

Canonteign Forest Plan

2021 - 2031

West England Forest District

Ben Robinson

FE File Ref: OP10/85

OLD Ref: PE68



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



Application for Forest Plan Approval

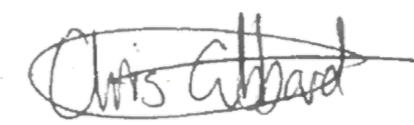
Forest District:	West England FD	
Woodland or property name	Canonteign	
Nearest town, village or locality:	Chudleigh	
OS Grid reference:	SX 8294 8320	Access
Local Authority District/Unitary Authority:	Teignbridge DC Dartmoor National Park	

Plan Area:	169.12 ha
Conifer Felling:	24.59 ha
Broadleaved Felling:	0ha

- 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 2ND SEPT 2021

Signed 
 Area Director

Date of approval..... 11th October 2021

Date approval ends..... 11th October 2031



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



Summary

About

Canonteign forest sits on an elevated plateau, over 220m above sea level at its highest, 1.2 km to the south west of the village of Christow on the western flank of the Teign Valley. To the north and west and east the land is mainly improved grassland. To the south the land drops steeply into a granite strewn wooded valley. It is here that we find the majority of Canonteign's oak dominated ancient semi-natural woodland while to the east the land again falls away quickly into the valley.

The Canonteign forest is a significant feature in the Dartmoor National Park landscape and is an integral part of the Teign valley which is noted for its high proportion of high quality steep wooded valley sides.

The forest is predominantly made up conifer stands with outstanding crops of Douglas fir and Sitka spruce, growing at a high yield and quality, many of which are on registered ancient woodland. On the plateau clearfell continues to be the most appropriate form of management due to shallower rotting depth and high wind exposure. Whilst on the valley sides and bottoms the development of low impact silvicultural systems has been ongoing for several decades and can be continued, with very large fir trees a notable feature of these areas.

Within the woodland the remnants of the old Shuttamoor mine is situated with its accompanying settling ponds which in turn feeds the leat that goes on to form Canonteign Falls.

Much of the Nation's forests here are 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 quality fir and spruce log which makes up the majority of the tree cover supplemented primarily with beech and oak. Areas of remnant ancient semi-natural woodland do remain and are made up of oak and birch with ash. Most of the areas are actively managed to provide timber for local and national businesses, and to improve the quality of the remaining trees.

The Plan area is ecologically valuable with habitat such as Priority Lowland Mixed Deciduous Woodland used by bats and raptor as well as other important flora and fauna species.

All of the Plan area is freehold and has been designated Open Access, confirmed by the Countryside and Rights of Way Act. The woodlands are quietly popular with local walkers and riders.

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 change, pests and diseases.

The social, economic and environmental objectives of management are:

- Exemplary forest management practice to UKWAS standards
- 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 in line with the 'Keepers of Time' policy.
- 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.
- To conserve, maintain and enhance cultural and heritage assets.

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 plantation compositions of quality fir and spruce shelterwood forest. Areas identified as Plantation on Ancient Woodland Sites will be managed as mixed woodland to maximise their productive potential, with the aim of a gradual return to native woodland.

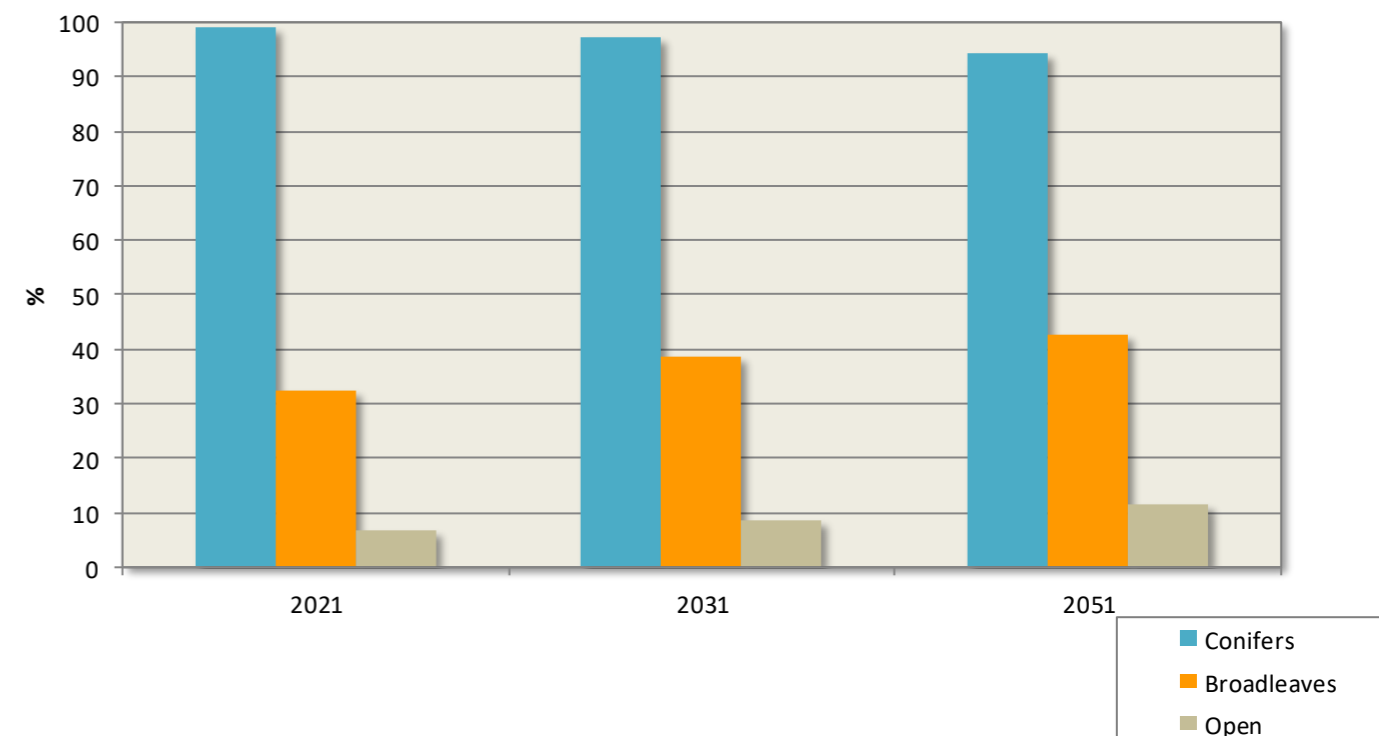
The Plan makes provision to ensure proposals are in keeping with the enclosed farmed and wooded landscape. Implementation and maintenance of environmentally minded corridor will continue to increase diversity of habitat and internal landscaping.

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	24.6	-	-
Restocking/Regeneration/Creation	17.6	3.0	3.0

In addition to these defined operations, ongoing thinning and selective felling of both conifers and broadleaves will be carried out across 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.



Introduction

Canonteign forest sits on an elevated plateau, over 220m above sea level at its highest, 1.2 km to the south west of the village of Christow on the western flank of the Teign Valley. To the north and west and east the land is mainly improved grassland. To the south the land drops steeply into a granite strewn wooded valley. It is here that the majority of Canonteign's oak dominated ancient semi-natural woodland is found while to the east the land again falls away quickly into the valley.

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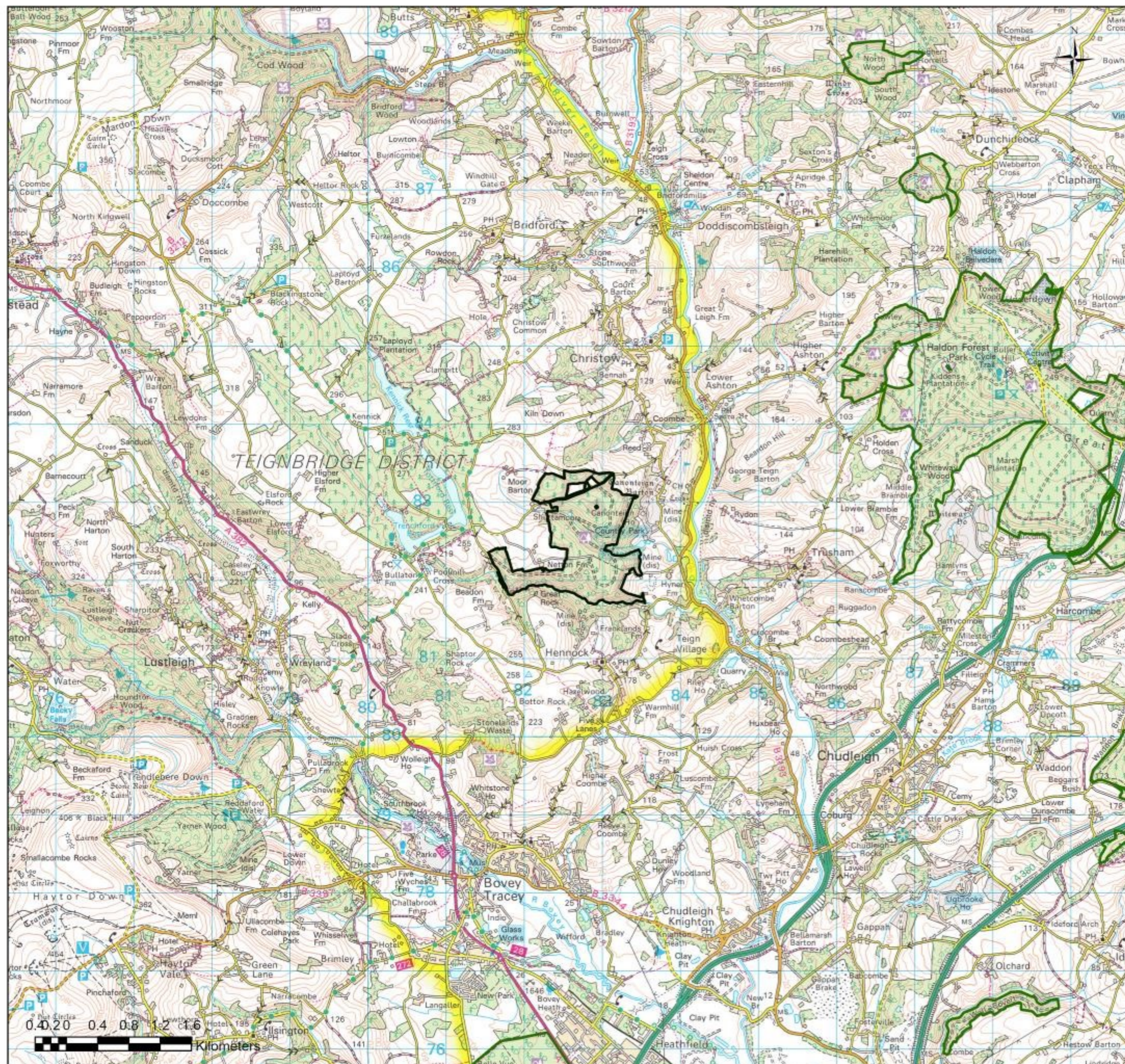
Within the woodland the remnants of the old Shuttamoore mine is situated with its accompanying settling ponds which in turn feeds the leat that goes on to form Canonteign Falls.

All of our forests and woodlands are certified to the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification (PEFC) standards.

All Forestry England forests and woods are independently certified as sustainably managed, to continue to benefit future generations.

Legend

-  Canonteign Forest Plan area
-  Other Forestry England managed woodlands



Meeting Objectives

District Strategy



National Vision and Overall Goal:
To secure and grow the economic, social and natural capital value of the nation's forests for the people of England.

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.

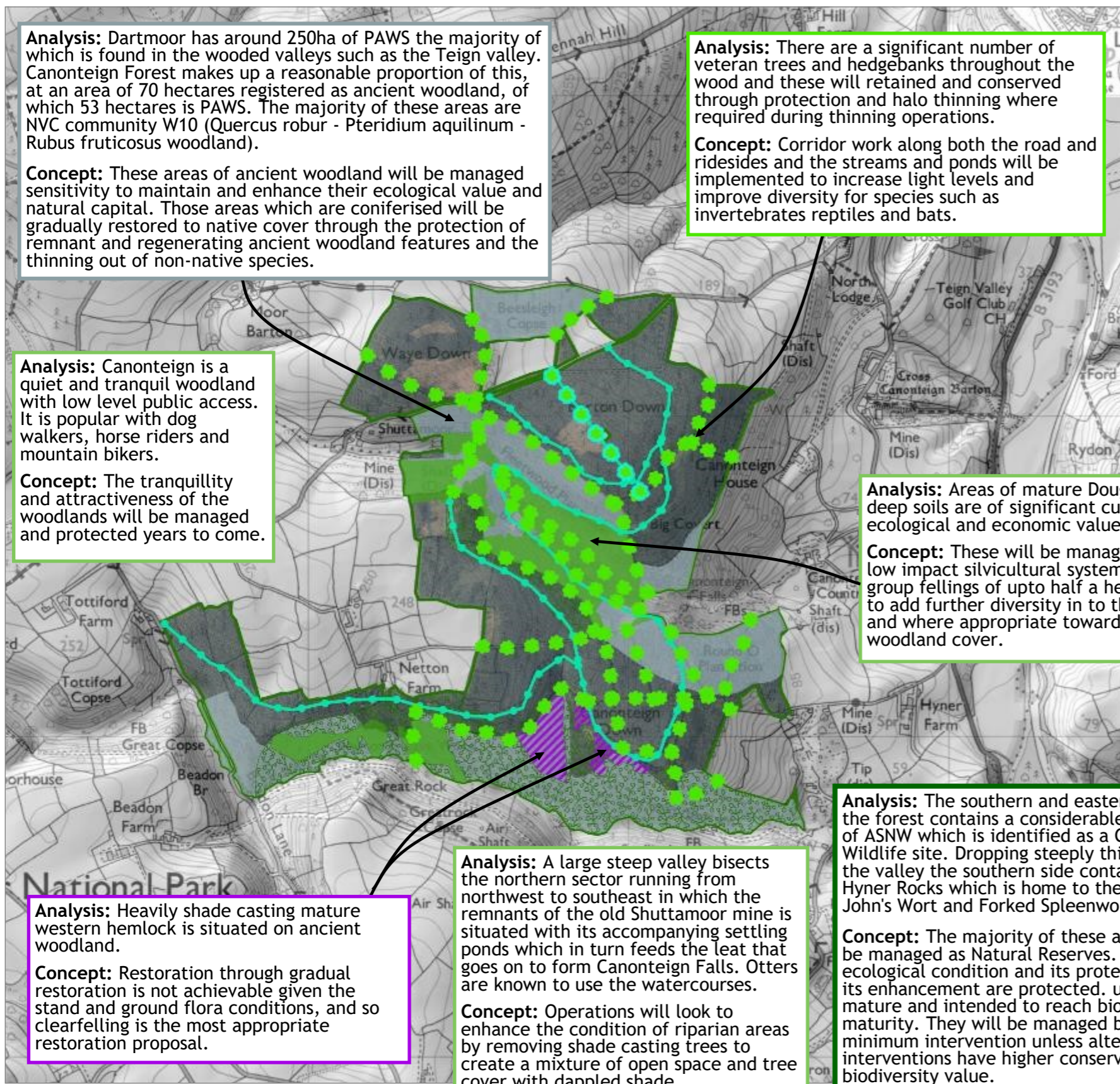
People

Maintain existing established consultation panels and engage with other consultative bodies such as National Park Authorities and AONBs.
Enable everyone, everywhere to connect with the nation's trees and forests so that they understand their importance and act positively to safeguard forests for the future.

Forest Plan Objective	People	Nature	Economy	Meeting Objective	Monitoring
Exemplary forest management practice to UKWAS standards	✓	✓	✓	Appropriate operational planning, taking into account access constraints due to EPS and steep, wet ground etc Internal and external consultation and communication of the plan. Improvement of the quality of data with accurate post thinning data to inform decision making.	Measured at Review stage through analysis of ongoing surveys and records. <ul style="list-style-type: none">ongoing observationsite planning processcontract management
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 stands will occur, with five clearfells planned in the Plan period.	Comparison of total production forecast yield 7,300m ³ (2021-2026) and 18,400m ³ (2021-2031) with actual production at the Forest Plan (FP) five and ten-year review.
Protect and enhance woodland and open habitats and their associated species. - 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. 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.
The provision and maintenance of recreation facilities.	✓	✓		Low numbers of visitors will be maintained. Road and ride corridor 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.
Deliver well-designed forests that both protect and enhance the internal and external landscape in keeping with the National Park landscape character.	✓			Implementation of designed coupe proposals will soften and better integrate the woodland with the surrounding landscape	Operational site planning of harvesting and restocking operations will help monitor the effect of management.
To conserve, maintain and enhance cultural and heritage assets.	✓			Protect and enhance unscheduled sites at the time of intervention through effective operational planning.	Operational site planning of harvesting and restocking operations will help monitor the effect of management. Feature condition monitored through Review process and records updated.

Analysis & Concept

In 50 years time this Plan will have delivered a rich mosaic of robust mixed woodland habitats which supports a multitude of rare and common flora and fauna species as well as contributing to products a low-carbon economy, and pleasant place for people to visit. The ancient and native woodland, a key part of the landscape, will feature more significantly in the area's makeup. Areas will be gradually restored to oak dominated forest cover to support the rare and protected flora and fauna species which populate these habitats. Veteran, mature and future significant trees will be retained and allowed to break down providing deadwood habitat and nutrient cycling. 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.



Analysis: Dartmoor has around 250ha of PAWS the majority of which is found in the wooded valleys such as the Teign valley. Canonteign Forest makes up a reasonable proportion of this, at an area of 70 hectares registered as ancient woodland, of which 53 hectares is PAWS. The majority of these areas are NVC community W10 (Quercus robur - Pteridium aquilinum - Rubus fruticosus woodland).

Concept: These areas of ancient woodland will be managed sensitivity to maintain and enhance their ecological value and natural capital. Those areas which are coniferised will be gradually restored to native cover through the protection of remnant and regenerating ancient woodland features and the thinning out of non-native species.

Analysis: There are a significant number of veteran trees and hedgebanks throughout the wood and these will be retained and conserved through protection and halo thinning where required during thinning operations.

Concept: Corridor work along both the road and ridesides and the streams and ponds will be implemented to increase light levels and improve diversity for species such as invertebrates reptiles and bats.

Analysis: Canonteign is a quiet and tranquil woodland with low level public access. It is popular with dog walkers, horse riders and mountain bikers.

Concept: The tranquillity and attractiveness of the woodlands will be managed and protected years to come.

Analysis: Canonteign is situated within Dartmoor National Park. The new DNPA Management Plan 2020-25 which is currently in draft acknowledges the role of woodlands and trees play in providing *multiple benefits including carbon sequestration, natural flood management, climate regulation, wildlife, and providing locations for recreation, as well as supporting the local economy through timber production and woodfuel. Ancient and semi-natural woodlands are considered to be of greater value for cultural heritage and wildlife, whereas conifer plantations are more economically valuable and also have the capacity to absorb greater numbers of visitors, including more active recreation such as mountain biking.*

Concept: The Canonteign forest is a significant feature in the National Park landscape and is an integral part of the Teign valley which is noted for its high proportion of high quality steep wooded valley sides. Devon County Council's Landscape Character Assessment (revised 2017) for Teign Valley and Slopes, makes the following statement which best reflects the landscape in which the Plan area is situated: *The Teign valley is perhaps the most dramatically steep and consistently wooded valley in Devon. Its steep, deep, narrow valley, twisting course, woodlands and nearby moor on Dartmoor are inspiring. It provides a wooded and often rocky flank to the eastern boundary of Dartmoor National Park. The steepness of the valley sides is accentuated by the height of the land either side, giving it a distinctive appearance in the wider landscape.* These special qualities are reflected in the Dartmoor National Park draft Management Plan (2020-25). This new Forest Plan will look to protect, manage and enhance the distinct and special features and characteristics of the local landscape.

Analysis: Areas of mature Douglas fir on deep soils are of significant cultural, ecological and economic value.

Concept: These will be managed through low impact silvicultural systems, and as group fellings of upto half a hectare each to add further diversity in to the stands, and where appropriate towards native woodland cover.

Analysis: The southern and eastern side of the forest contains a considerable amount of ASNW which is identified as a County Wildlife site. Dropping steeply this side of the valley the southern side contains the Hyner Rocks which is home to the rare Sr John's Wort and Forked Spleenwort.

Concept: The majority of these areas will be managed as Natural Reserves. Whereby ecological condition and its protection and its enhancement are protected. usually mature and intended to reach biological maturity. They will be managed by minimum intervention unless alternative interventions have higher conservation or biodiversity value.

Analysis: A large steep valley bisects the northern sector running from northwest to southeast in which the remnants of the old Shuttamoor mine is situated with its accompanying settling ponds which in turn feeds the leat that goes on to form Canonteign Falls. Otters are known to use the watercourses.

Concept: Operations will look to enhance the condition of riparian areas by removing shade casting trees to create a mixture of open space and tree cover with dappled shade.

Analysis: Heavily shade casting mature western hemlock is situated on ancient woodland.

Concept: Restoration through gradual restoration is not achievable given the stand and ground flora conditions, and so clearfelling is the most appropriate restoration proposal.

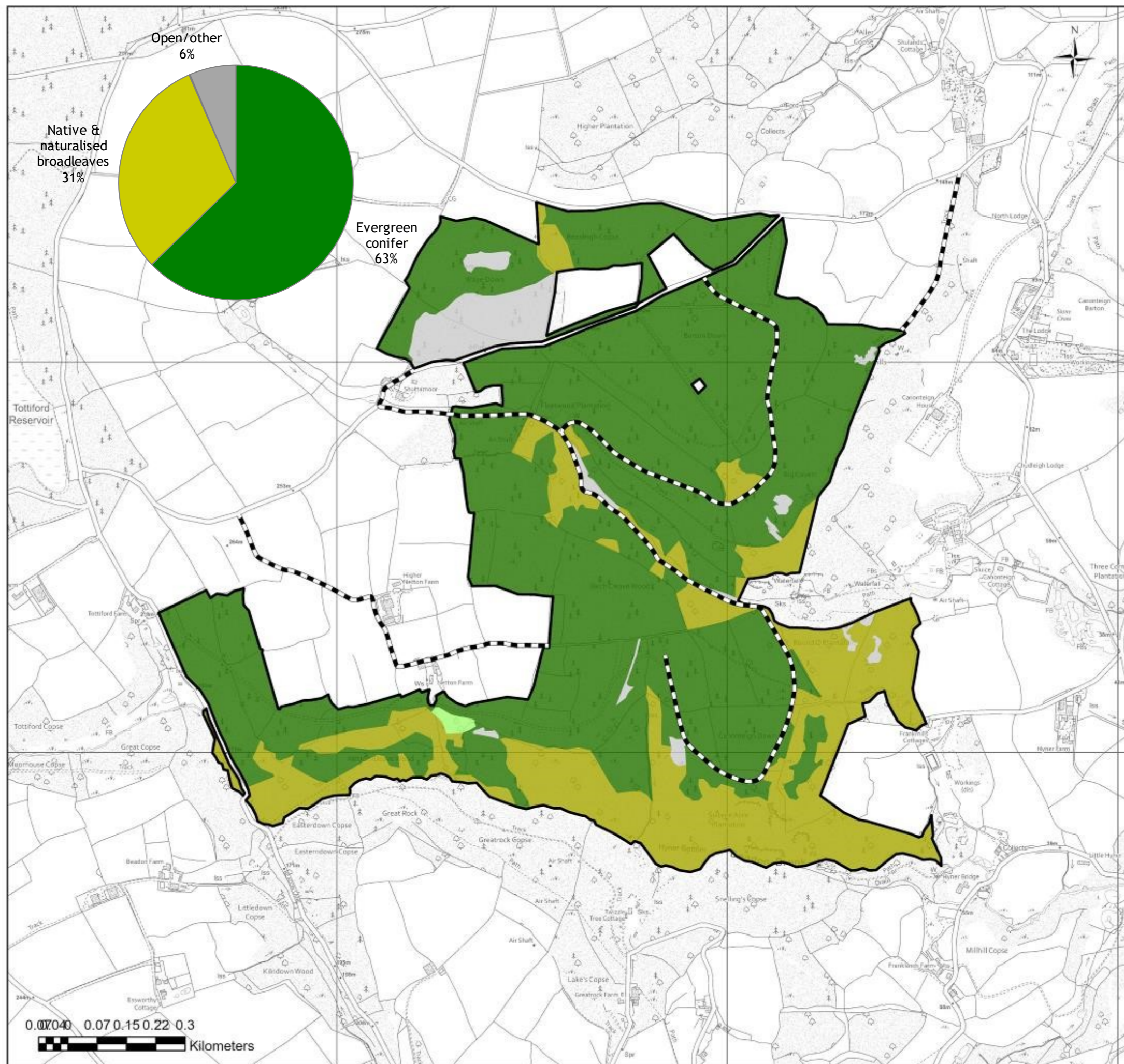
- Legend**
- Canonteign Forest Plan area
 - Ancient Woodland
 - Western hemlock
 - Natural Reserve
 - Conifer group selection
 - RideSides
 - ● Hedgebanks

Woodland Composition

The Plan area is dominated by a mixture of planted conifers with some ancient semi-natural remnants and regenerating native and naturalised broadleaf components. The majority of conifer component is made up of quality Douglas fir with Sitka spruce on the more exposed sites with thinner soils.

The age of conifer plantations is somewhat limited with the majority of age classes concentrated into in the 1960s and 1970s. Most are found at the higher elevations and thinned with a clearfelling in mind. The extensive thinning and weeding of conifer plantations in these areas has meant that in some stands understorey development is limited. Where as the Douglas fir stands are more structurally and florally diverse.

The broadleaf components of the Plan area comprise oak dominated ancient semi-natural oak typical of National Vegetation Classification type W10, as well as beech plantation and regenerating broadleaves intruded in conifer plantations. The overall broadleaf composition is predominantly made up of beech and oak, with birch, hazel and ash evident as pioneer species.

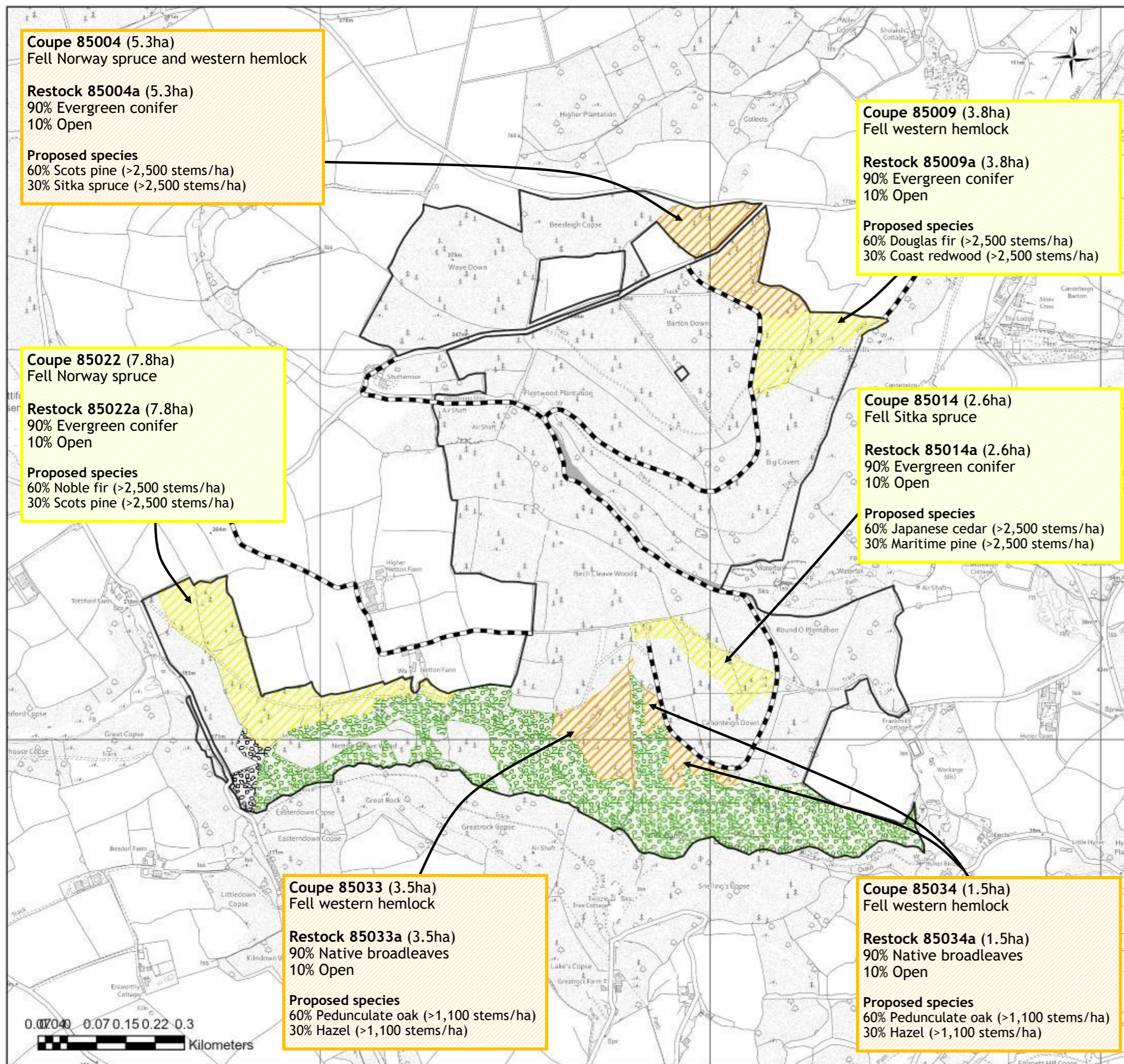


Legend

- Evergreen conifer
- Deciduous conifer
- Native & naturalised broadleaves
- Non-native broadleaves
- Open/other
- Forest Roads

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

Felling and Restocking 2021 - 2031



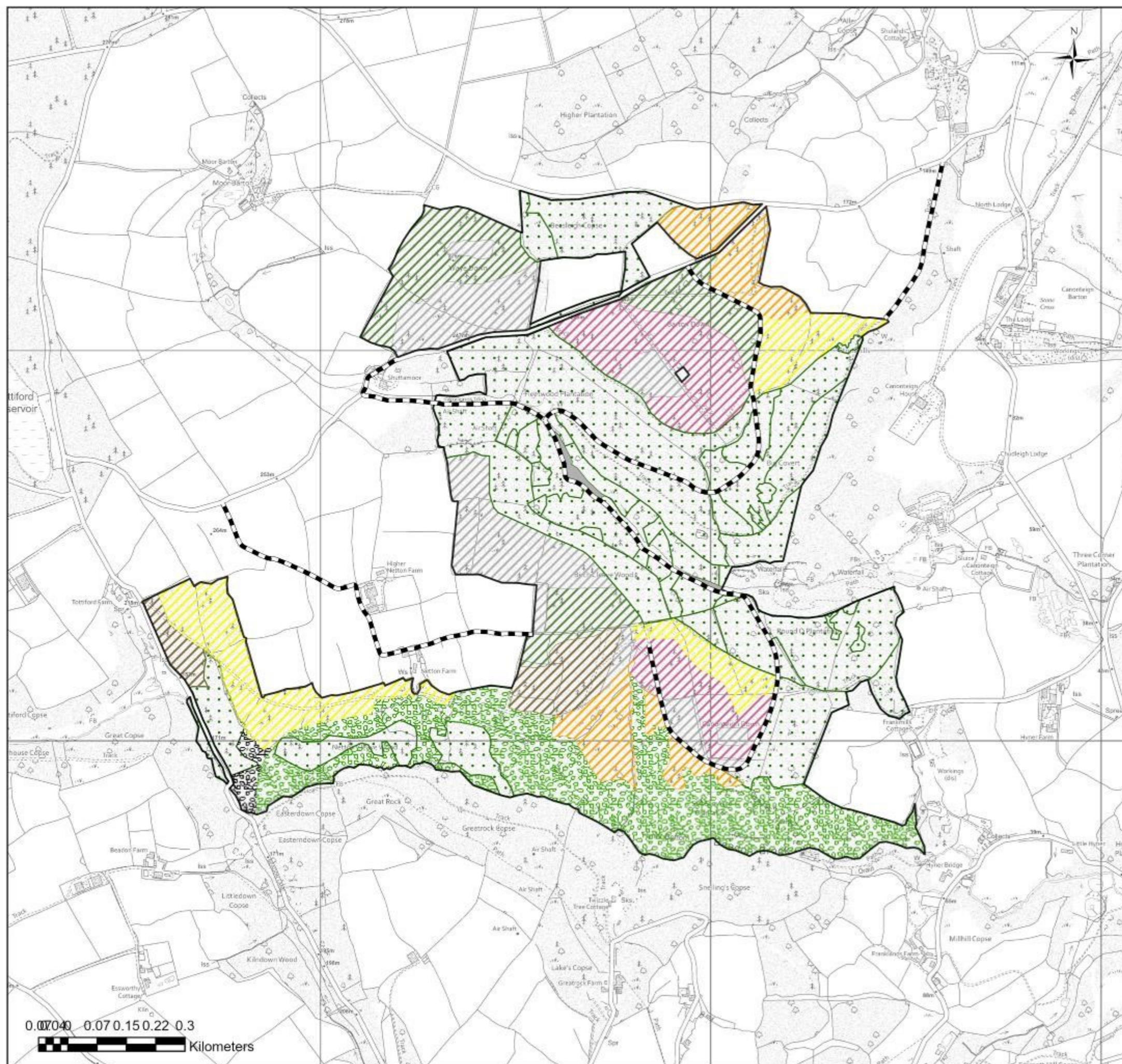
Legend

- Canonteign Forest Plan area
- Fell 2021
- Fell 2022 - 2026
- Fell 2027 - 2031
- Wood Pasture
- Retentions
- Minimum Intervention
- Natural Reserve
- Open

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.



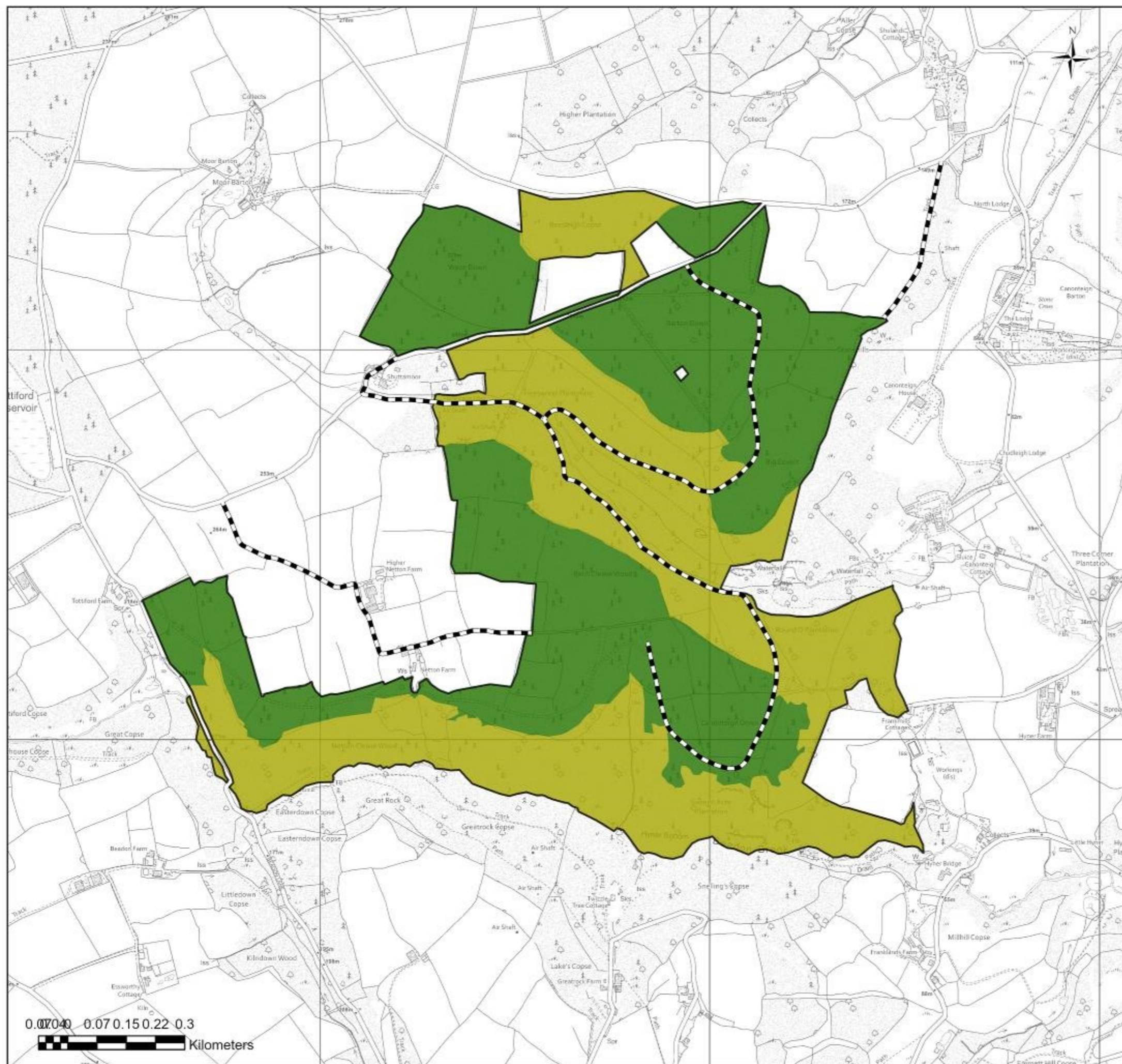
Legend

- Canonteign Forest Plan area
- Fell 2021
- Fell 2022 - 2026
- Fell 2027 - 2031
- Fell 2032 - 2036
- Fell 2037 - 2041
- Fell 2042 - 2046
- Fell post 2046
- Coppice
- Wood Pasture
- Retentions
- Minimum Intervention
- Natural Reserve
- Open
- Alternatives to Clearfell

0.07040 0.07 0.150.22 0.3
Kilometers

Restock Prescriptions

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

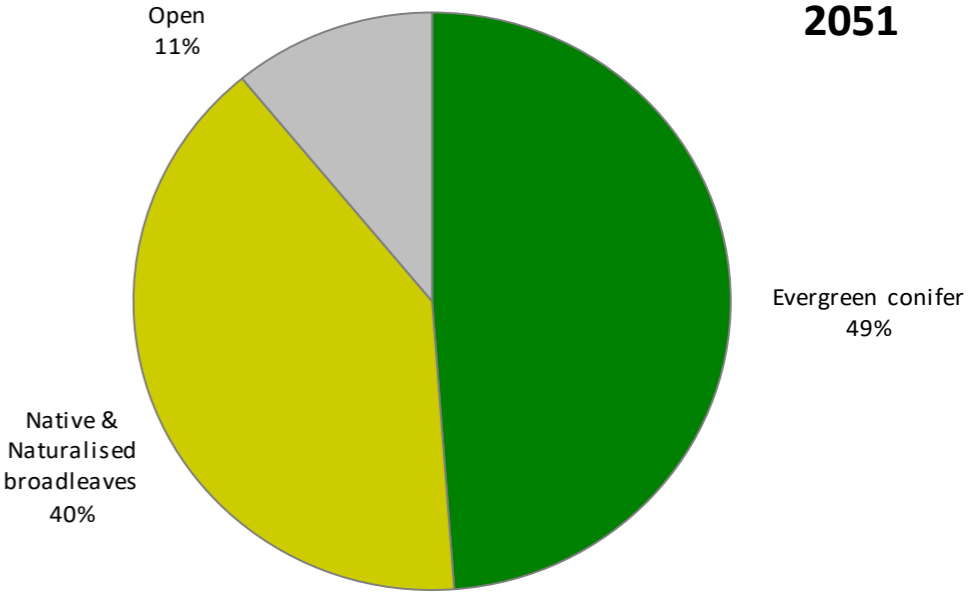
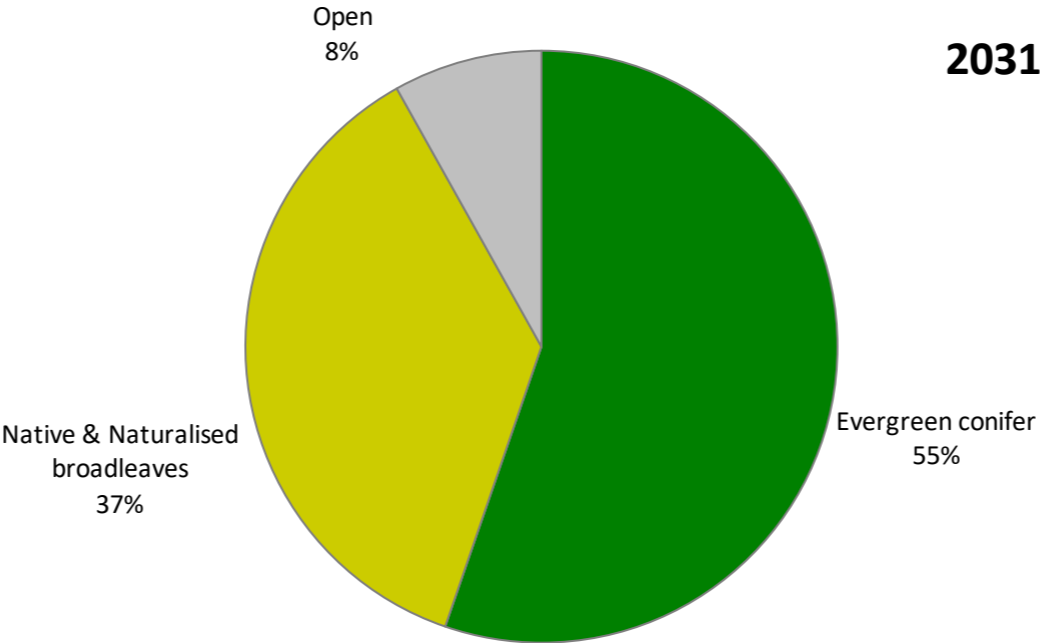
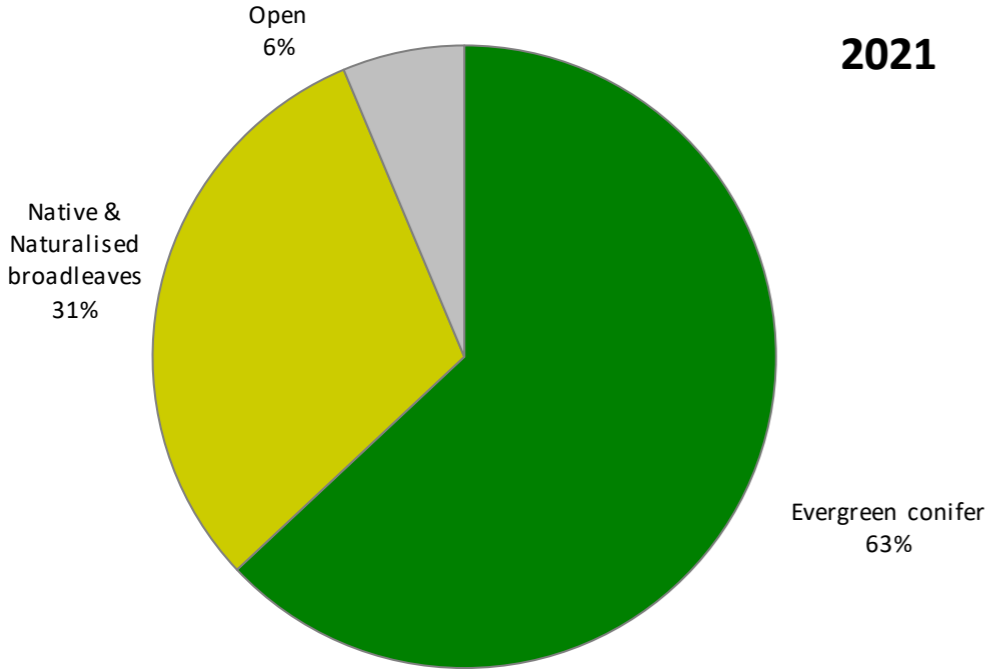


Legend

- Canonteign Forest Plan area
- Evergreen Conifer
- Deciduous Conifer
- Native & naturalized broadleaves
- Non-native broadleaves
- Open/other

Indicative Future Species

The projections made are indicative of species composition in ten and thirty years time for the Plan area.



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 stand 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 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"> 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>