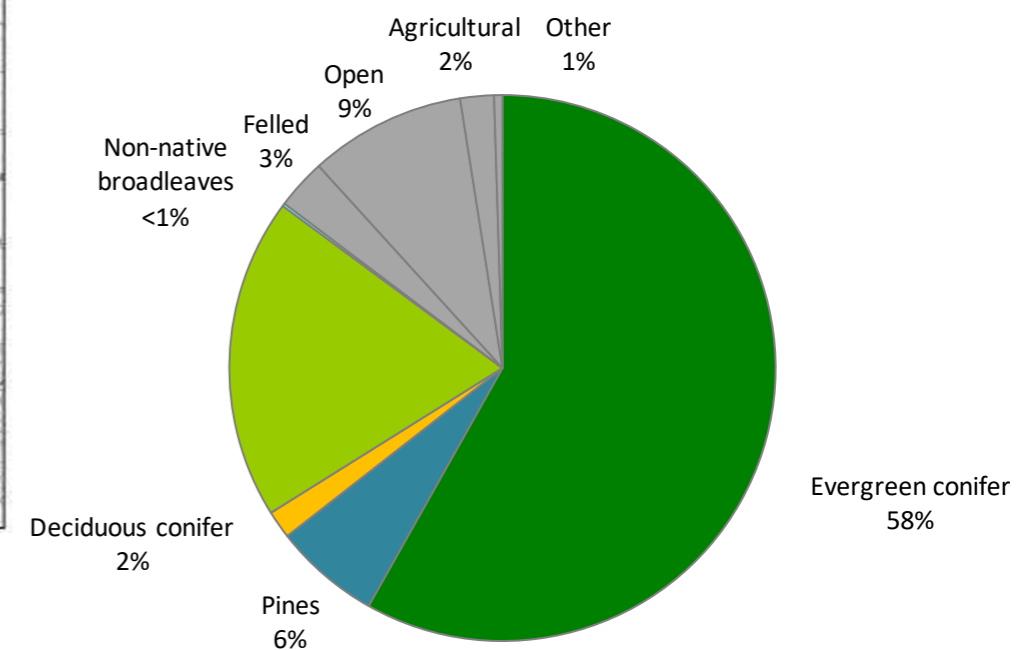
### Species

The Exmoor Forest Plan area consists of a large conifer element, primarily highly productive Sitka spruce which thrive in the conditions found in the area. With an average Yield Class of 16, these components are more prevalent on sites where soil are thinner and crops exposed to more severe climate conditions. Douglas fir is the next major conifer species which is found on the richer and deeper sites achieving yield of up to YC 24.

Broadleaves are found throughout the woodlands both planted and naturally regenerating. These are more prevalent in areas of richer soil, particularly in valley bottoms and riparian zones. Oak (78ha), and beech (61ha) are the predominant broadleaf species found, whilst ash, sycamore and birch the key regenerating broadleaf sub-species.

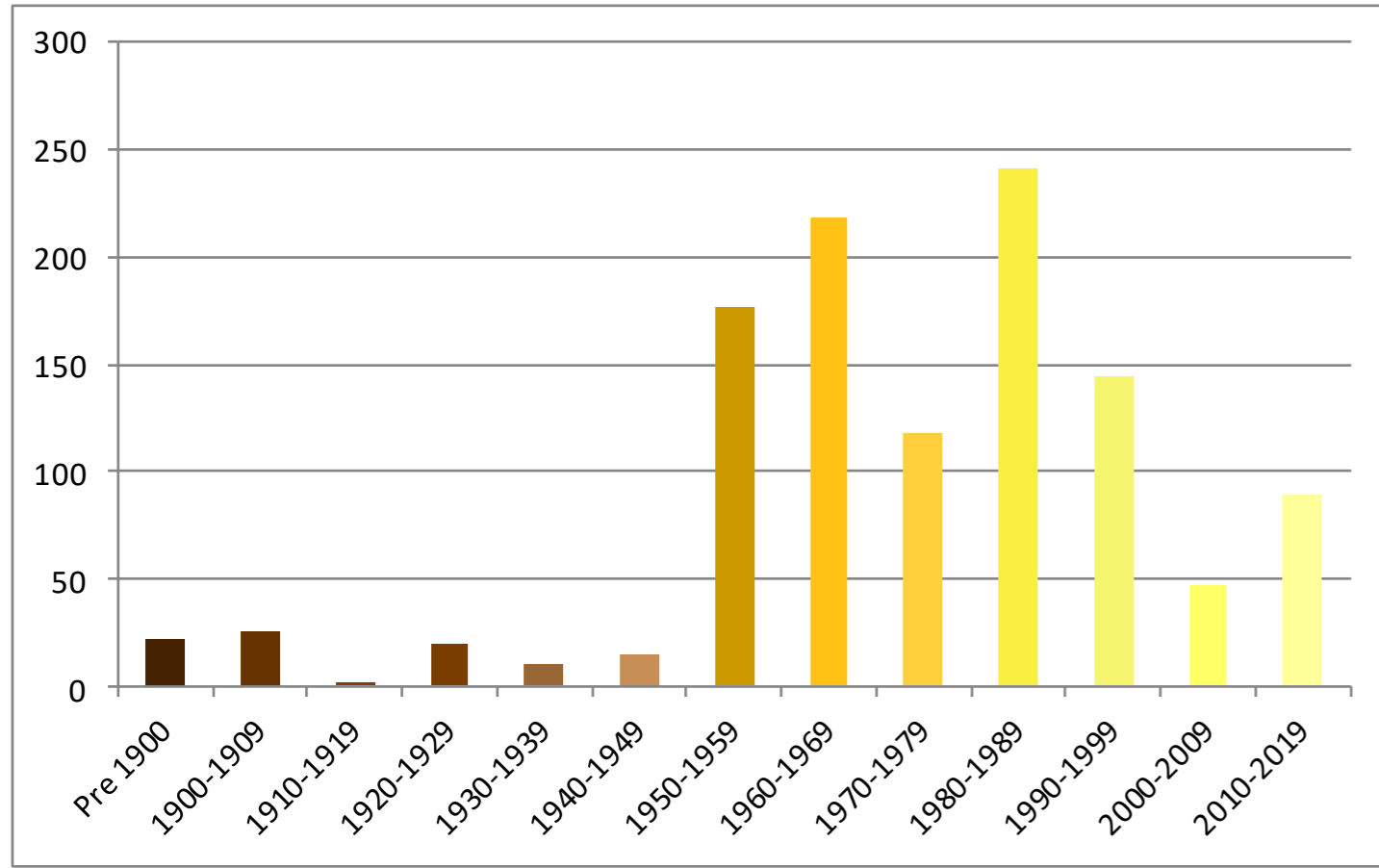
A total of 123ha of the Plan area is made up of open space which equates to 9%; this is made up of a mixture of permanent open space, such as heathland, unplatable and bare sites.

### Species Composition

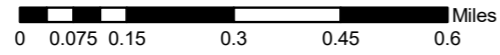


Note: Beech, sycamore and sweet chestnut are considered to be not within their native range but are considered to be 'naturalised'

### Age Class Distribution

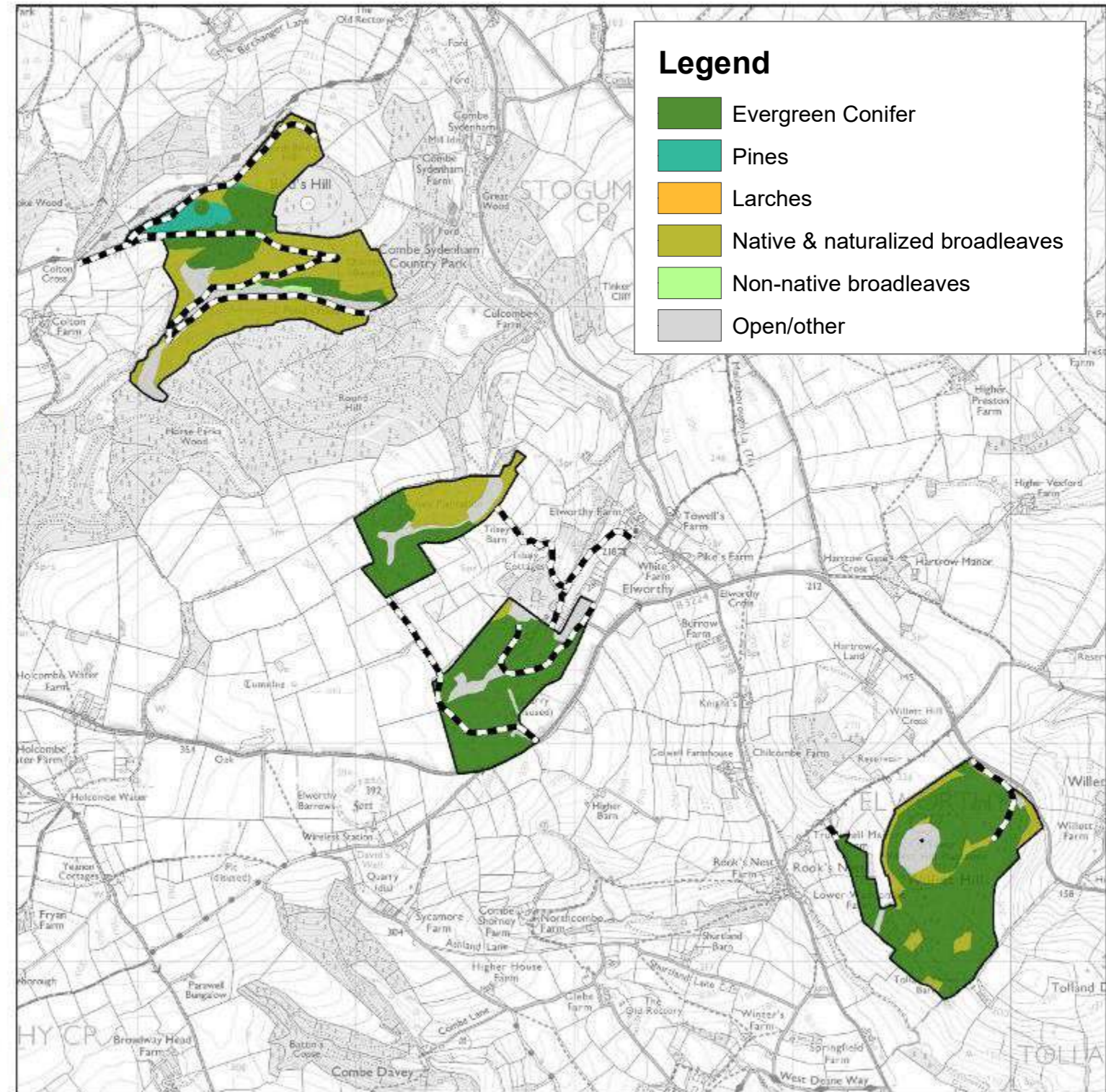
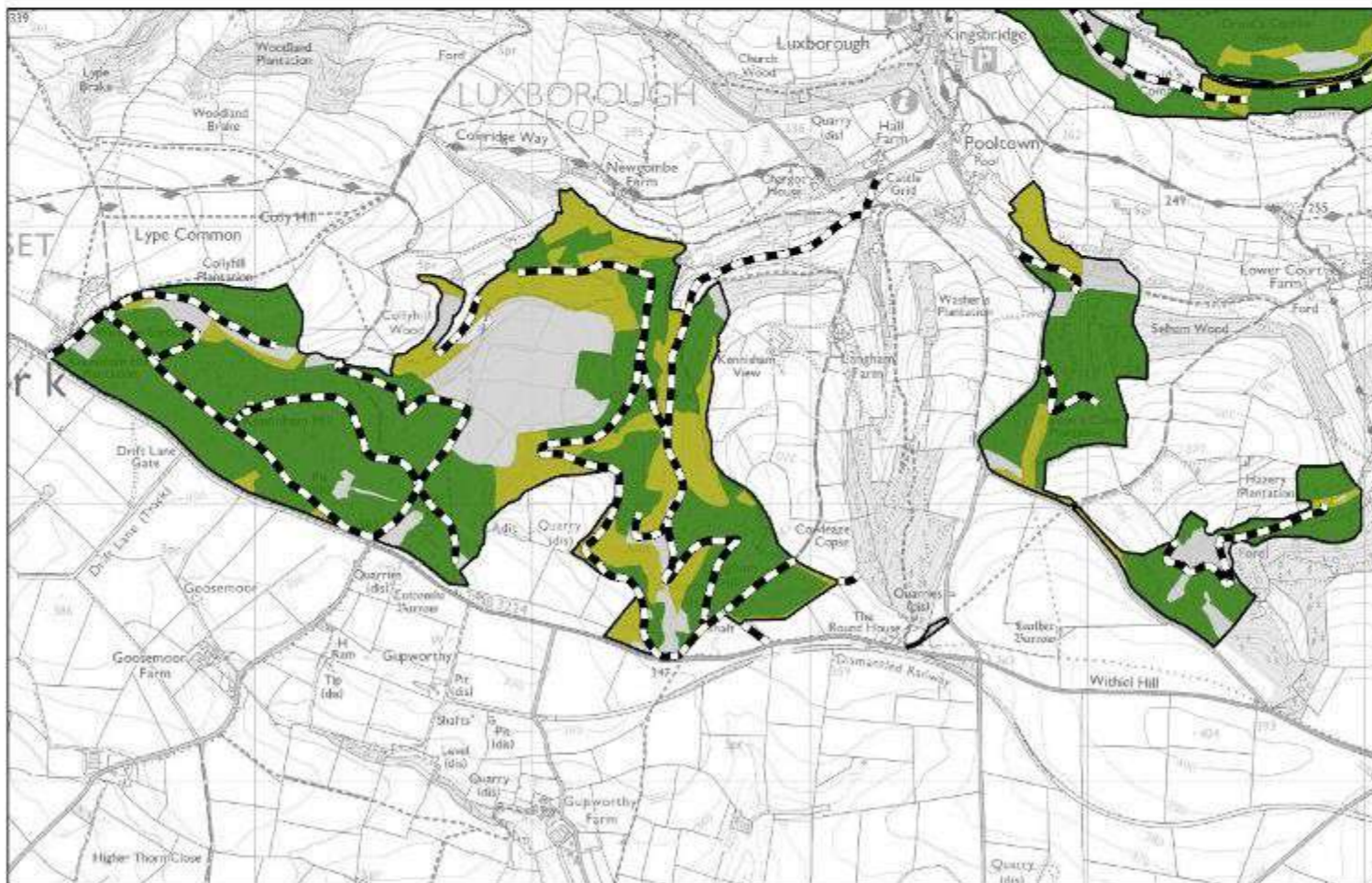


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### Age Structure

The initial planting of productive conifer forests commenced in the early 1920s, however some areas were wooded before this, many of which are registered as ancient woodland. The productive crops are now either coming to the end of their second rotation or beginning their third as shown in the chart on the following page. Most are single-aged standards originally intended to be managed on a clearfell rotation. However, some more sheltered areas are now being managed through shelterwood systems and delivering simple and complex multi-aged stands which is diversifying the age class.



### Legend

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

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



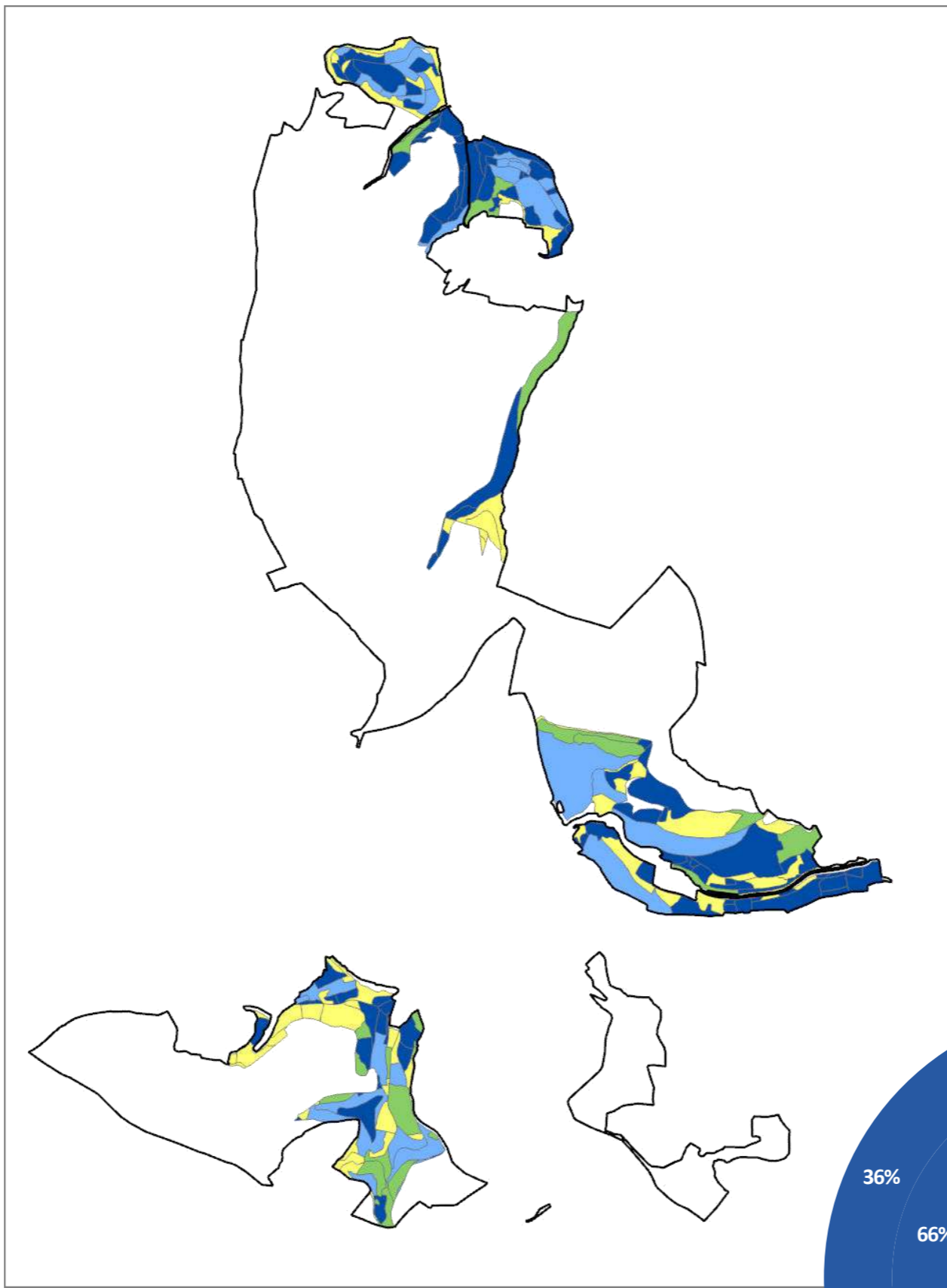
**Class 2 - Plantation Woodland**  
(50 - 80% site native species)



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



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

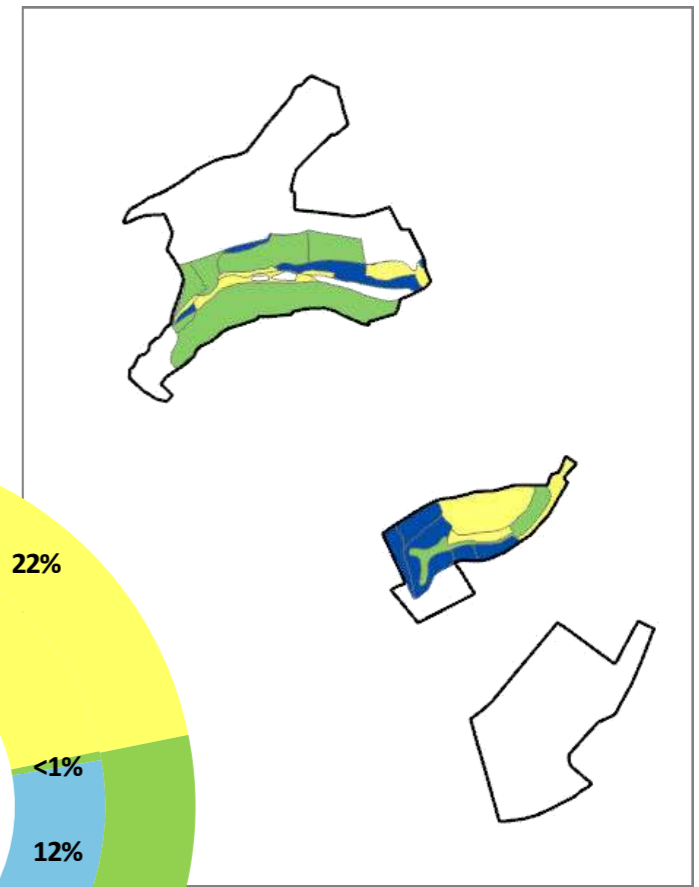


## Naturalness on Ancient Woodland

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 naturalness and restoration of Ancient Woodland Sites previously planted with non-native species.

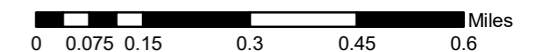
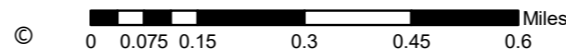
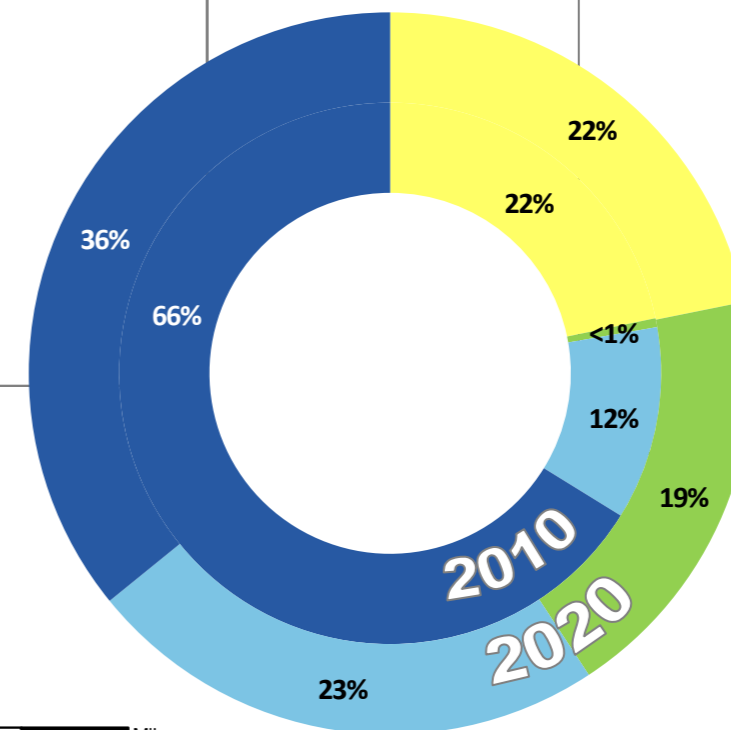
Classes 2, 3 and 4 are classified as Plantations on Ancient Woodland Sites (PAWS). Areas of Semi-Natural Woodland (Class 1 - > 80% site native species) are mostly found towards the bottom of valleys, in wetter riparian areas where the soils are richer.

The transformation of Classes 2, 3 and 4 AWS towards Class 1 is a key objective of this Plan and is in line with Forestry England policy.



### 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





## PAWS Management

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

Therefore a proactive yet realistic approach will be used to transform these sites over a period of time. The aim of the transitional period to woodland containing 80% or more of native species should be to achieve:

- a varied age structure with varying ratios of high canopy, secondary canopy and understory 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.

**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**

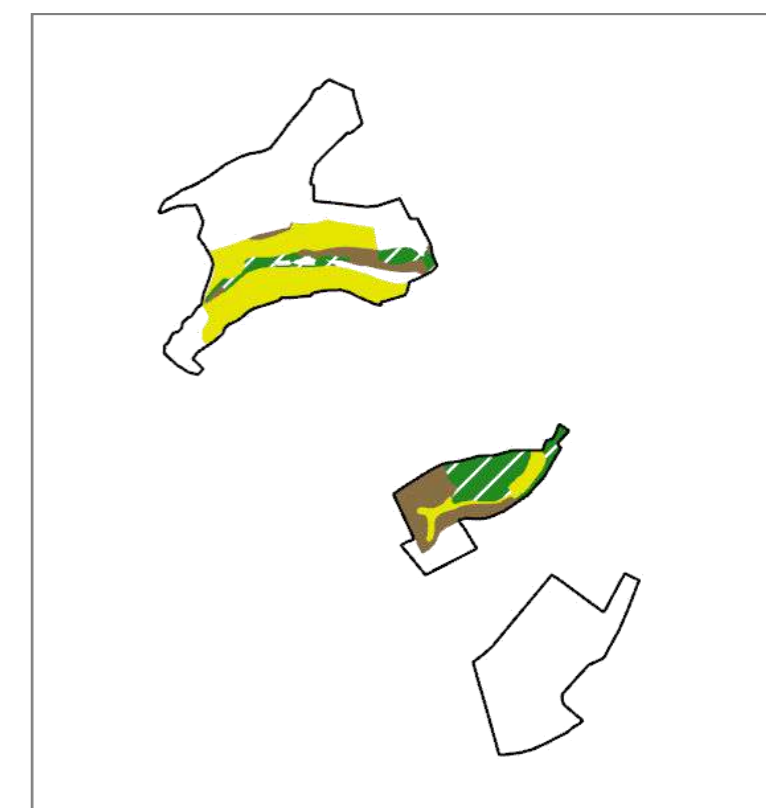
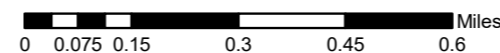
One clearfell will be used to convert PAWS which is within this Plan period. This felling of the heaviest shade casting areas are due to threatening nature of seeding overstorey. These areas will be restocked with site suitable native species.



### Legend

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

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## Silviculture

**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 conifer elements of the landscape or ecological 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 conifer dominated 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 coupes of less than 0.25ha may be used to inject diversity into the stand.

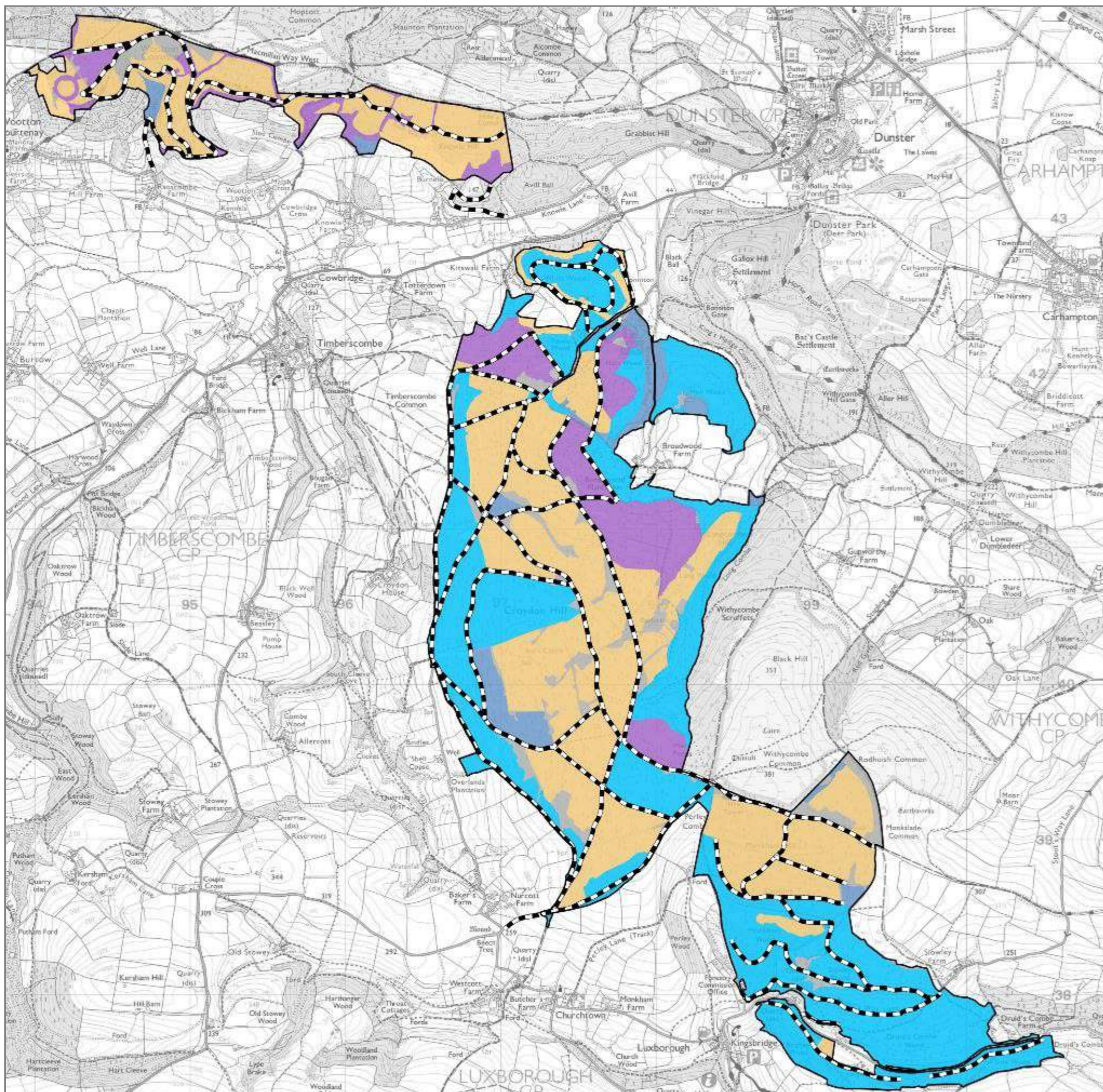
**Irregular shelterwoods** will look to develop a complex LISS structure often on PAWS, through the identification and thinning towards quality final crop trees for the future.

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

**Single Tree selections** are used on mature broadleaved habitat with high ecological and amenity value, where timber production is not a priority and the natural capital needs to be protected and enhanced with low impact interventions.

## Legend

- Clearfell
- Long Term Retention
- Shelterwoods
- Selections
- Open
- Minimum Intervention



### 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.

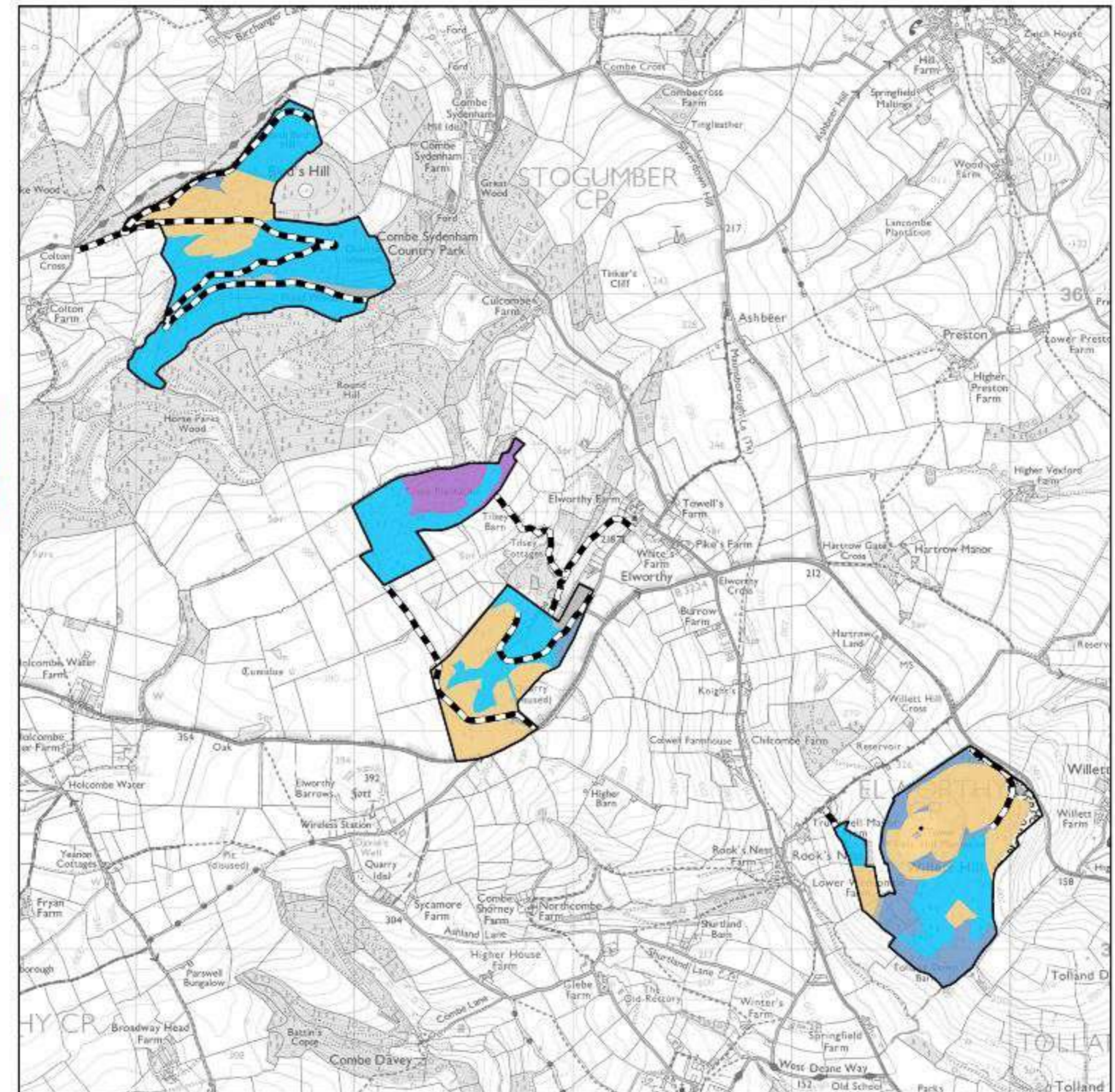
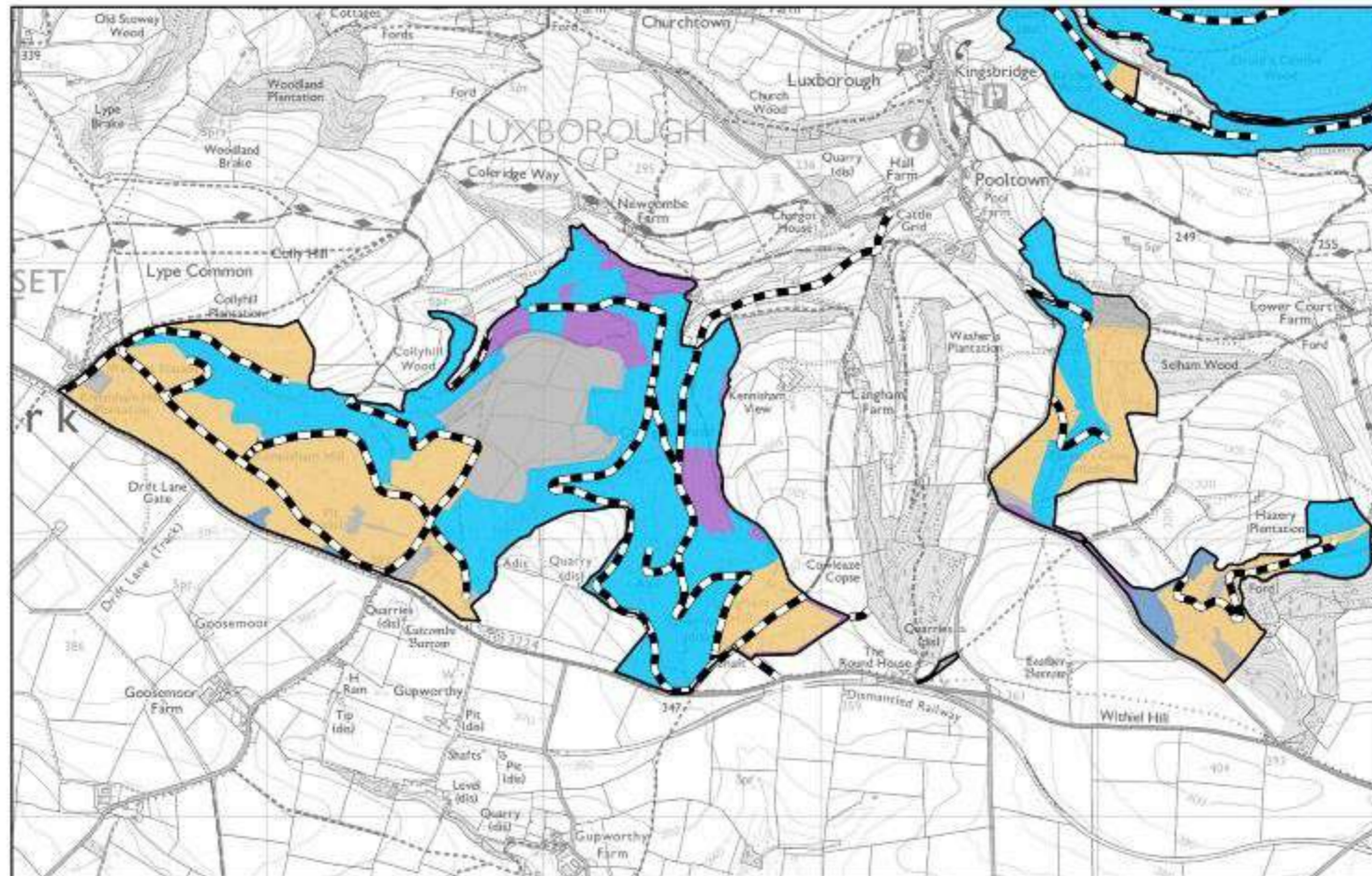
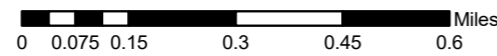
### Broadleaf Thinning

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.

### Legend

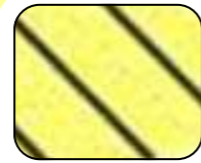
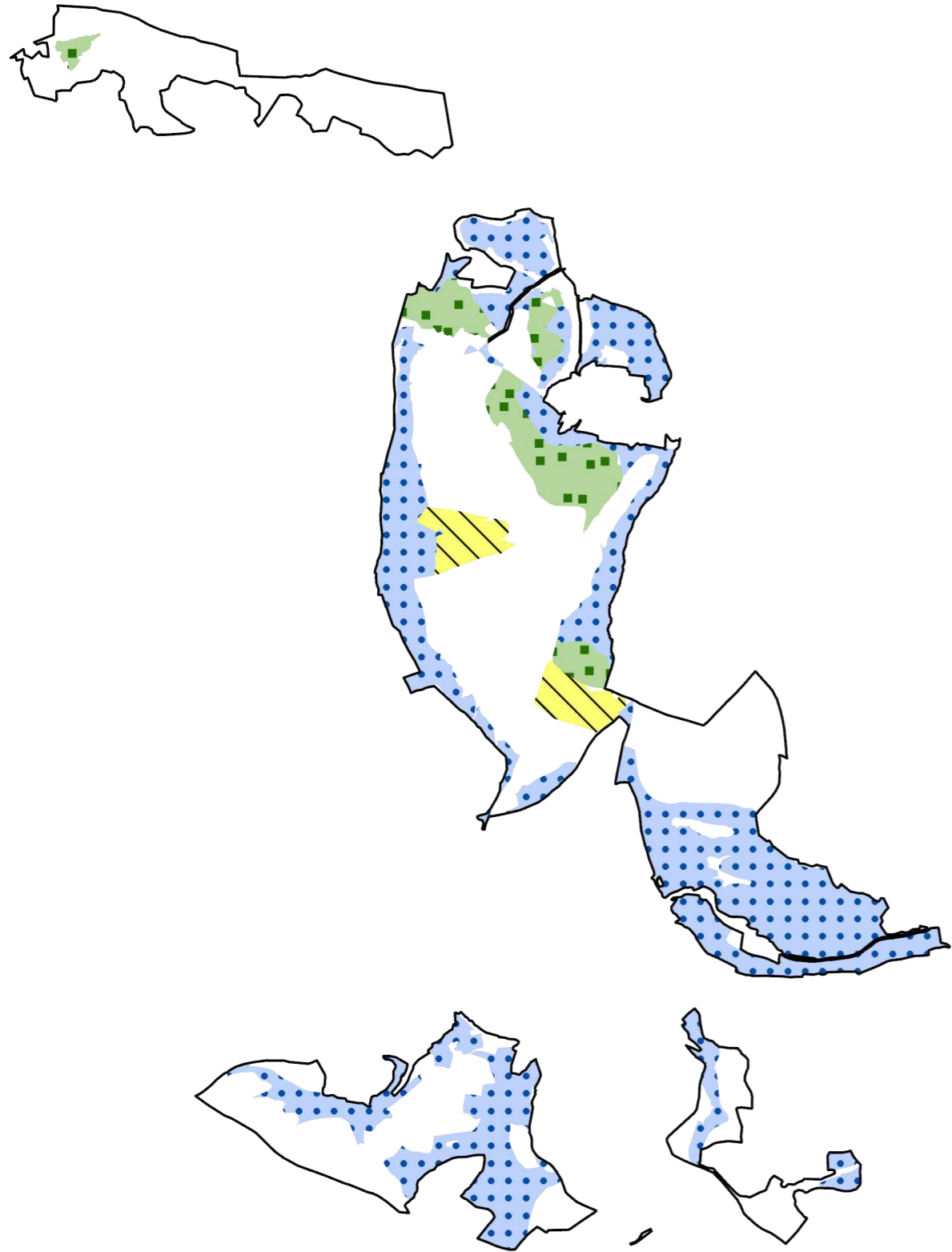
- Clearfell
- Long Term Retention
- Shelterwoods
- Selections
- Open
- Minimum Intervention

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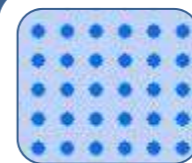


## Low Impact Silvicultural Systems

The Exmoor Plan area has the propensity to regenerate trees freely in certain areas. This is a result of the site conditions, the growing stock and the legacy of management through the decades. The use of LISS as a management prescription will continue to be utilised, and enhanced where feasible, so as to develop a more economically and ecologically resilient set of forests. That said clearfell and then restock will remain the mainstay of productive forestry silviculture, particularly at higher elevations where exposure and wind hazard is greater and soils thinner.



**Strip Systems** - are used where crops are wind vulnerable and where felling may also have a significant landscape impact. They will be worked north to south and east to west to ensure that felling occurs on the leeward edge. These fellings will primarily be restocked through natural regeneration of surrounding seeding conifer crops. Approval will be sought for the felling of the total felling area and discretion used to decide the extent of strips removed at the time of Operational Planning.






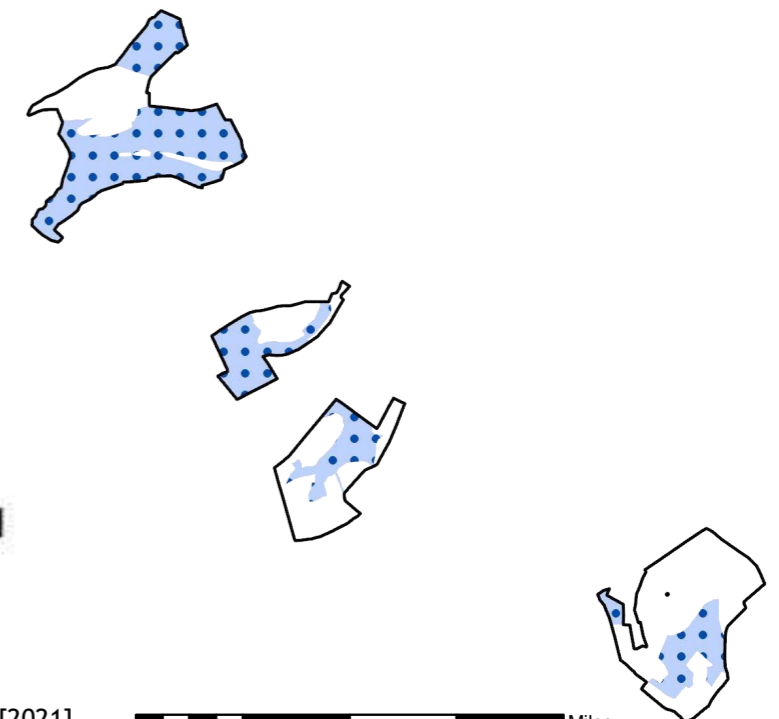
**Simple (or Uniform) Systems** – are the predominant LISS silvicultural prescription of choice across the Plan area. They are prescribed on sites where soils are deep, exposure is less and crops have either been thinned to LISS prescriptions and therefore have the crown and root development to be wind stable, or on young crops which can be converted to LISS over time through thinning. The ultimate aim is to establish an evenly spread understorey through regeneration fellings (as shown below). Once the understorey is established but still robust enough to endure operations the overstorey will be removed in one or two interventions. If the understorey is not >2m felling approval is required. Underplanting with alternative species will be used to supplement the understorey, where regeneration is not established.



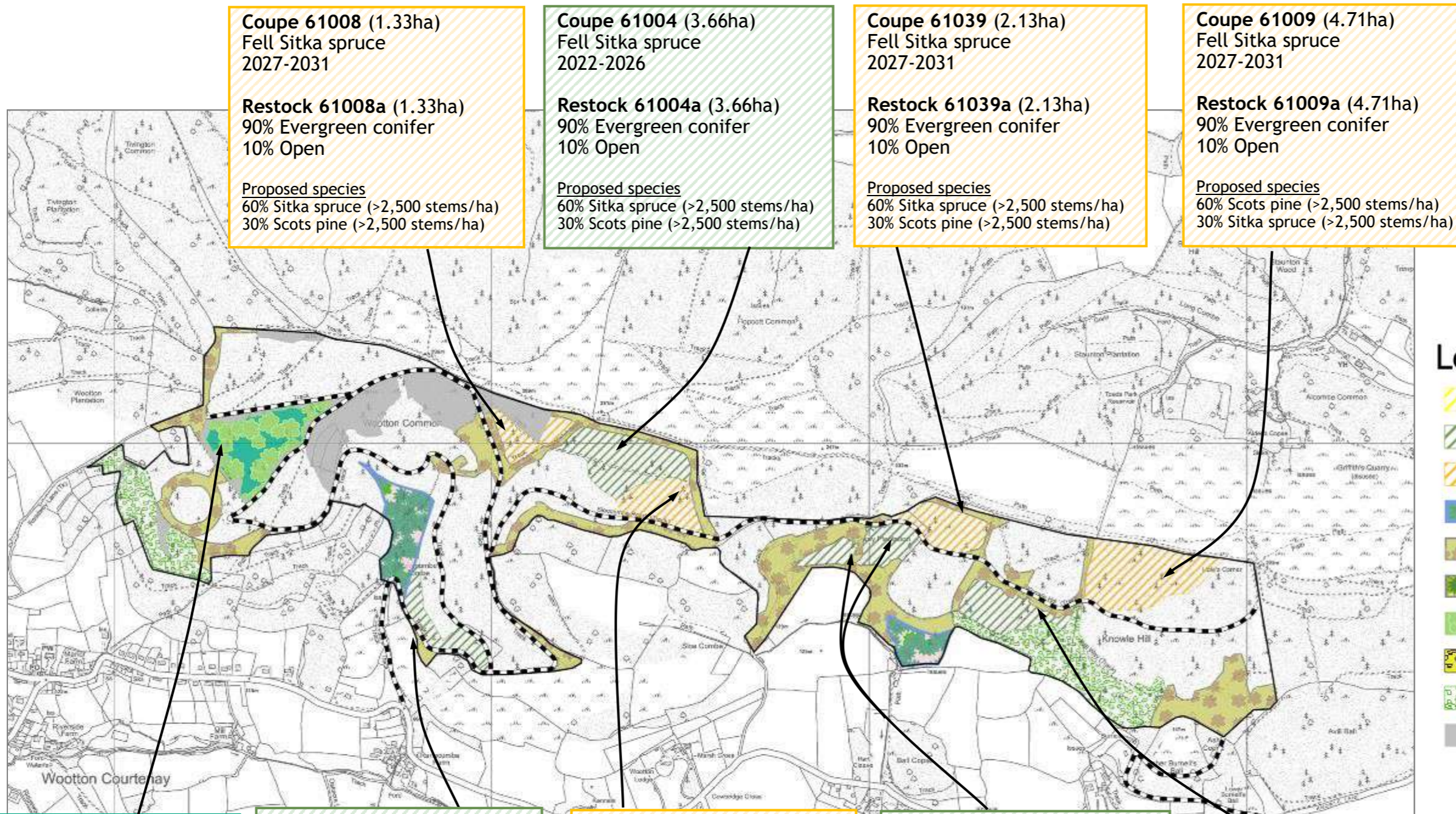
**Complex (or Group) Systems** – are mainly used in Broadwood as a alternative to the simple system application. The complex system requires stands to be more windfirm given the exposure group fellings will create. Soils must be deep and established crops thinned to LISS regimes whereby crown and root development is established. Through the felling of small groups and clusters of trees at multiple interventions the complex structure is initiated. The phased felling of groups, and resultant regeneration over a prolonged period will ensure that a complex system of storeys is established over time. Groups may be distributed randomly or evenly across the coupe and multiple interventions can look to extend the size of the gap. Underplanting may be used to supplement the groups where regeneration is not in sufficient evidence.

### Legend

-  Simple Shelterwood
-  Complex Shelterwood
-  Strip Shelterwood



## Felling and Restocking Wootton Courtenay 2021 - 2031



**Coupe 61008 (1.33ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61008a (1.33ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Sitka spruce (>2,500 stems/ha)  
30% Scots pine (>2,500 stems/ha)

**Coupe 61004 (3.66ha)**  
Fell Sitka spruce  
2022-2026

**Restock 61004a (3.66ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Sitka spruce (>2,500 stems/ha)  
30% Scots pine (>2,500 stems/ha)

**Coupe 61039 (2.13ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61039a (2.13ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Sitka spruce (>2,500 stems/ha)  
30% Scots pine (>2,500 stems/ha)

**Coupe 61009 (4.71ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61009a (4.71ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Scots pine (>2,500 stems/ha)  
30% Sitka spruce (>2,500 stems/ha)

### Legend

- Fell 2017-2021
- Fell 2022-2026
- Fell 2027-2031
- Conifer Retention
- Mature Broadleaf Habitat
- Strip Shelterwood
- Group Selection
- Minimum Intervention
- Natural Reserve
- Other/ Open land

**Coupe 61025 (3.88ha)**  
Group Fell 10 x 0.1ha Sitka spruce

**Restock 61025a (3.88ha)**  
50% Evergreen conifer  
50% Open

Proposed species  
50% Sitka spruce (>2,500 stems/ha)

**Coupe 61001 (1.96ha)**  
Fell Japanese larch and pine  
2022-2026

**Restock 61001a (1.96ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Douglas fir (>2,500 stems/ha)  
30% Sitka spruce (>2,500 stems/ha)

**Coupe 61007 (2.22ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61007a (2.22ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Douglas fir (>2,500 stems/ha)  
30% Sitka spruce (>2,500 stems/ha)

**Coupe 61029 (2.08ha)**  
Fell Sitka spruce  
2022-2026

**Restock 61029a (2.08ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% Douglas fir (>2,500 stems/ha)  
30% Mixed broadleaves (nat. regen)

**Coupe 61020 (2.16ha)**  
Fell Sitka spruce  
2022-2026

**Restock 61020a (2.16ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
60% western hemlock (>2,500 stems/ha)  
30% Noble fir (>2,500 stems/ha)











NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

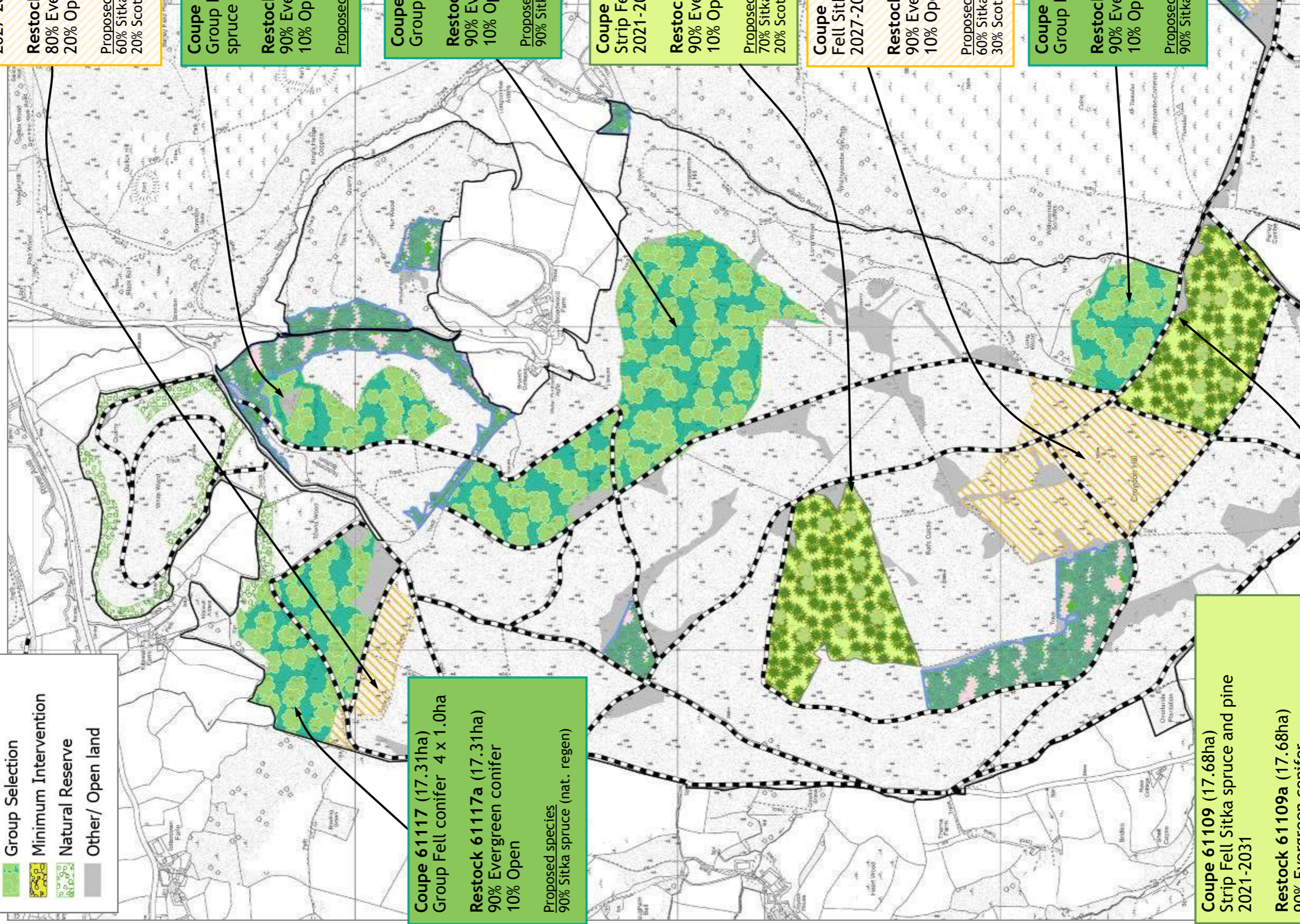
# Felling and Restocking Croydon Hill North 2021 - 2031

NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

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## Legend

-  Fell 2017-2021
-  Fell 2022-2026
-  Fell 2027-2031
-  Conifer Retention
-  Mature Broadleaf Habitat
-  Strip Shelterwood
-  Group Selection
-  Minimum Intervention
-  Natural Reserve
-  Other/ Open land



**Coupe 611116** (4.9ha)  
Fell western hemlock  
2027-2031

**Restock 61116a** (4.9ha)  
80% Evergreen conifer  
20% Open

Proposed species  
60% Sitka spruce (>2,500 stems/ha)  
20% Scots pine (>2,500 stems/ha)

**Coupe 61127** (9.3ha)  
Group Fell 4 x 1.0 ha Sitka spruce

**Restock 61127a** (9.3ha)  
90% Evergreen conifer  
10% Open

Proposed species

**Coupe 61124** (39.88ha)  
Group Fell conifer 8 x 1.0ha

**Restock 61124a** (39.88ha)  
90% Evergreen conifer  
10% Open

Proposed species  
90% Sitka spruce (nat. regen)

**Coupe 61102** (18.96ha)  
Strip Fell Sitka spruce  
2021-2031

**Restock 61102a** (18.96ha)  
90% Evergreen conifer  
10% Open

Proposed species  
70% Sitka spruce (>2,500 stems/ha)  
20% Scots pine (>2,500 stems/ha)

**Coupe 61113** (24.10 ha)  
Fell Sitka spruce and pine  
2027-2031

**Restock 61113a** (24.10ha)  
90% Evergreen conifer  
10% Open

Proposed species  
60% Sitka spruce (>2,500 stems/ha)  
30% Scots pine (>2,500 stems/ha)

**Coupe 61110** (9.75ha)  
Group Fell conifer 4 x 1.0ha

**Restock 61110a** (9.75ha)  
90% Evergreen conifer  
10% Open

Proposed species  
90% Sitka spruce (nat. regen)

**Coupe 61117** (17.31ha)  
Group Fell conifer 4 x 1.0ha

**Restock 61117a** (17.31ha)  
90% Evergreen conifer  
10% Open

Proposed species  
90% Sitka spruce (nat. regen)

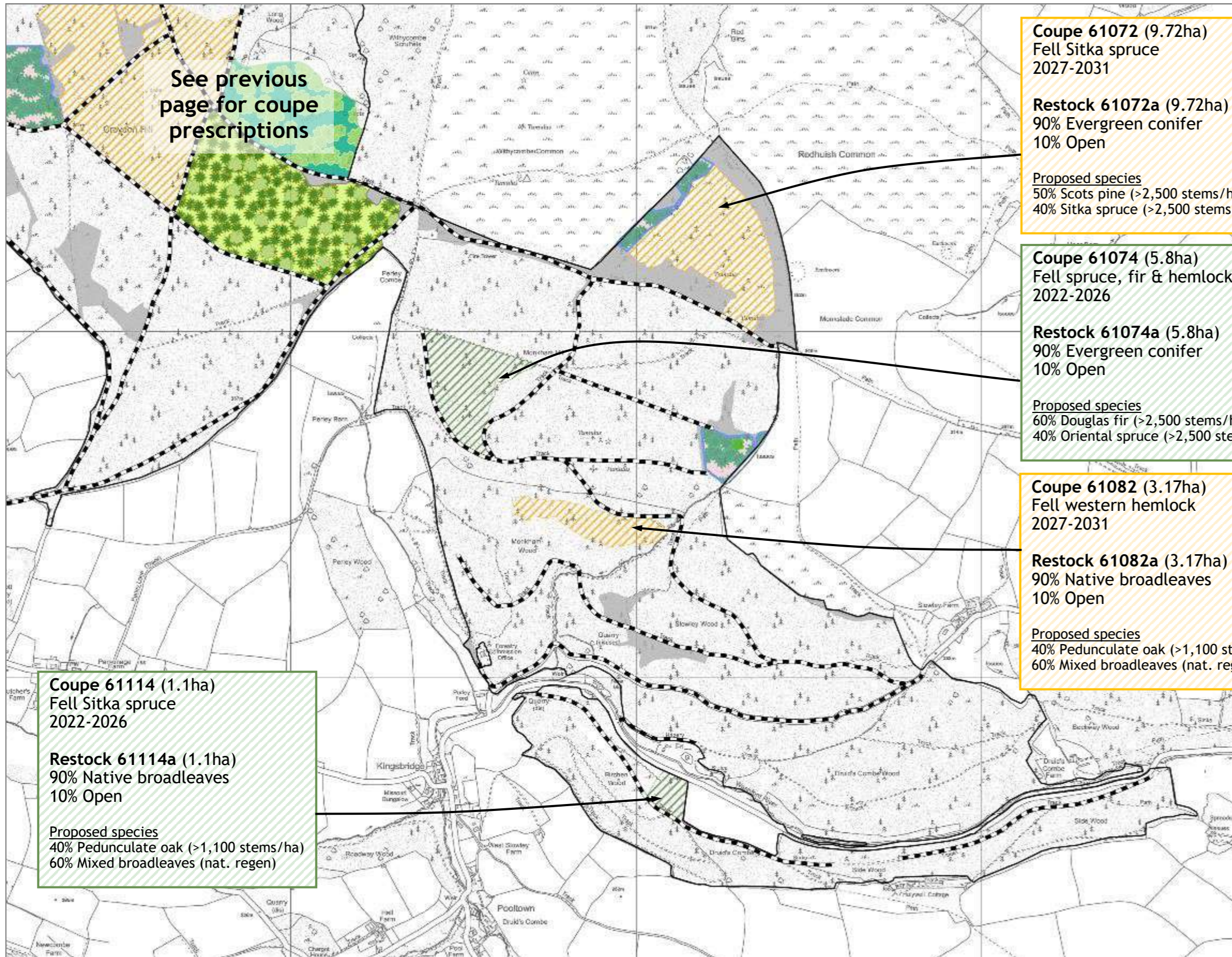
**Coupe 61109** (17.68ha)  
Strip Fell Sitka spruce and pine  
2021-2031

**Restock 61109a** (17.68ha)  
90% Evergreen conifer  
10% Open

Proposed species  
70% Sitka spruce (>2,500 stems/ha)  
20% Scots pine (>2,500 stems/ha)



## Felling and Restocking Croydon Hill South 2021 - 2031



See previous page for coupe prescriptions

**Coupe 61072 (9.72ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61072a (9.72ha)**  
90% Evergreen conifer  
10% Open

**Proposed species**  
50% Scots pine (>2,500 stems/ha)  
40% Sitka spruce (>2,500 stems/ha)

**Coupe 61074 (5.8ha)**  
Fell spruce, fir & hemlock  
2022-2026

**Restock 61074a (5.8ha)**  
90% Evergreen conifer  
10% Open

**Proposed species**  
60% Douglas fir (>2,500 stems/ha)  
40% Oriental spruce (>2,500 stems/ha)

**Coupe 61082 (3.17ha)**  
Fell western hemlock  
2027-2031

**Restock 61082a (3.17ha)**  
90% Native broadleaves  
10% Open

**Proposed species**  
40% Pedunculate oak (>1,100 stems/ha)  
60% Mixed broadleaves (nat. regen)

**Coupe 61114 (1.1ha)**  
Fell Sitka spruce  
2022-2026

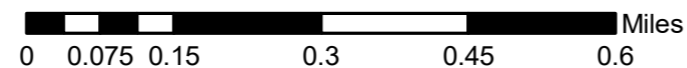
**Restock 61114a (1.1ha)**  
90% Native broadleaves  
10% Open

**Proposed species**  
40% Pedunculate oak (>1,100 stems/ha)  
60% Mixed broadleaves (nat. regen)

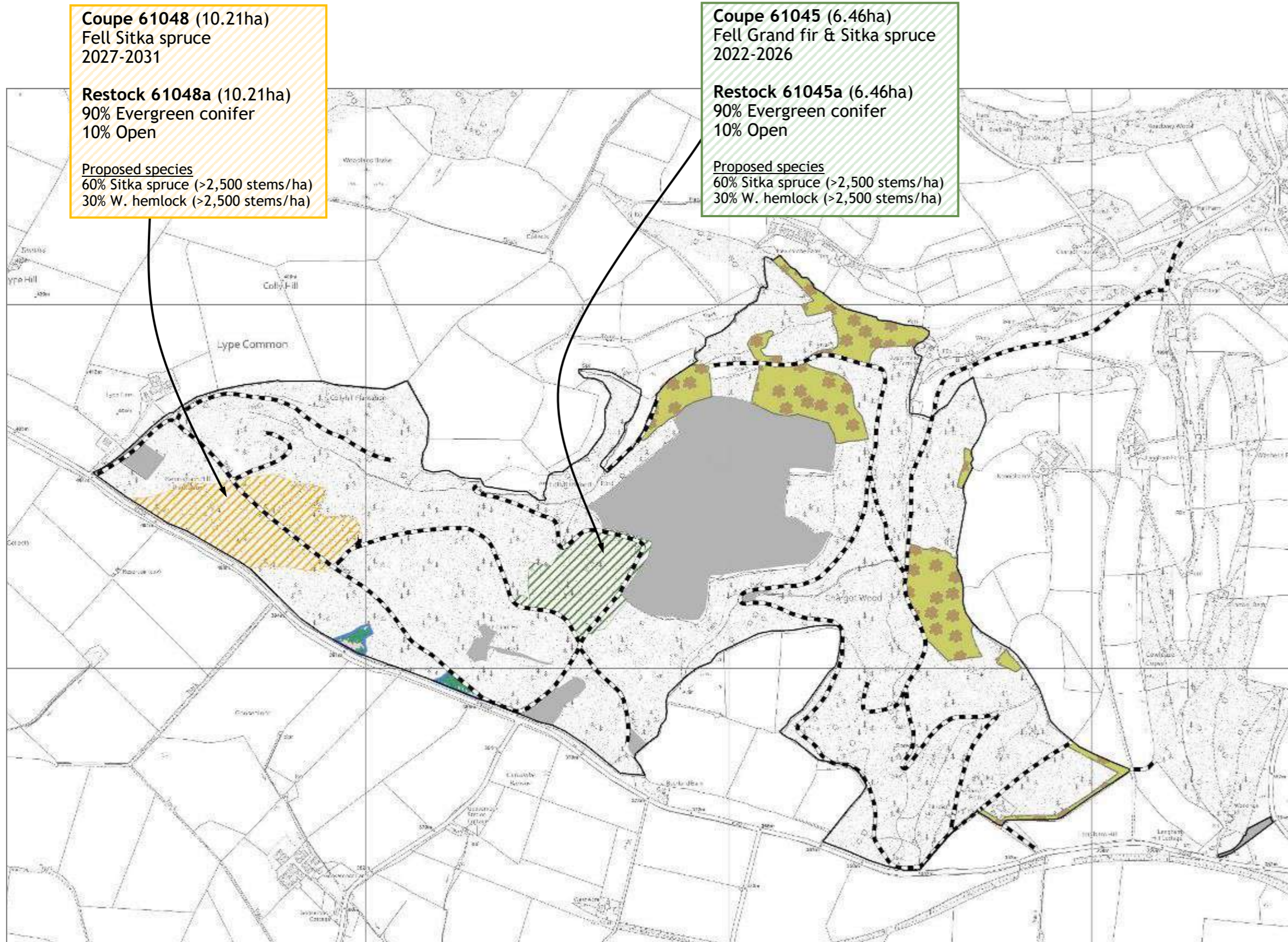
### Legend

- Fell 2017-2021
- Fell 2022-2026
- Fell 2027-2031
- Conifer Retention
- Mature Broadleaf Habitat
- Strip Shelterwood
- Group Selection
- Minimum Intervention
- Natural Reserve
- Other/ Open land

NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.



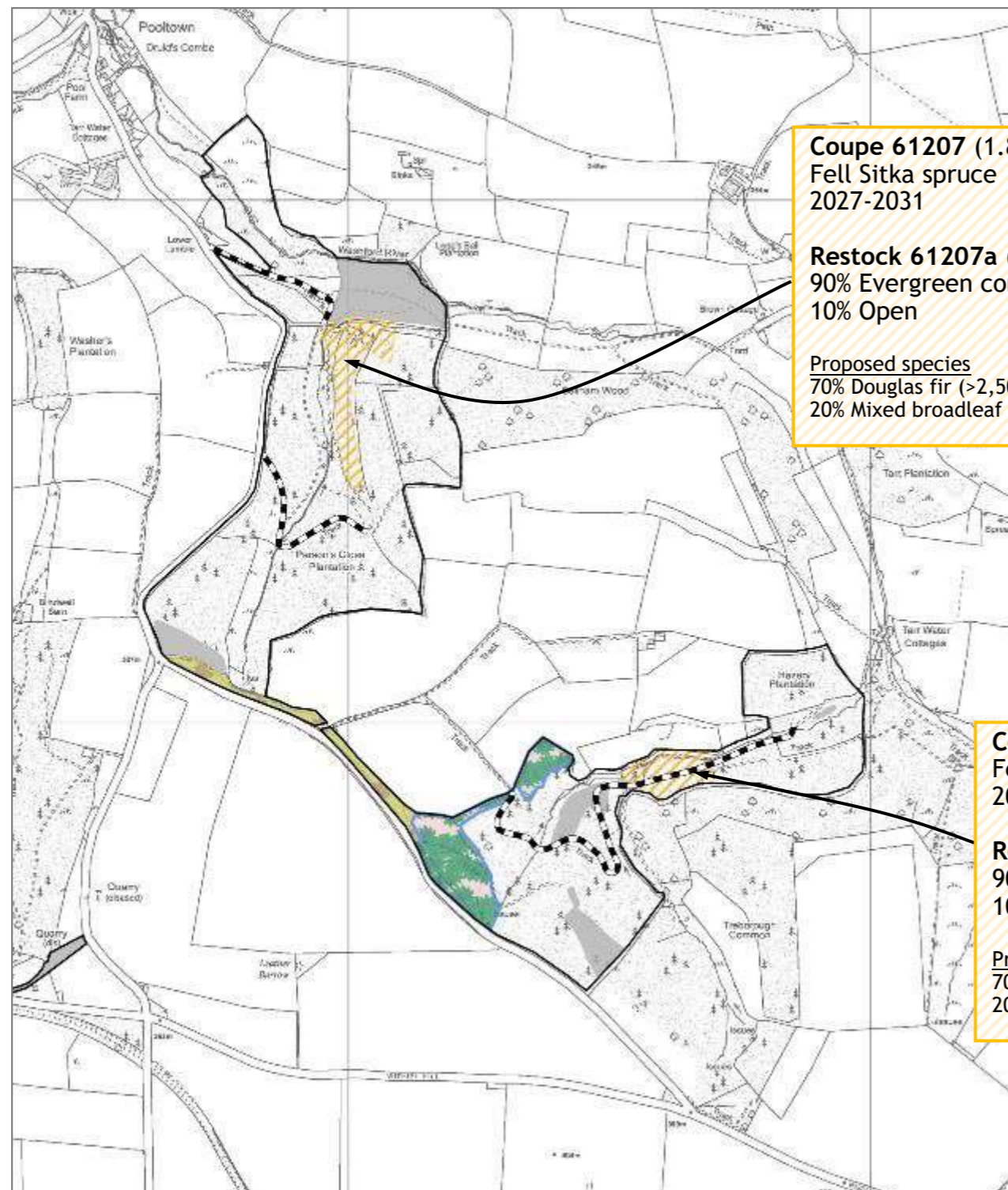
## Felling and Restocking Chargot 2021 - 2031



NB. Whilst 'Restock Proportion' is often prescribed at 100-90% 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 Hazery 2021 - 2031



**Coupe 61207 (1.81ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61207a (1.81ha)**  
90% Evergreen conifer  
10% Open

Proposed species  
70% Douglas fir (>2,500 stems/ha)  
20% Mixed broadleaf (nat. regen)

**Coupe 61214 (1.16ha)**  
Fell Sitka spruce  
2027-2031

**Restock 61214a (1.16ha)**  
90% Evergreen conifer  
10% Open


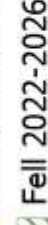
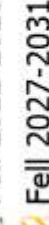
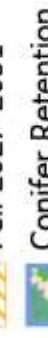
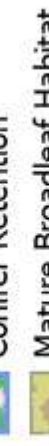
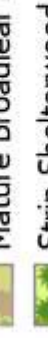
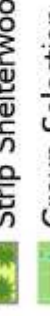
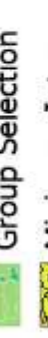
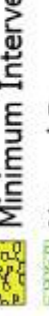
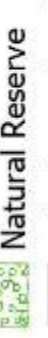
Proposed species  
70% Douglas fir (>2,500 stems/ha)  
20% Mixed broadleaf (nat. regen)

### Legend

- Fell 2017-2021
- Fell 2022-2026
- Fell 2027-2031
- Conifer Retention
- Mature Broadleaf Habitat
- Strip Shelterwood
- Group Selection
- Minimum Intervention
- Natural Reserve
- Other/ Open land

NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

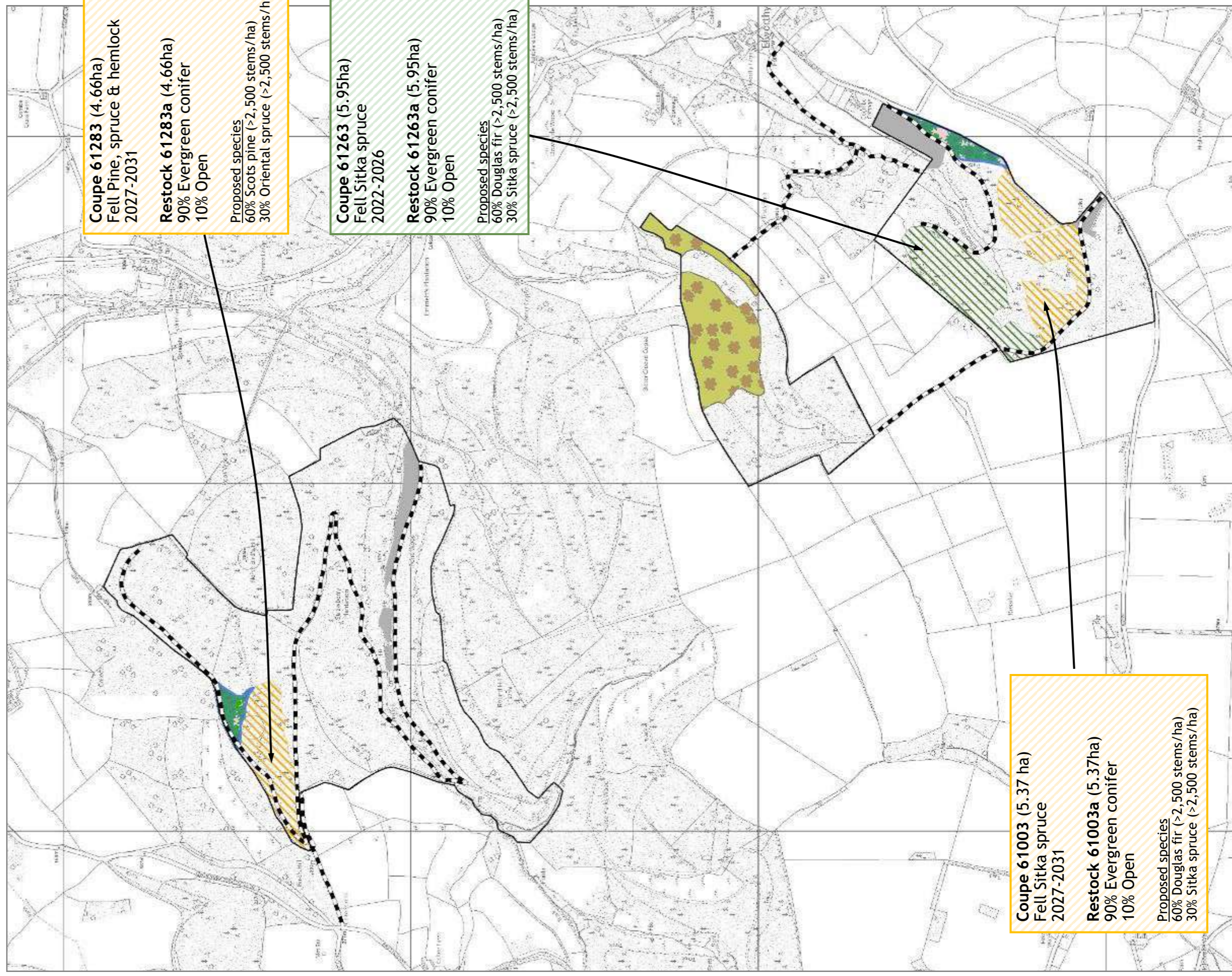
# Legend

-  Fell 2017-2021
-  Fell 2022-2026
-  Fell 2027-2031
-  Conifer Retention
-  Mature Broadleaf Habitat
-  Strip Shelterwood
-  Group Selection
-  Minimum Intervention
-  Natural Reserve
-  Other/ Open land

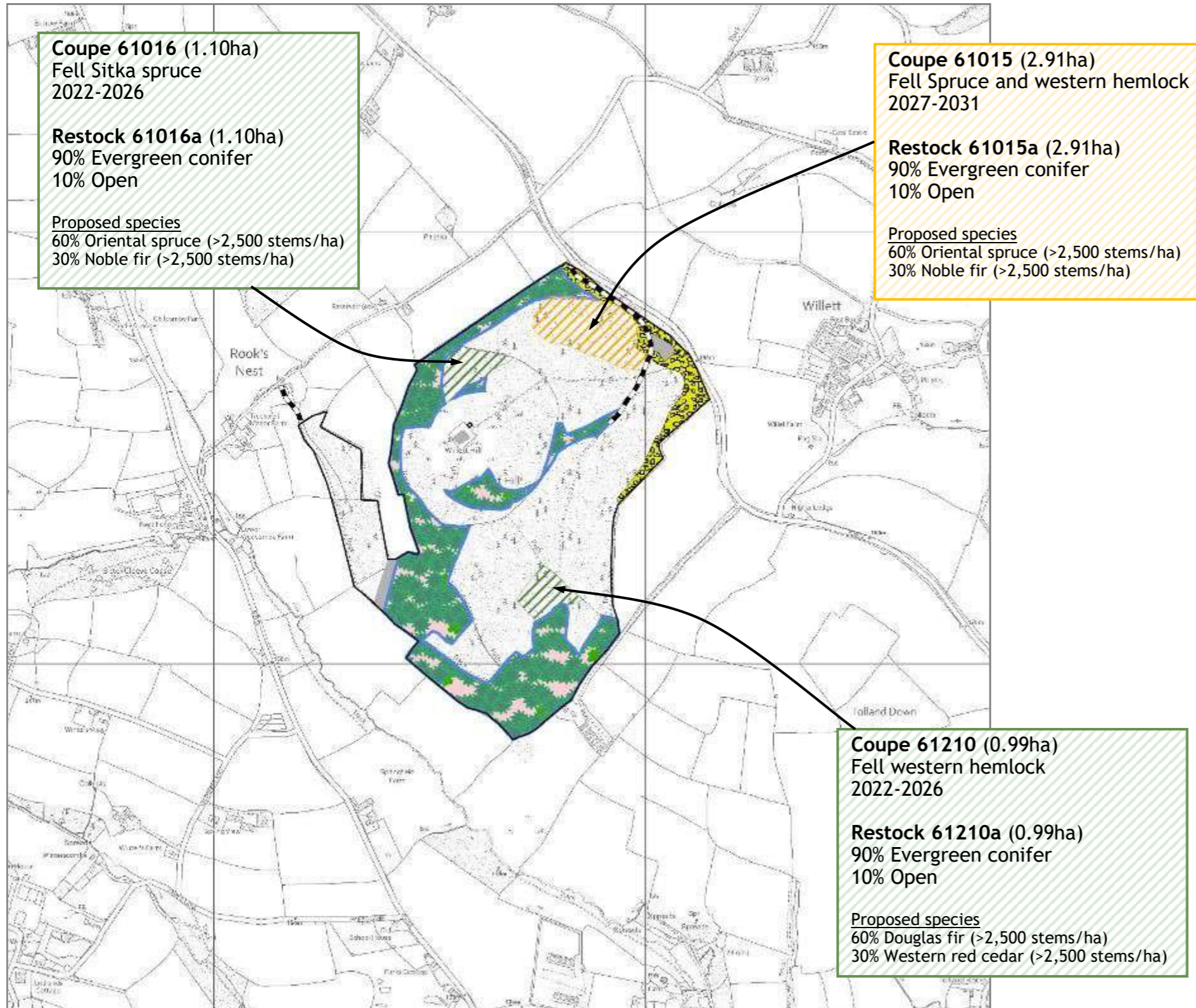
# Felling and Restocking Elworthy 2021 - 2031

NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

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Ordnance Survey [100021242]



## Felling and Restocking Willett 2021 - 2031



### Legend












- Fell 2017-2021
- Fell 2022-2026
- Fell 2027-2031
- Conifer Retention
- Mature Broadleaf Habitat
- Strip Shelterwood
- Group Selection
- Minimum Intervention
- Natural Reserve
- Other/ Open land

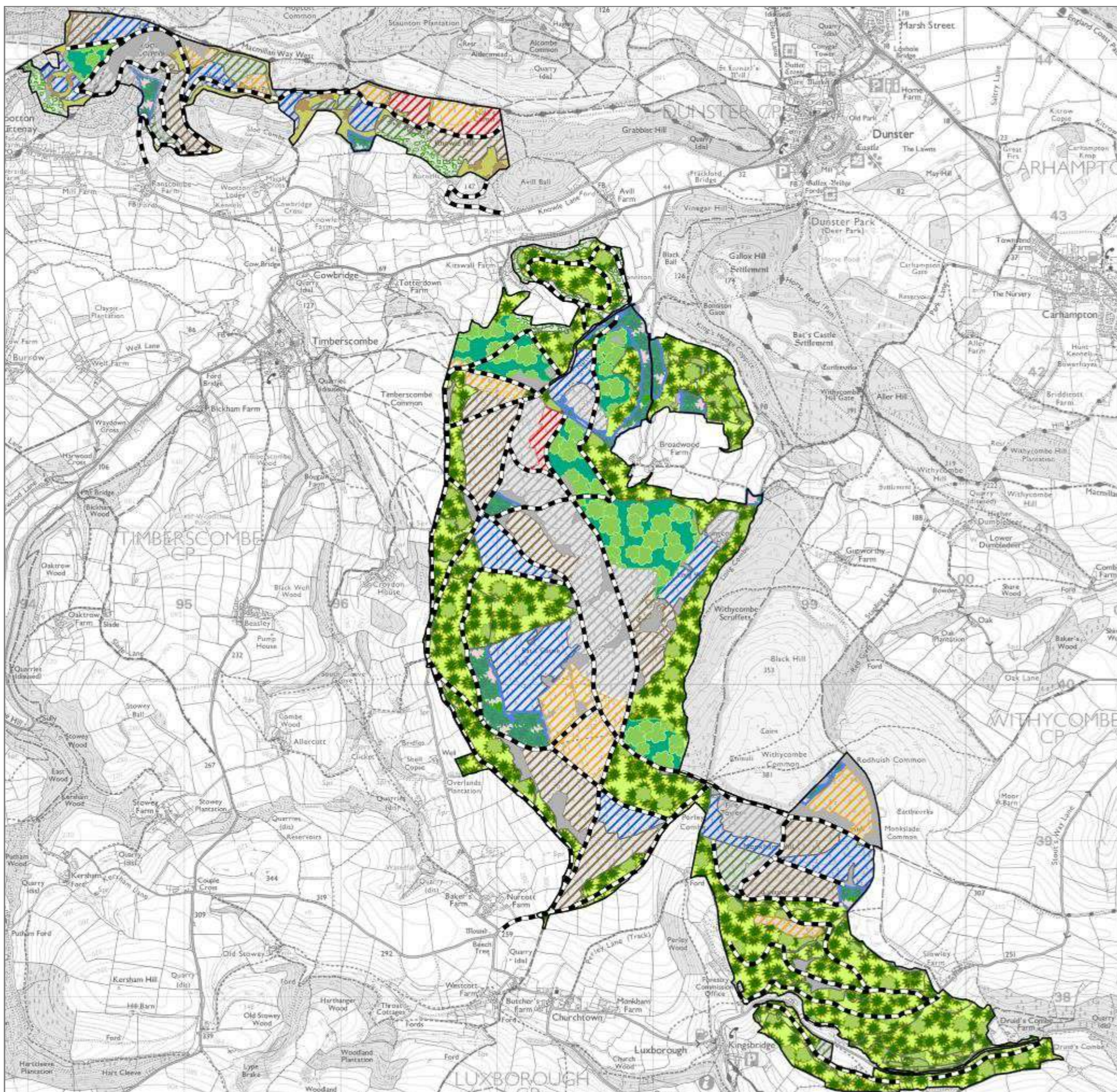
NB. Whilst 'Restock Proportion' is often prescribed at 100-90% Evergreen Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

## Management Prescriptions 2021 - 2051

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

### Legend

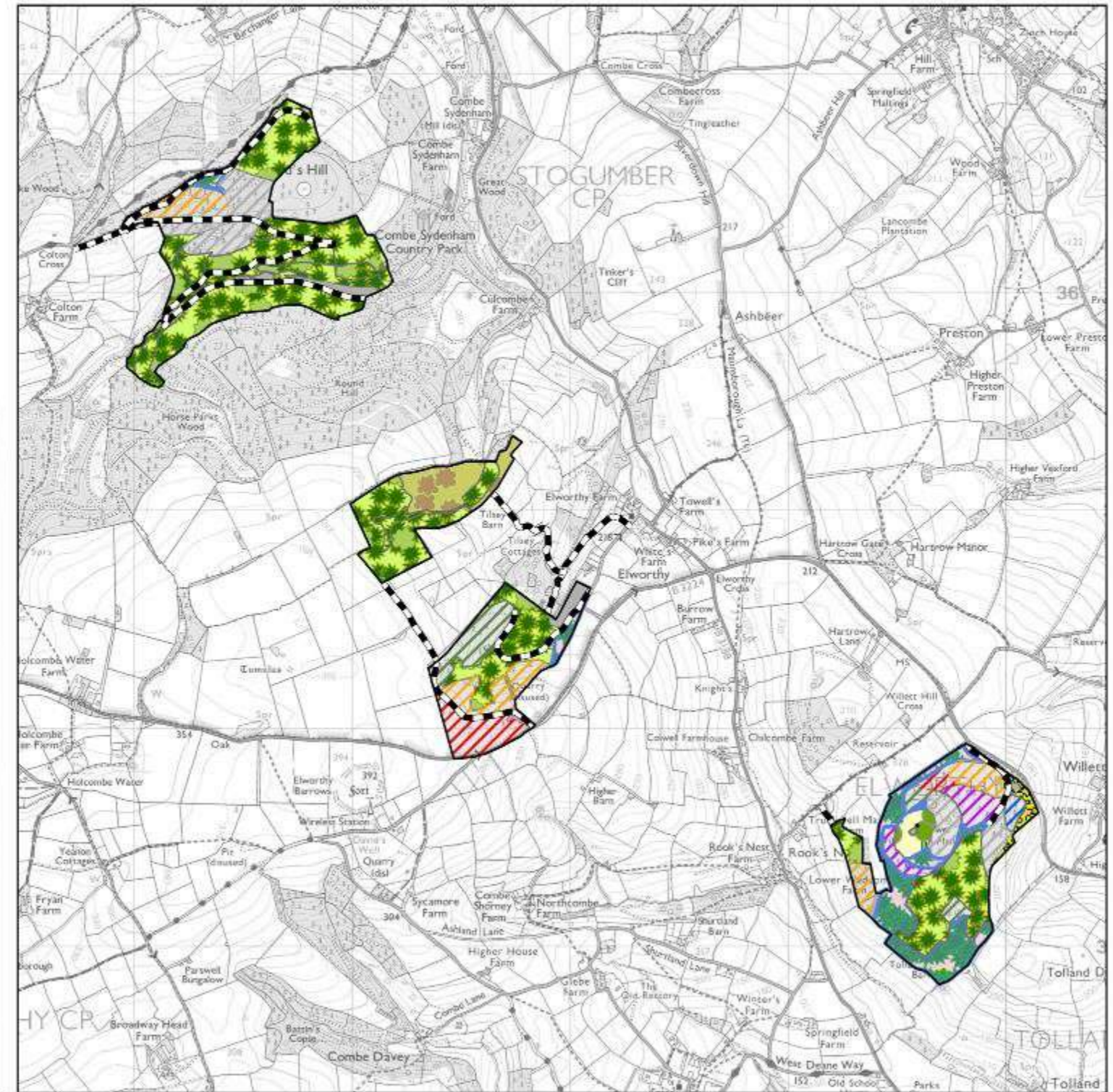
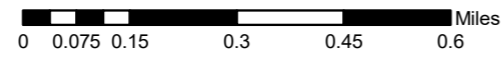
-  Fell 2017-2021
-  Fell 2022-2026
-  Fell 2027-2031
-  Fell 2032-2036
-  Fell 2037-2041
-  Fell 2042-2046
-  Fell 2047-2051
-  Fell beyond 2051
-  Conifer Retention
-  Mature Broadleaf Habitat
-  LISS
-  Group Selection
-  Coppice
-  Wood Pasture
-  Minimum Intervention
-  Natural Reserve
-  Other / Open land



### Legend

-  Fell 2017-2021
-  Fell 2022-2026
-  Fell 2027-2031
-  Fell 2032-2036
-  Fell 2037-2041
-  Fell 2042-2046
-  Fell 2047-2051
-  Fell beyond 2051
-  Conifer Retention
-  Mature Broadleaf Habitat
-  LISS
-  Group Selection
-  Coppice
-  Wood Pasture
-  Minimum Intervention
-  Natural Reserve
-  Other / Open land

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Ordnance Survey [100021242]

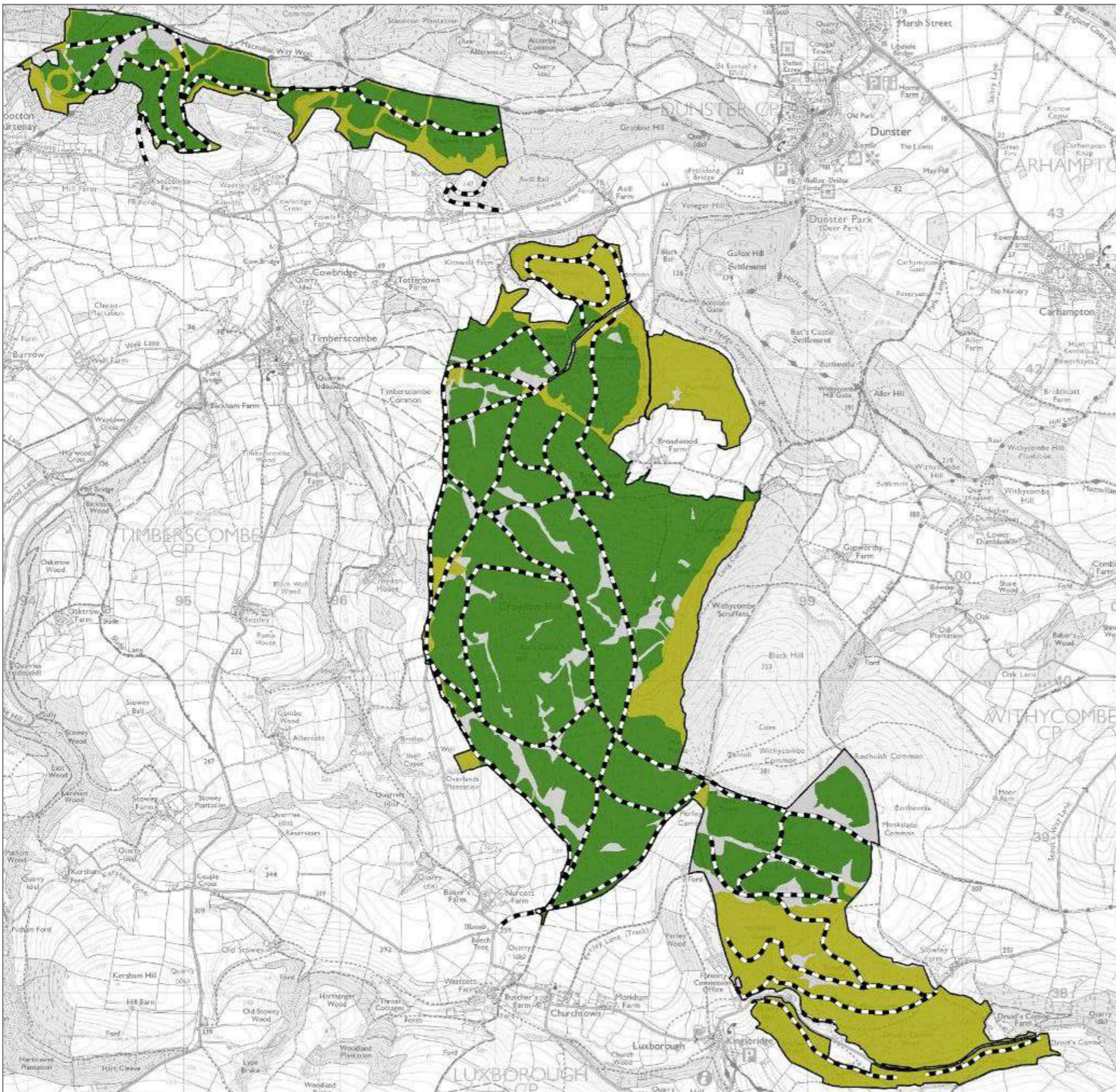


## Restock Prescriptions

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

### Legend

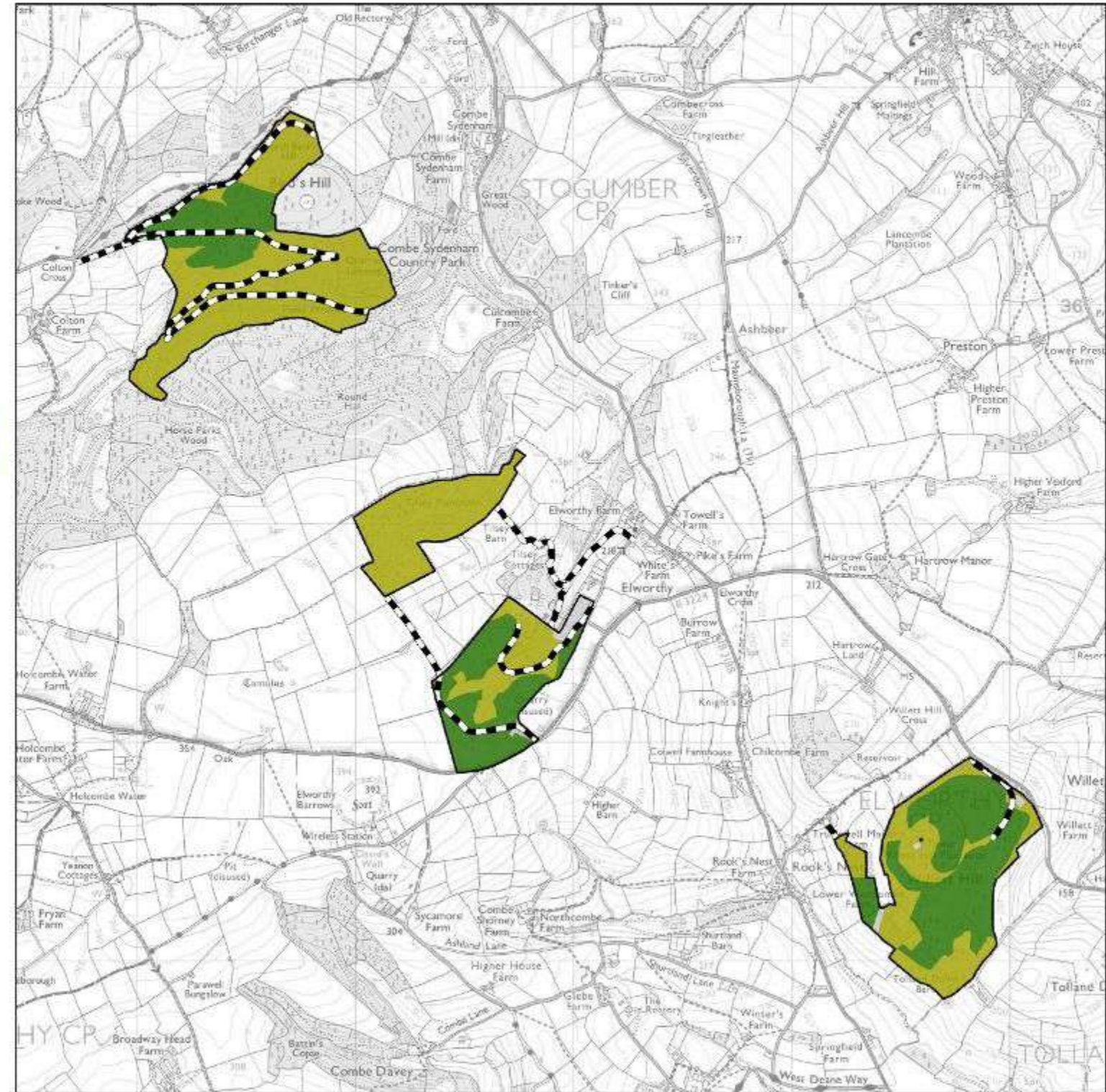
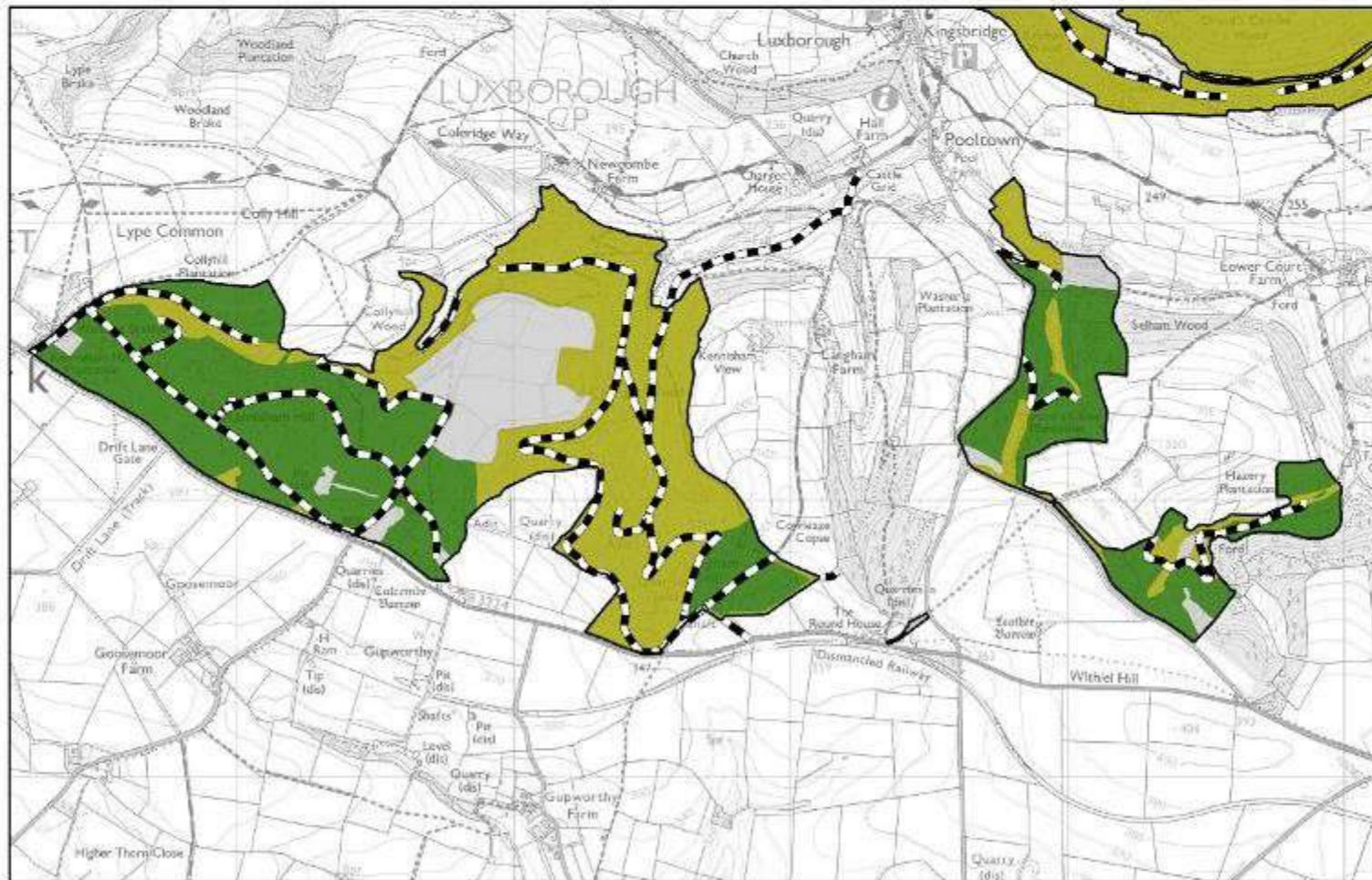
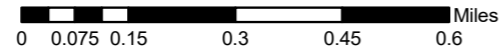
- Conifer dominant forest
- Broadleaf dominated forest
- Open/other dominated forest

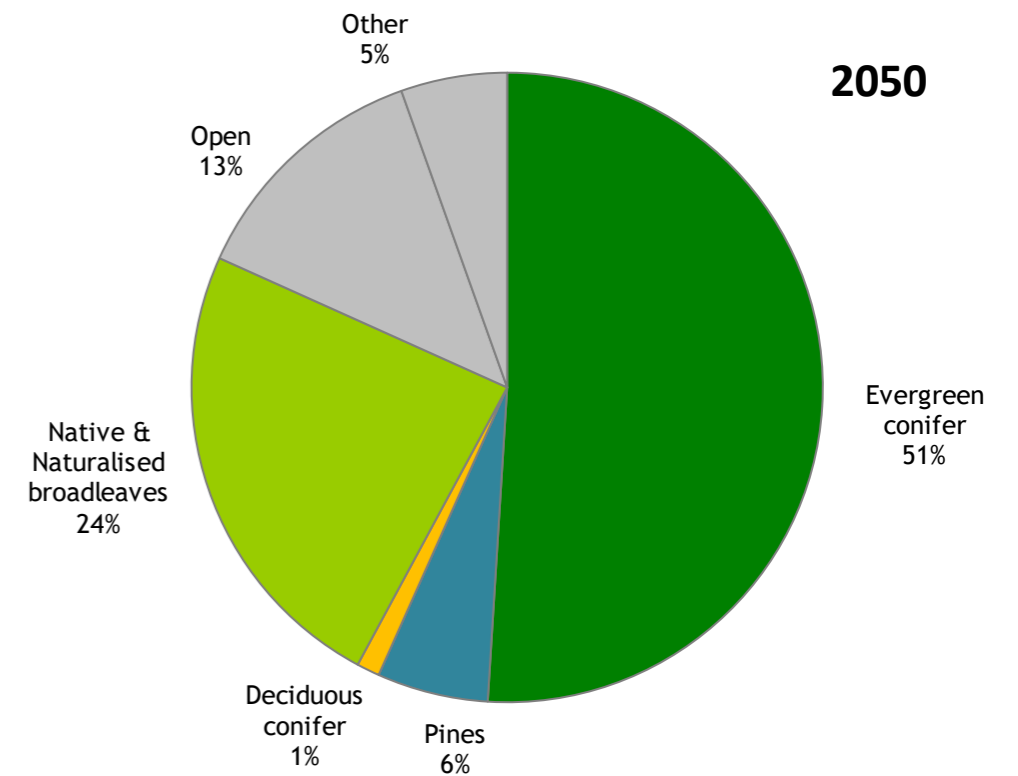
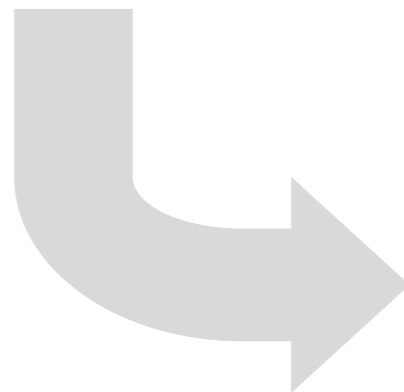
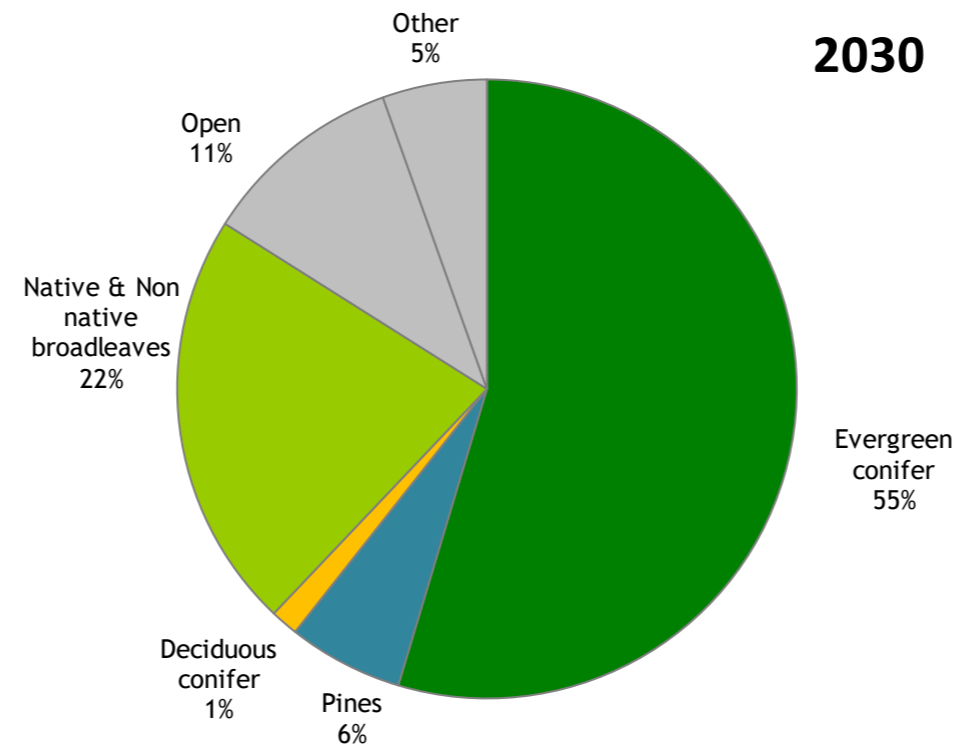
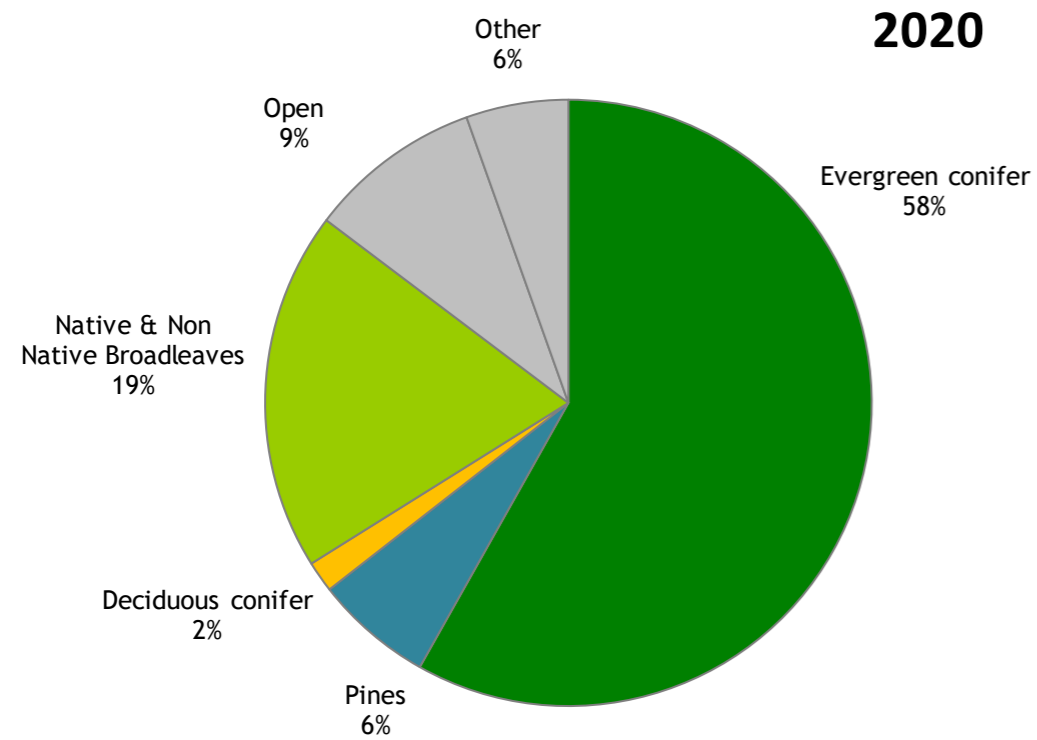


**Legend**

- Conifer dominant forest
- Broadleaf dominated forest
- Open/other dominated forest

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Ordnance Survey [100021242]





## Indicative Future Species

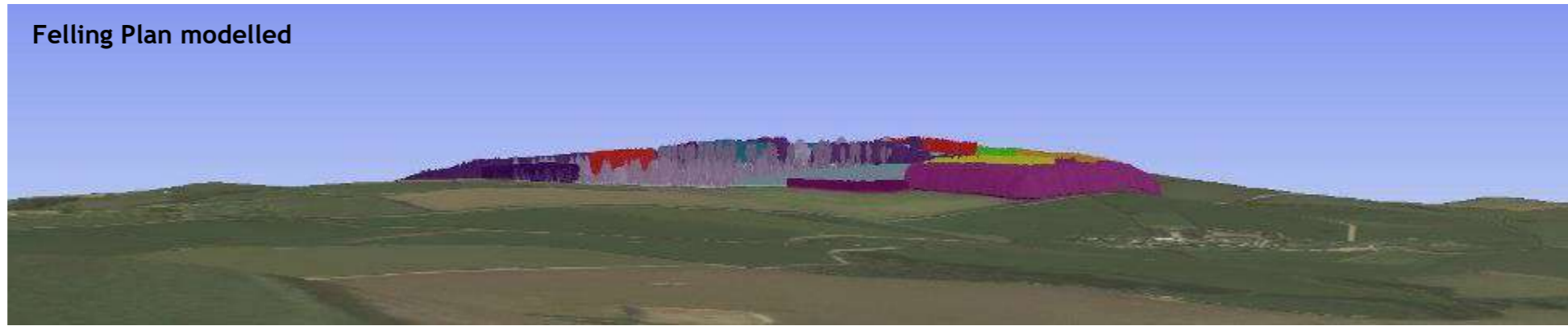
The projections made are indicative of species composition in ten and thirty years time. They do not constitute a guarantee and merely act as an indicator of how the vision for the Plan area will be delivered over time.



Photo, August 2019

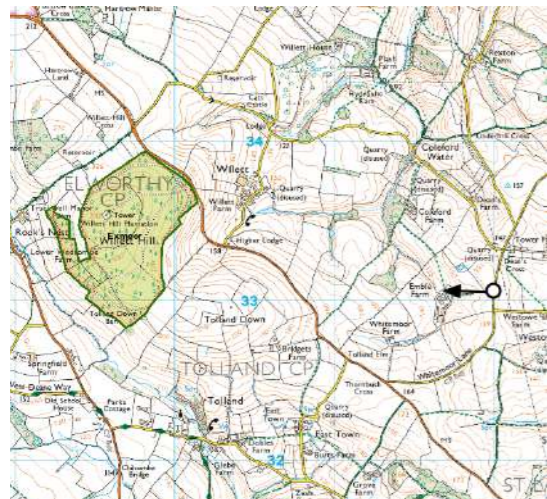
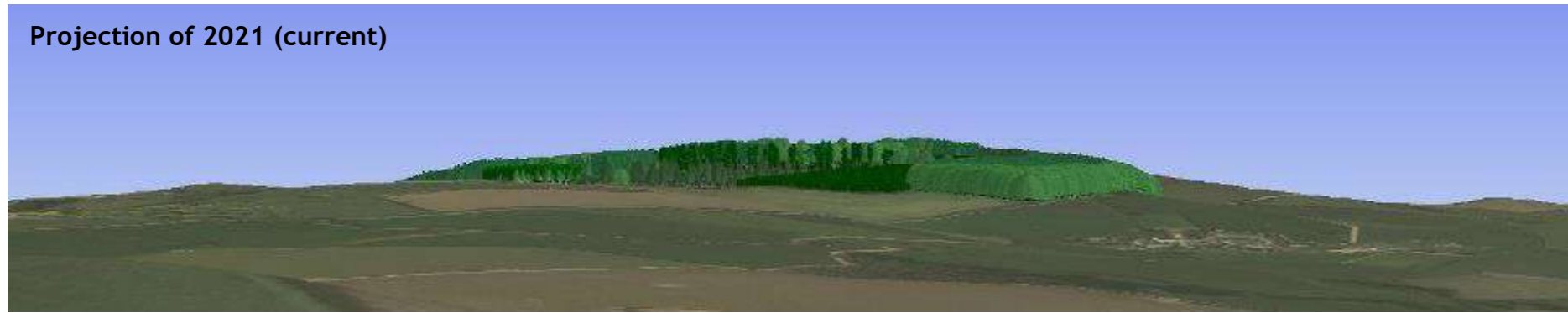


Felling Plan modelled



<span style="color: red;">■</span>	Phase 1: < 5 years	224469 stems: 71.50Ha 5%
<span style="color: orange;">■</span>	Phase 2: between 5 and 9 years	130204 stems: 40.97Ha 3.1%
<span style="color: yellow;">■</span>	Phase 3: between 10 and 14 years	316503 stems: 95.88Ha 7%
<span style="color: lightgreen;">■</span>	Phase 4: between 15 and 19 years	183902 stems: 58.75Ha 4.4%
<span style="color: green;">■</span>	Phase 5: between 20 and 24 years	224175 stems: 69.27Ha 5%
<span style="color: cyan;">■</span>	Phase 6: between 25 and 29 years	204094 stems: 64.59Ha 4.9%
<span style="color: brown;">■</span>	Phase 7: between 30 and 34 years	90656 stems: 29.10Ha 2.2%
<span style="color: lightblue;">■</span>	Phase 8: 35 years and greater	308418 stems: 97.78Ha 7%
<span style="color: purple;">■</span>	Clearfell with seed trees	3137 stems: 3.06Ha 0.230%
<span style="color: pink;">■</span>	Low Impact Silviculture	2146531 stems: 631.61Ha 48%
<span style="color: magenta;">■</span>	Minimum Intervention	11330 stems: 2.29Ha 0.172%
<span style="color: darkblue;">■</span>	Natural reserve	71635 stems: 17.33Ha 1.30%
<span style="color: darkpurple;">■</span>	Long Term retention	198739 stems: 56.51Ha 4.3%
<span style="color: yellow;">■</span>	Other/Open land	4596 stems: 89.63Ha 7%

Projection of 2021 (current)



Projection of 2031



Photo, November 2019



Felling Plan modelled



<span style="color: red;">■</span>	Phase 1: < 5 years	224469 stems: 71.50Ha 5%
<span style="color: orange;">■</span>	Phase 2: between 5 and 9 years	130204 stems: 40.97Ha 3.1%
<span style="color: yellow;">■</span>	Phase 3: between 10 and 14 years	316503 stems: 95.88Ha 7%
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<span style="color: green;">■</span>	Phase 5: between 20 and 24 years	224175 stems: 69.27Ha 5%
<span style="color: teal;">■</span>	Phase 6: between 25 and 29 years	204094 stems: 64.59Ha 4.9%
<span style="color: brown;">■</span>	Phase 7: between 30 and 34 years	90656 stems: 29.00Ha 2.2%
<span style="color: lightblue;">■</span>	Phase 8: 35 years and greater	308418 stems: 97.78Ha 7%
<span style="color: purple;">■</span>	Clearfell with seed trees	3137 stems: 3.06Ha 0.230%
<span style="color: pink;">■</span>	Low Impact Silviculture	2146531 stems: 631.61Ha 48%
<span style="color: magenta;">■</span>	Minimum Intervention	11330 stems: 2.29Ha 0.172%
<span style="color: darkblue;">■</span>	Natural reserve	73635 stems: 17.33Ha 1.30%
<span style="color: darkpurple;">■</span>	Long Term retention	198739 stems: 56.51Ha 4.3%
<span style="color: yellow;">■</span>	Other/Open land	4596 stems: 89.63Ha 7%

Projection of 2021 (current)



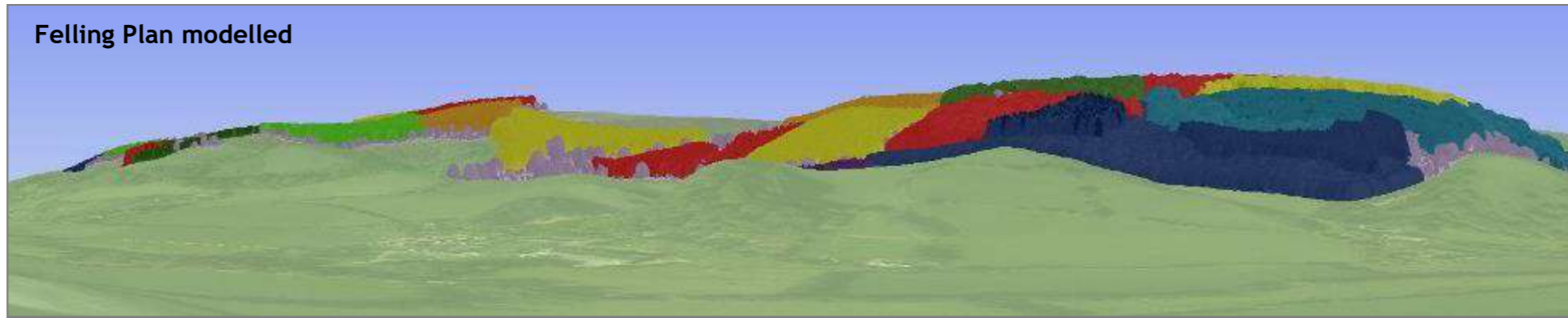
Projection of 2031



Photo, November 2019



Felling Plan modelled



<span style="color: red;">■</span>	Phase 1: < 5 years	224469 stems: 71.50Ha 5%
<span style="color: orange;">■</span>	Phase 2: between 5 and 9 years	130204 stems: 40.97Ha 3.1%
<span style="color: yellow;">■</span>	Phase 3: between 10 and 14 years	316503 stems: 95.88Ha 7%
<span style="color: lightgreen;">■</span>	Phase 4: between 15 and 19 years	183902 stems: 58.75Ha 4.4%
<span style="color: green;">■</span>	Phase 5: between 20 and 24 years	224175 stems: 69.27Ha 5%
<span style="color: teal;">■</span>	Phase 6: between 25 and 29 years	204094 stems: 64.59Ha 4.9%
<span style="color: brown;">■</span>	Phase 7: between 30 and 34 years	90656 stems: 29.00Ha 2.2%
<span style="color: lightblue;">■</span>	Phase 8: 35 years and greater	308418 stems: 97.78Ha 7%
<span style="color: purple;">■</span>	Clearfell with seed trees	3137 stems: 3.06Ha 0.230%
<span style="color: pink;">■</span>	Low Impact Silviculture	2146531 stems: 631.61Ha 48%
<span style="color: magenta;">■</span>	Minimum Intervention	11330 stems: 2.29Ha 0.172%
<span style="color: darkblue;">■</span>	Natural reserve	71635 stems: 17.33Ha 1.30%
<span style="color: darkpurple;">■</span>	Long Term retention	198739 stems: 56.51Ha 4.3%
<span style="color: yellow;">■</span>	Other/Open land	4596 stems: 89.63Ha 7%



Projection of 2021 (current)



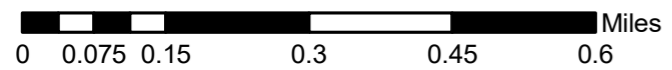
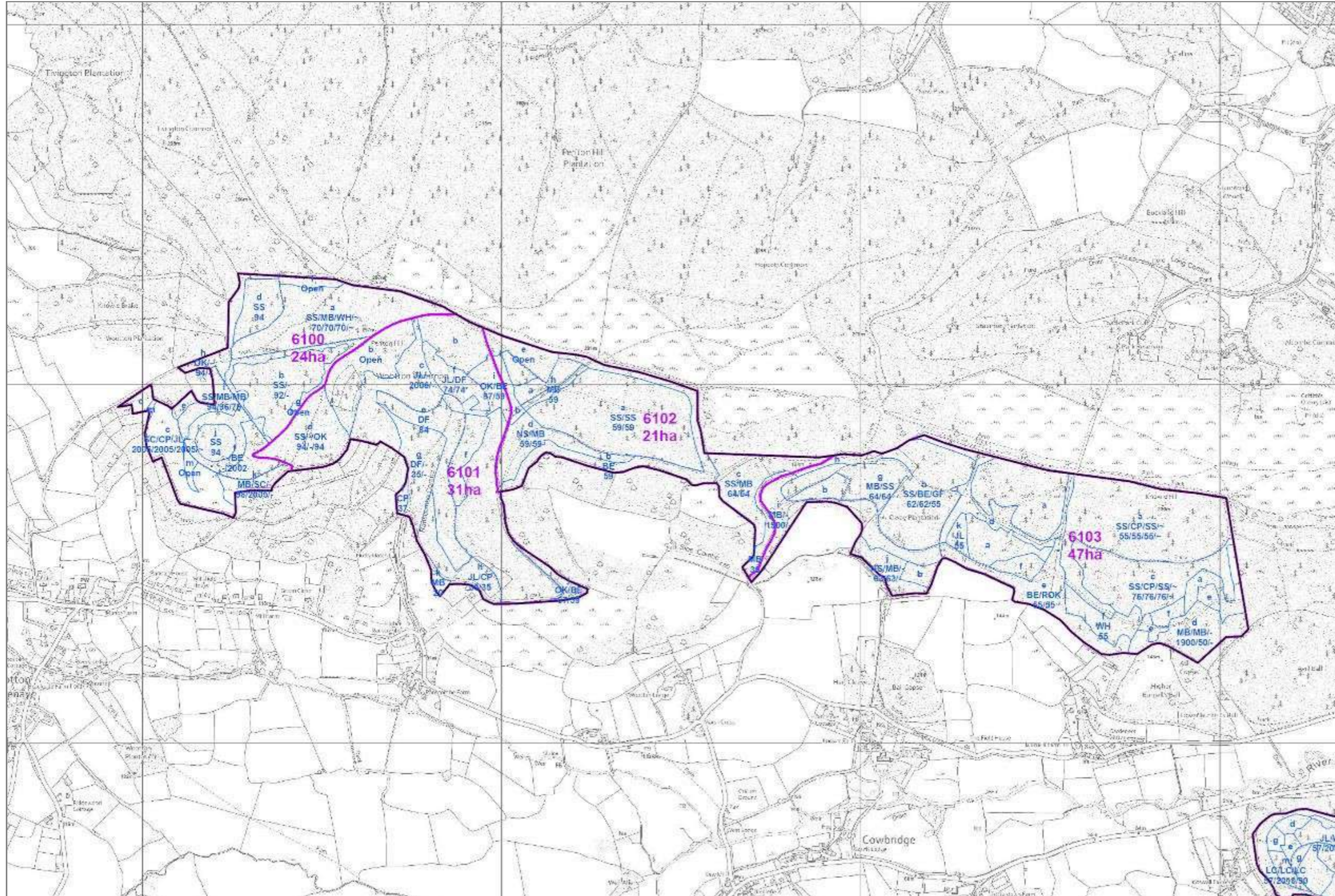
Projection of 2031



# Legend

-  Compartments
-  Sub-Compartments

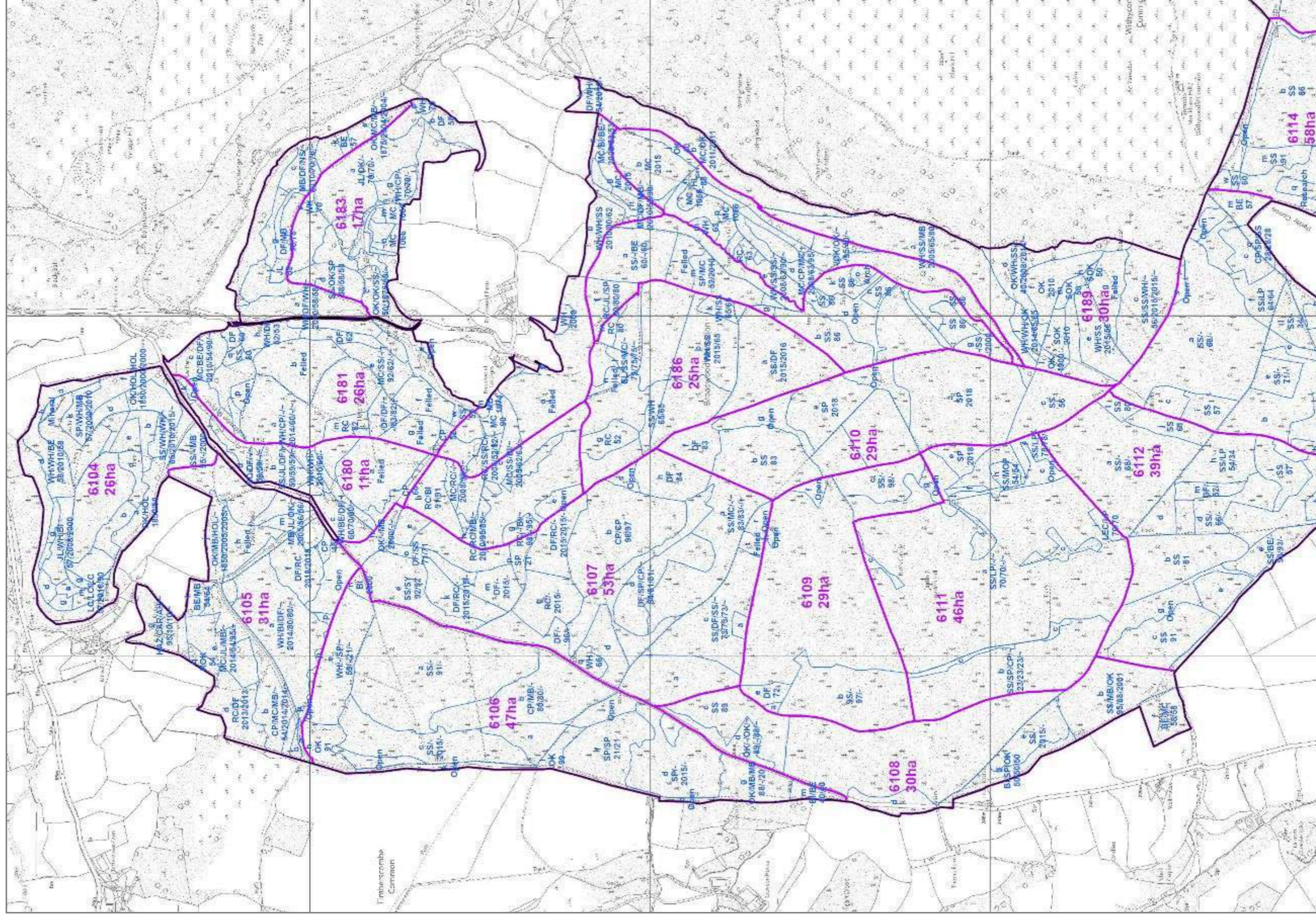
## Stock Data 2020 Wootton Courtenay





# Legend

- Compartment
- Sub-Compartments

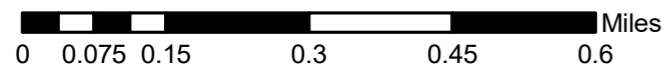
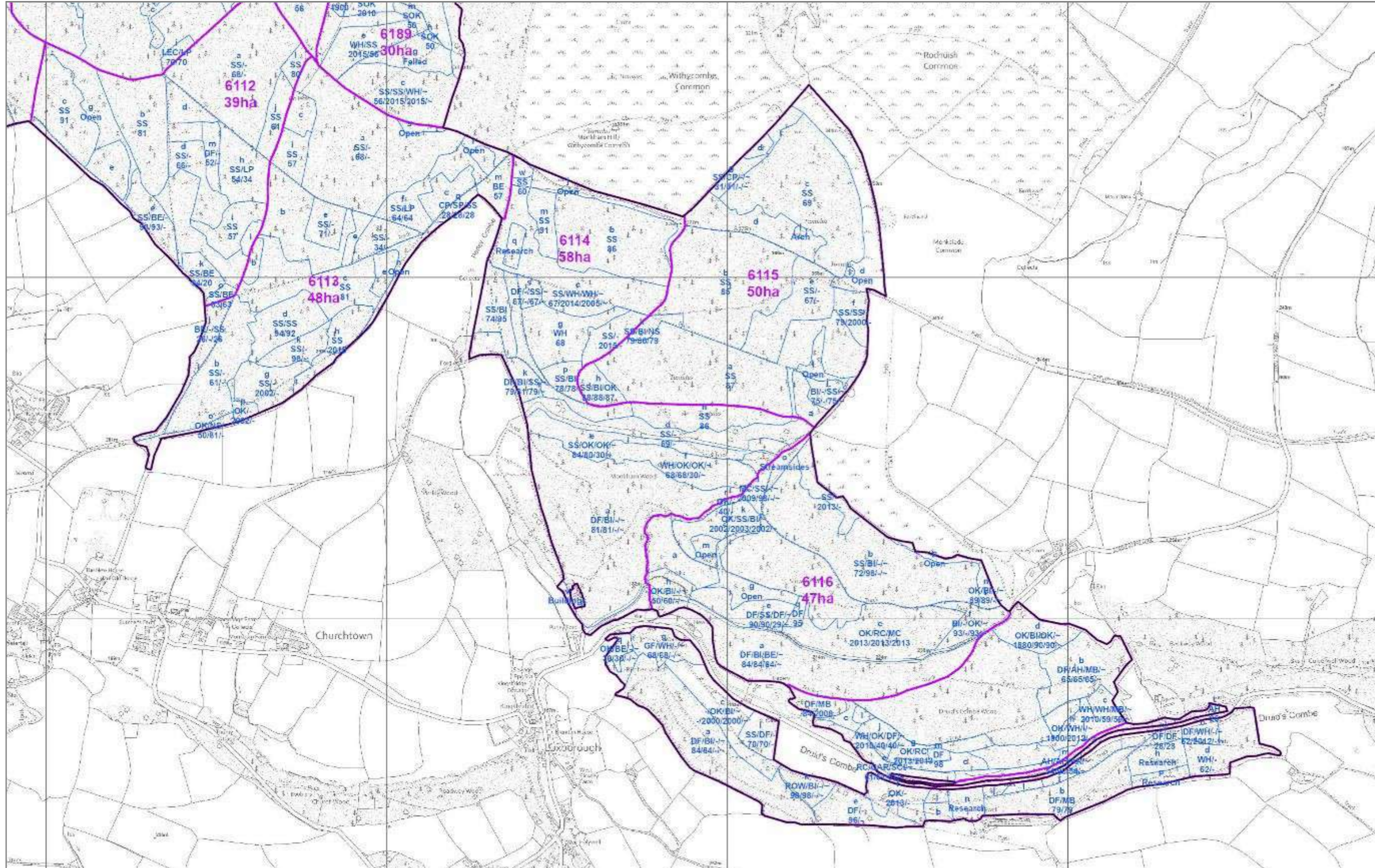
# Stock Data 2021 Croydon Hill North





# Legend

-  Compartments
-  Sub-Compartments

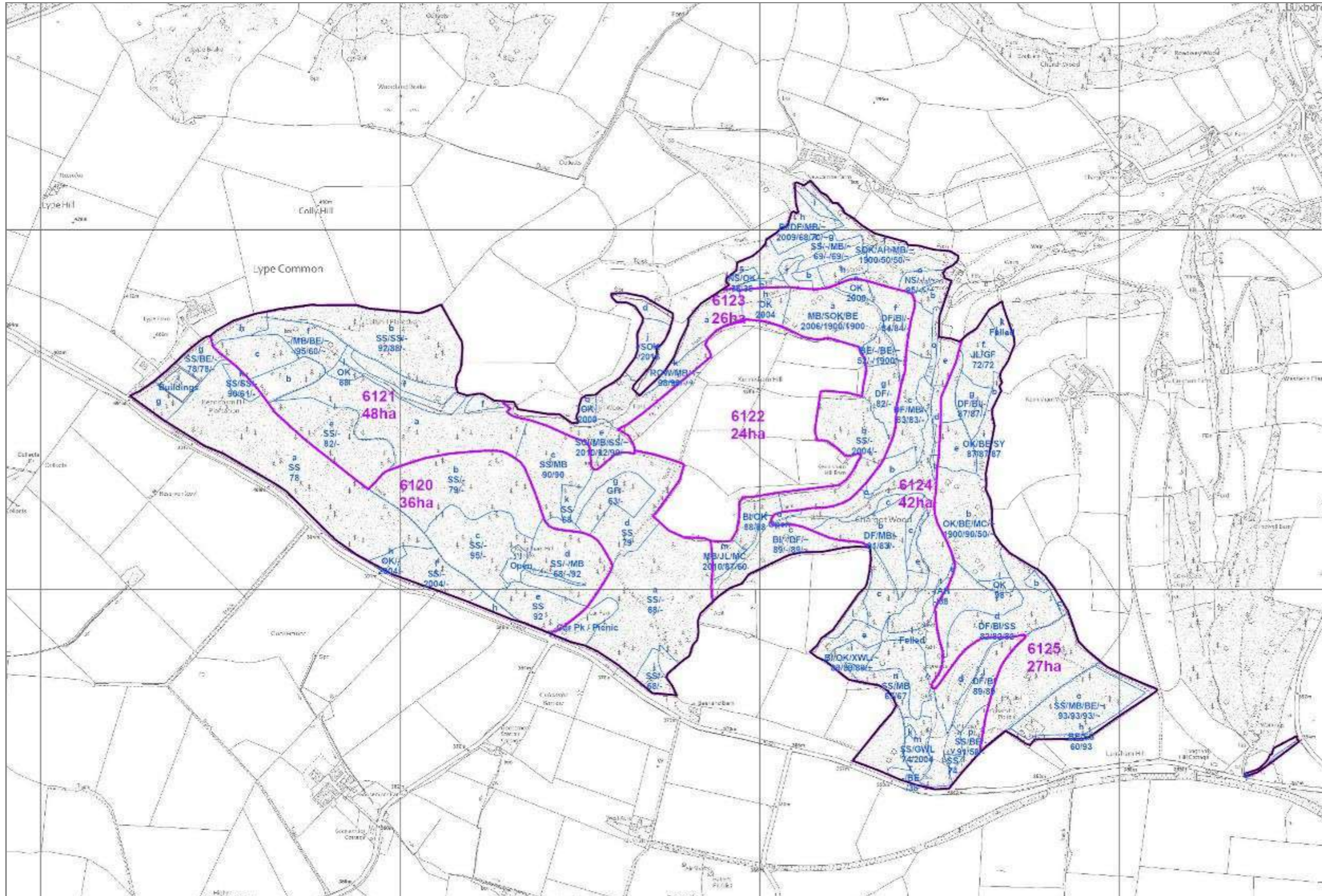
## Stock Data 2020 Croydon Hill South



# Legend

-  Compartments
-  Sub-Compartments



# Stock Data 2020 Chargot



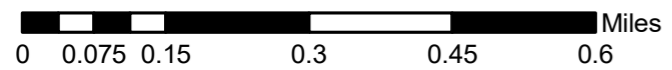
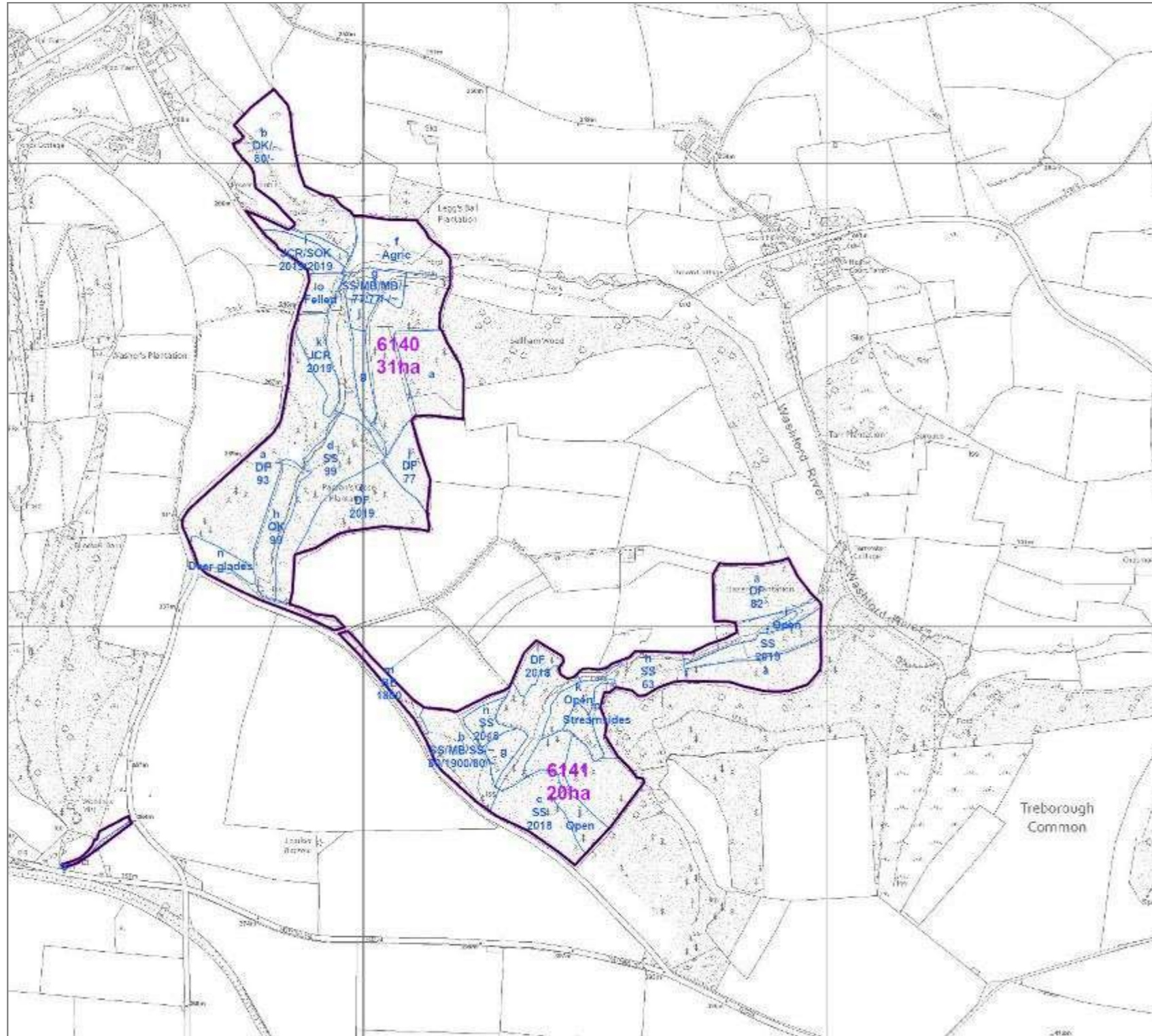
0 0.075 0.15 0.3 0.45 0.6 Miles

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Ordnance Survey [100021242]

# Legend

-  Compartments
-  Sub-Compartments

# Stock Data 2020 Hazery

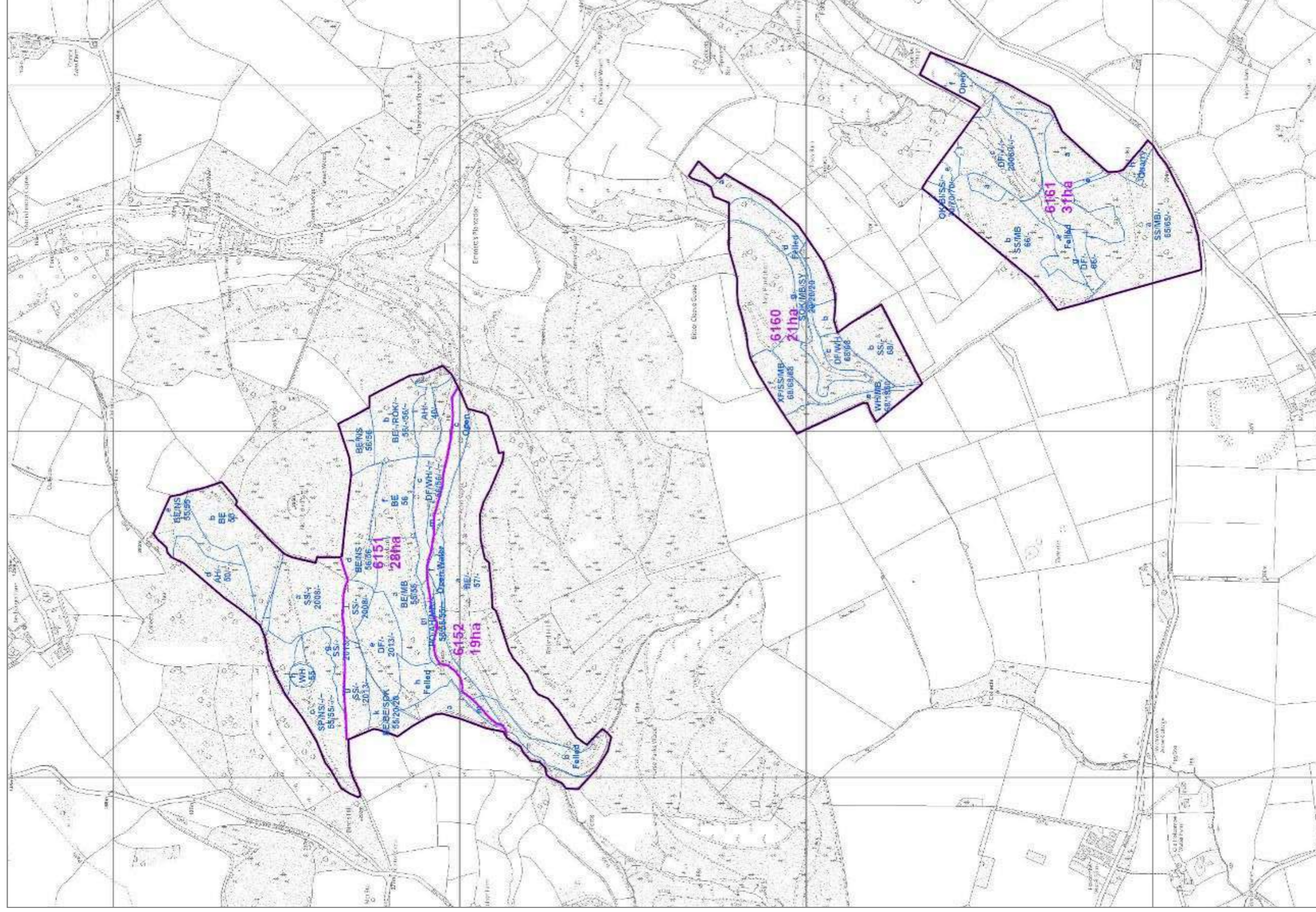






# Legend

- Compartment
- Sub-Compartment

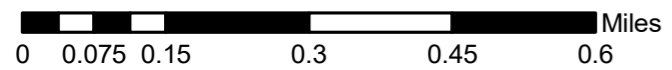
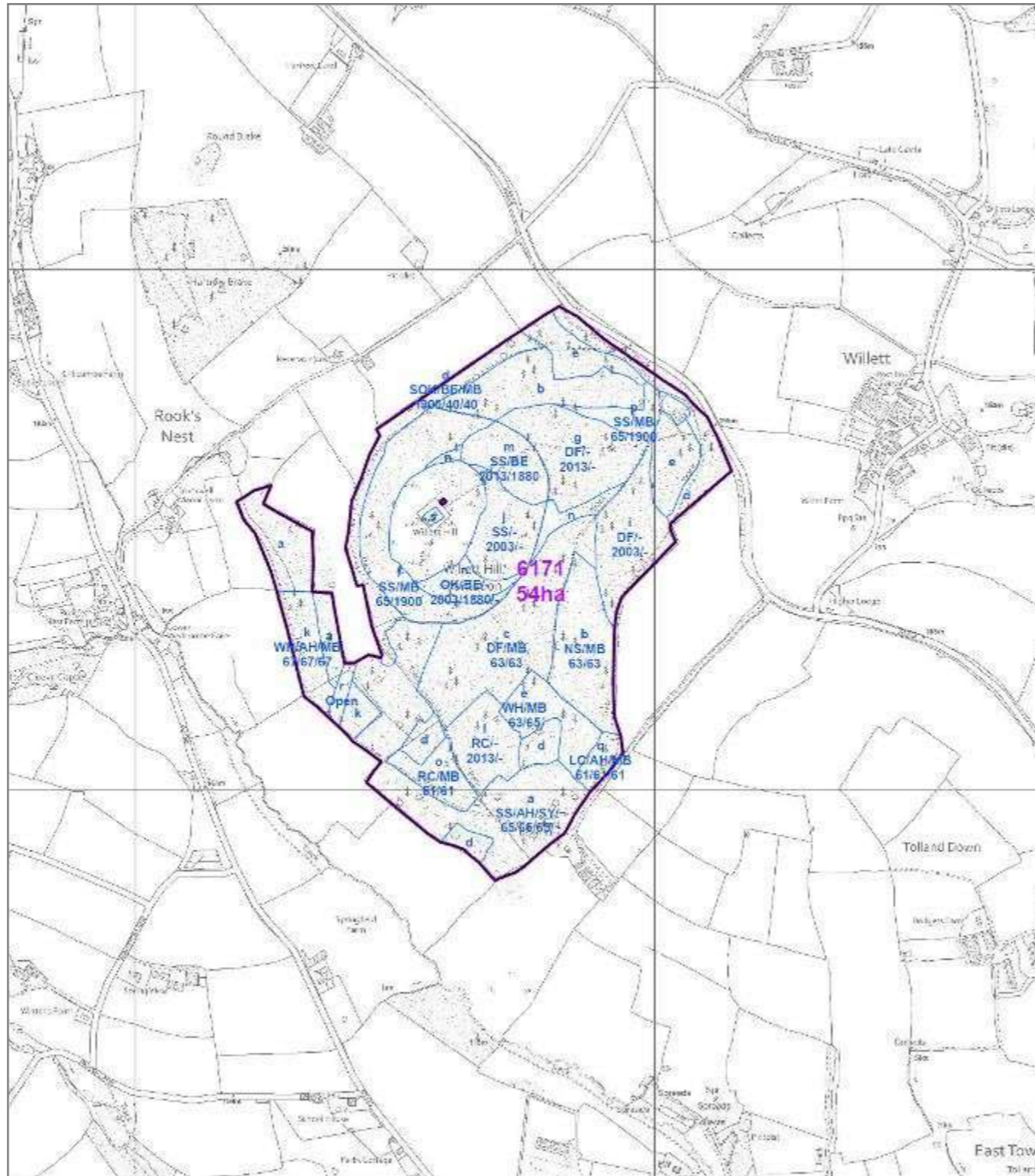
# Stock Data 2020 Elworthy



# Legend

-  Compartments
-  Sub-Compartments

# Stock Data 2020 Willett Hill



## APPENDIX 2 Glossary

Term	Abbreviation	Description
<b>Ancient Semi-Natural Woodland</b>	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.
<b>Alternatives to Clearfell</b>	ATC	Alternative to Clearfell is similar to LISS and refers to management systems where stands are regenerated without clearfelling.
<b>Ancient Woodland Site</b>	AWS	A site that has technically been wooded since 1600AD and is unlikely to have been converted to farmland in the last few centuries.
<b>Continuous Cover Forestry</b>	LISS	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 LISS 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 LISS 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.
<b>Clearfell</b>	C/F or CF	To cut and remove all trees from a certain area of woodland.
<b>Crop</b>		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)
<b>Enrichment planting</b>		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.
<b>Group felling / group planting</b>		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.
<b>Hectare</b>	Ha	Unit of area equating to 2.47 acres.
<b>Native (and honorary native)</b>		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.
<b>Natural Regeneration</b>	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 clearfell 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"> <li>Improve the quality and vigour of remaining trees.</li> <li>Remove trees interfering with mature or veteran broadleaf trees.</li> <li>Give space for tops (or “crowns”) of broadleaf trees to develop and potentially act as a future seed source.</li> <li>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.</li> <li>Create gaps for group planting or enrichment.</li> <li>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.</li> <li>Improve the economic value of a wood.</li> <li>Help realise opportunities to enhance ecological value.</li> </ul> <p><b>NOTE:</b> 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 m<sup>3</sup> per Ha per annum. E.g. A crop with a YC of 16 is one that has an annual increment of more than 16m<sup>3</sup> but less than 17m<sup>3</sup>, although generally only even numbers are used when stating YC.</p>

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