

Current Species

The Quantock Plan area consists of a large conifer element, primarily highly productive Douglas fir and Sitka spruce, which thrive in the conditions found in the area. With an average Yield Class of 14, these components are more prevalent on sites where soil are thinner and crops exposed to more severe climate conditions. **Great Wood** and **St Audries** host the greatest proportion of conifer cover.

Considerable larch components are also present despite significant *Phytophthora ramorum* infection and consequential felling in **Wind Down**.

Broadleaves are found throughout the Blocks both planted and naturally regenerating. These are more prevalent in areas of richer soil, particularly in valley bottoms and riparian zones. Beech (65ha), oak (30ha) and Sweet chestnut (20ha) are the predominant broadleaf species found, whilst ash, sycamore and birch are the key regenerating broadleaf sub-species. **Goathurst** and **Kings Cliff** have the highest relative proportion of broadleaved cover.

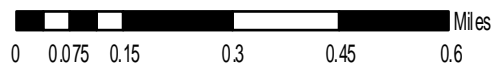
A total of 93ha of the Plan area is made up of open space which equates to 10%; this is made up of a mixture of permanent open space, such as heathland, ride sides and transient forest following felling operations.

Legend

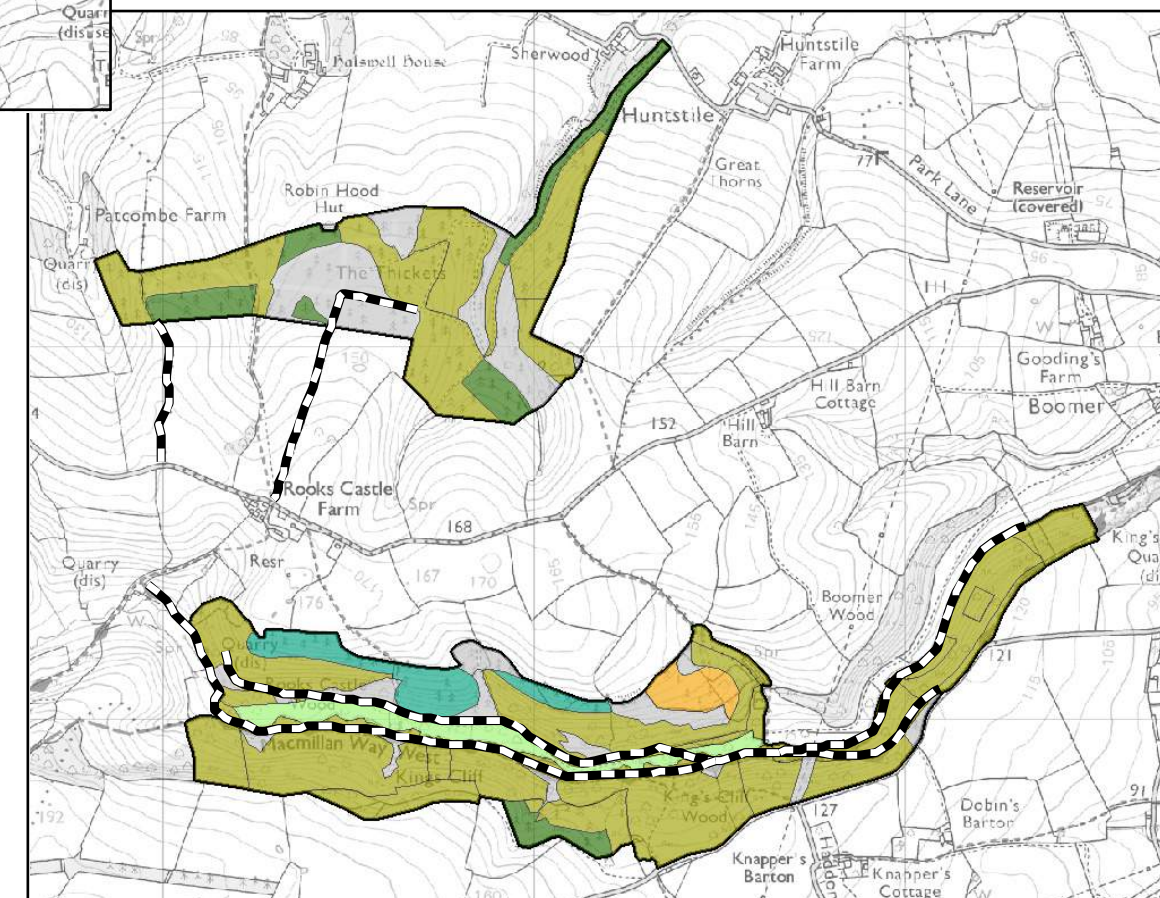
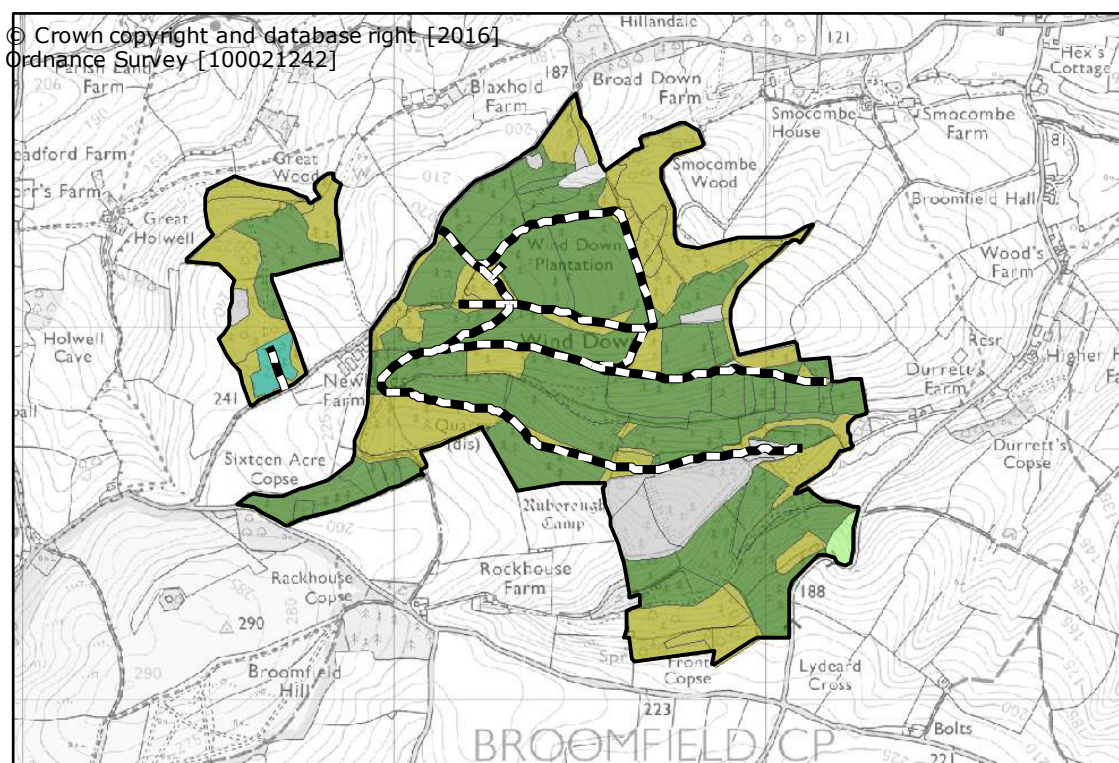
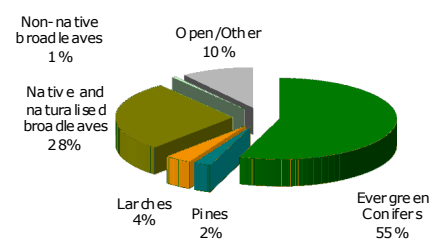
- Evergreen Conifer
- Pines
- Larches
- Native & naturalized broadleaves
- Non-native broadleaves
- Open/other

Note: Beech and sweet chestnut are considered to be not within their native range however their historic placement within the landscape means they are to be treated as 'naturalised' species

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Total Species Component Area



Current Structure

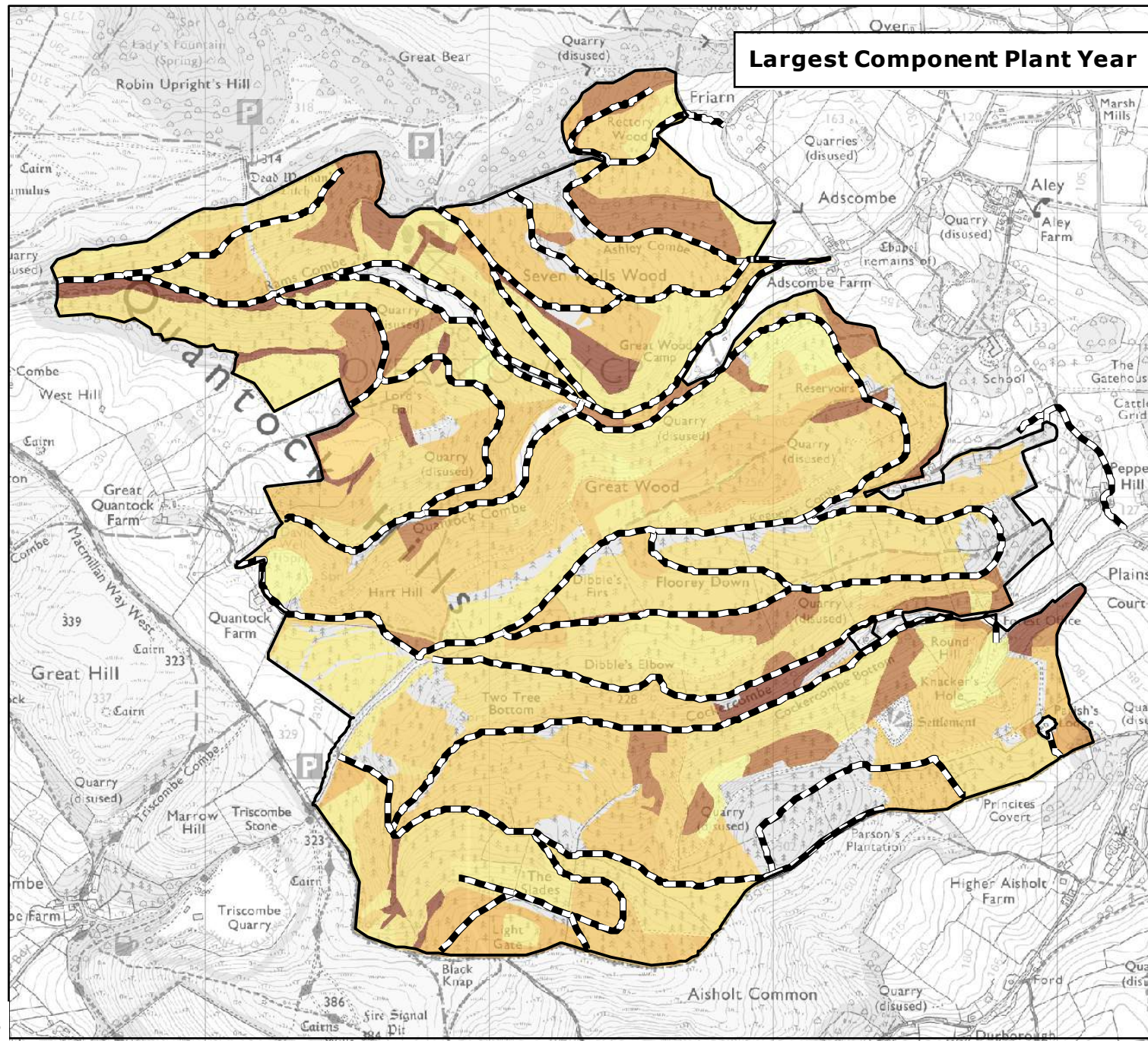
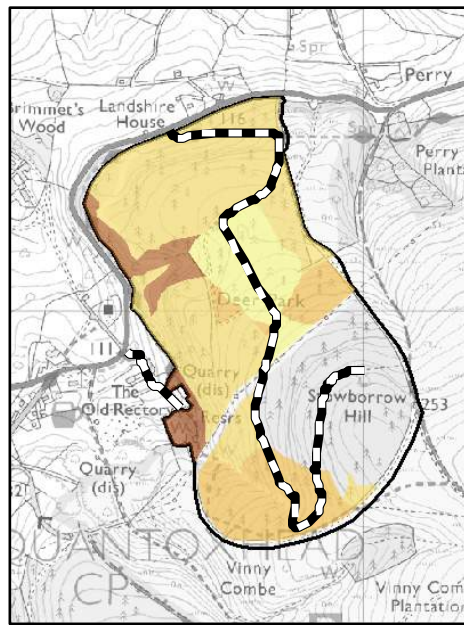
The Quantock Plan area is comprised of a set of diversely structured woodlands. **Great Wood** has seen the majority of planting between 1960s and 1990s, much of which has been, and continues to be, transformed to continuous cover systems (CCF). This is being achieved with the retention of some old Douglas fir within a shelterwood system which is furthering the diversity of the structure.

Wind Down hosts a diverse woodland structure with multiple shelterwood systems and plant years as well as some of the oldest crops in the Plan area. Most crops are in mixture and with multiple storeys.

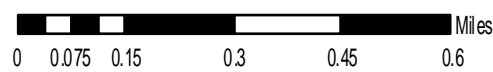
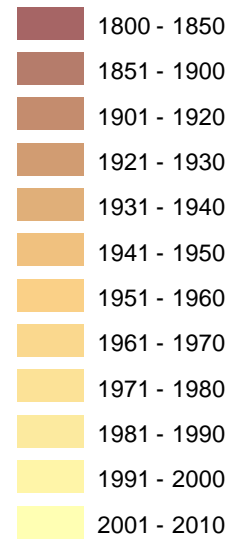
Goathurst is a relatively even-aged block with the majority of planting occurring in the 1956 of beech, larch and evergreen conifer all in mixture. Steps to restructure and diversity the age class of this woodland are ongoing.

St Audries is similarly relatively even-aged with the planting focused around 1980s, a number of pure Corsican pine, Sitka spruce and Douglas fir are being managed on a clearfell rotation.

Kings Cliff has seen consistent restocking programmes over recent decades so that whilst there is large proportion of pure Sweet chestnut and beech crops aged at around 50 years, the overall structure is fairly diverse.

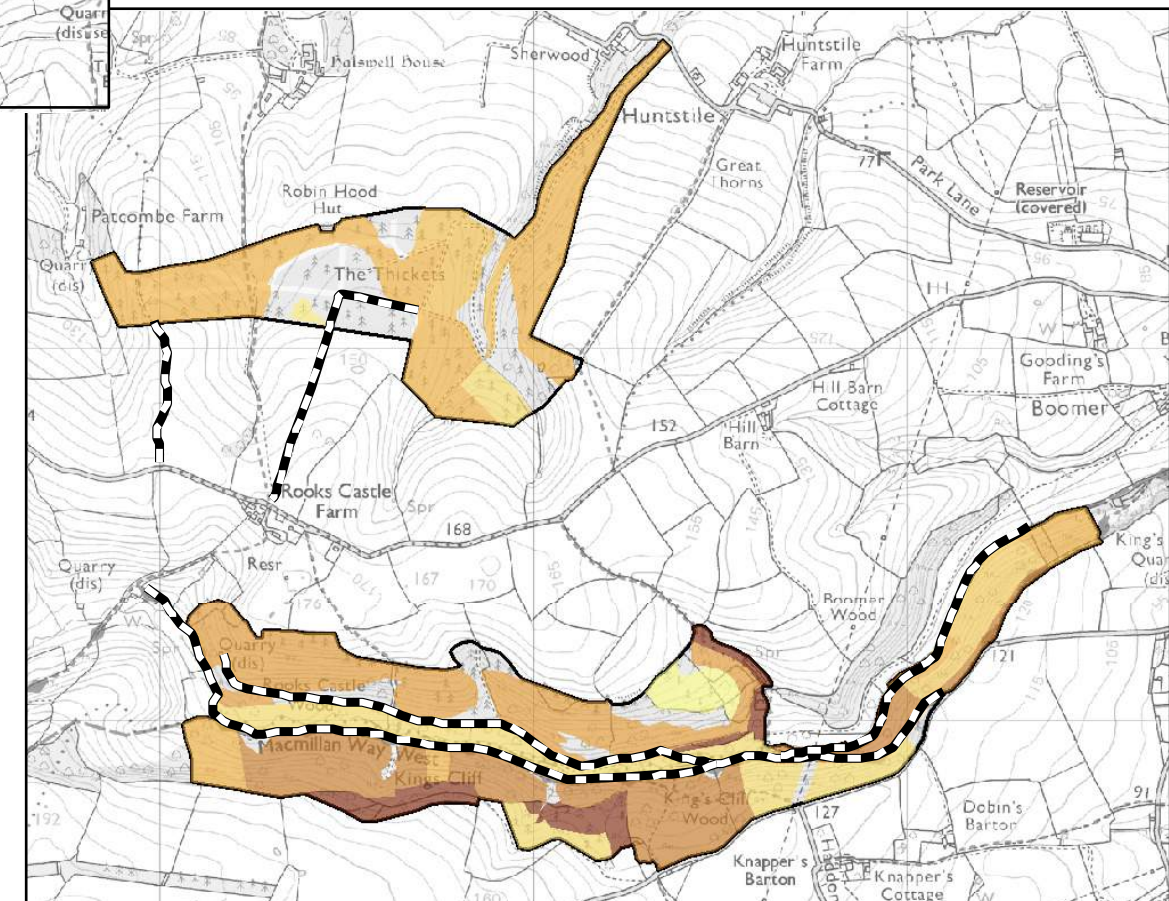
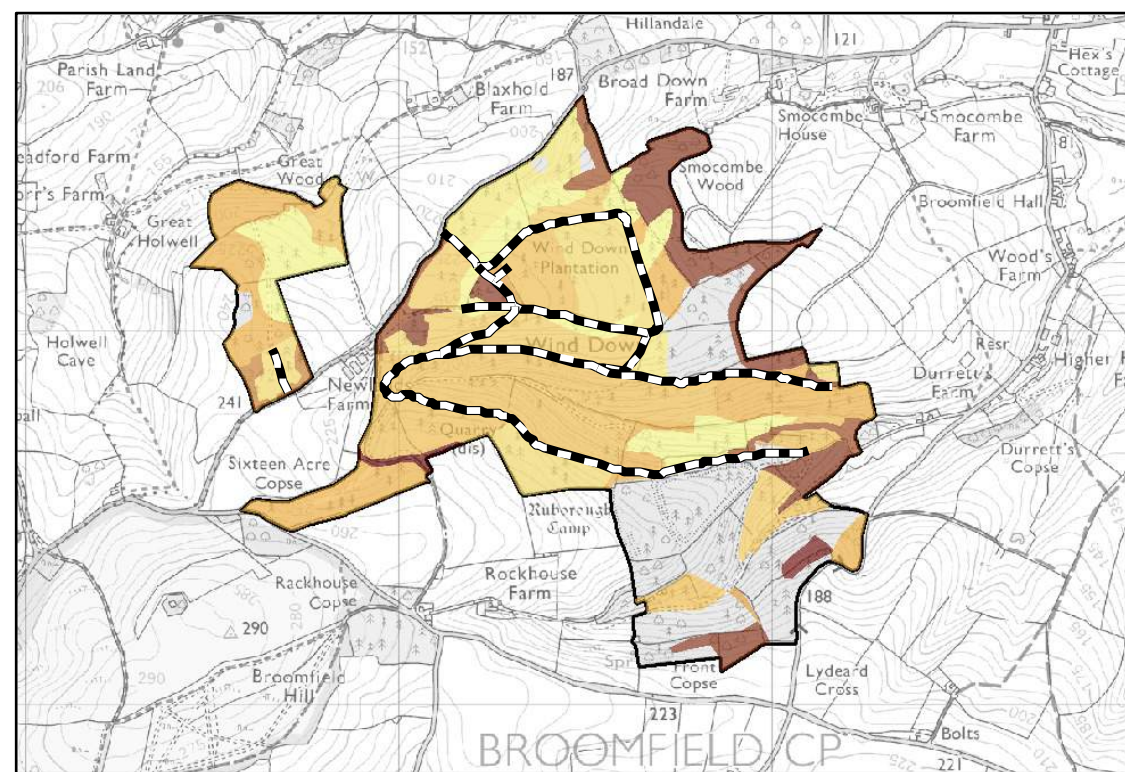
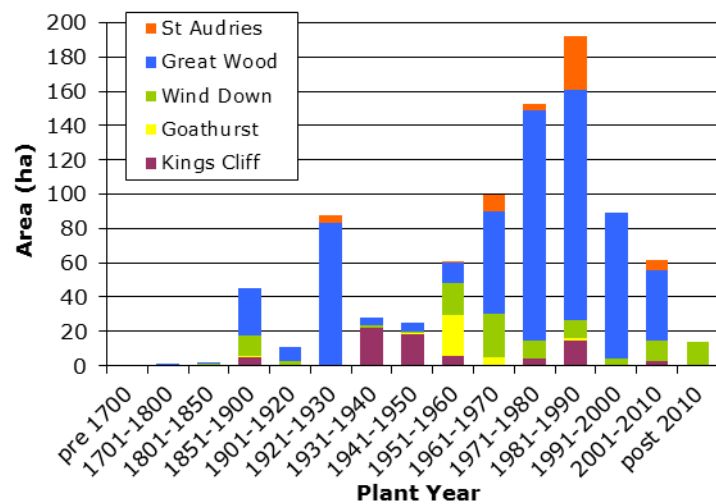


Legend



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Total Plant Year Component Area



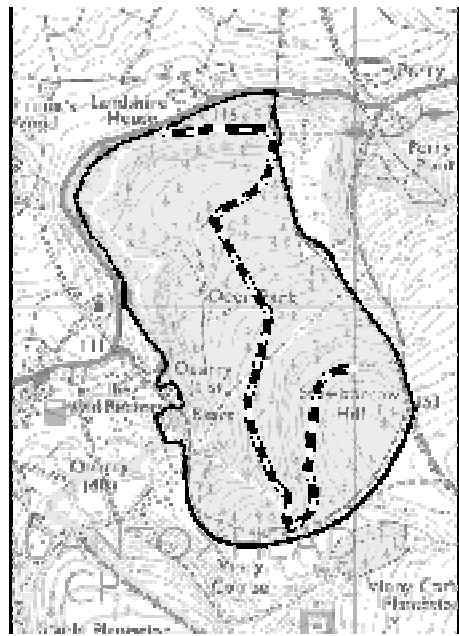
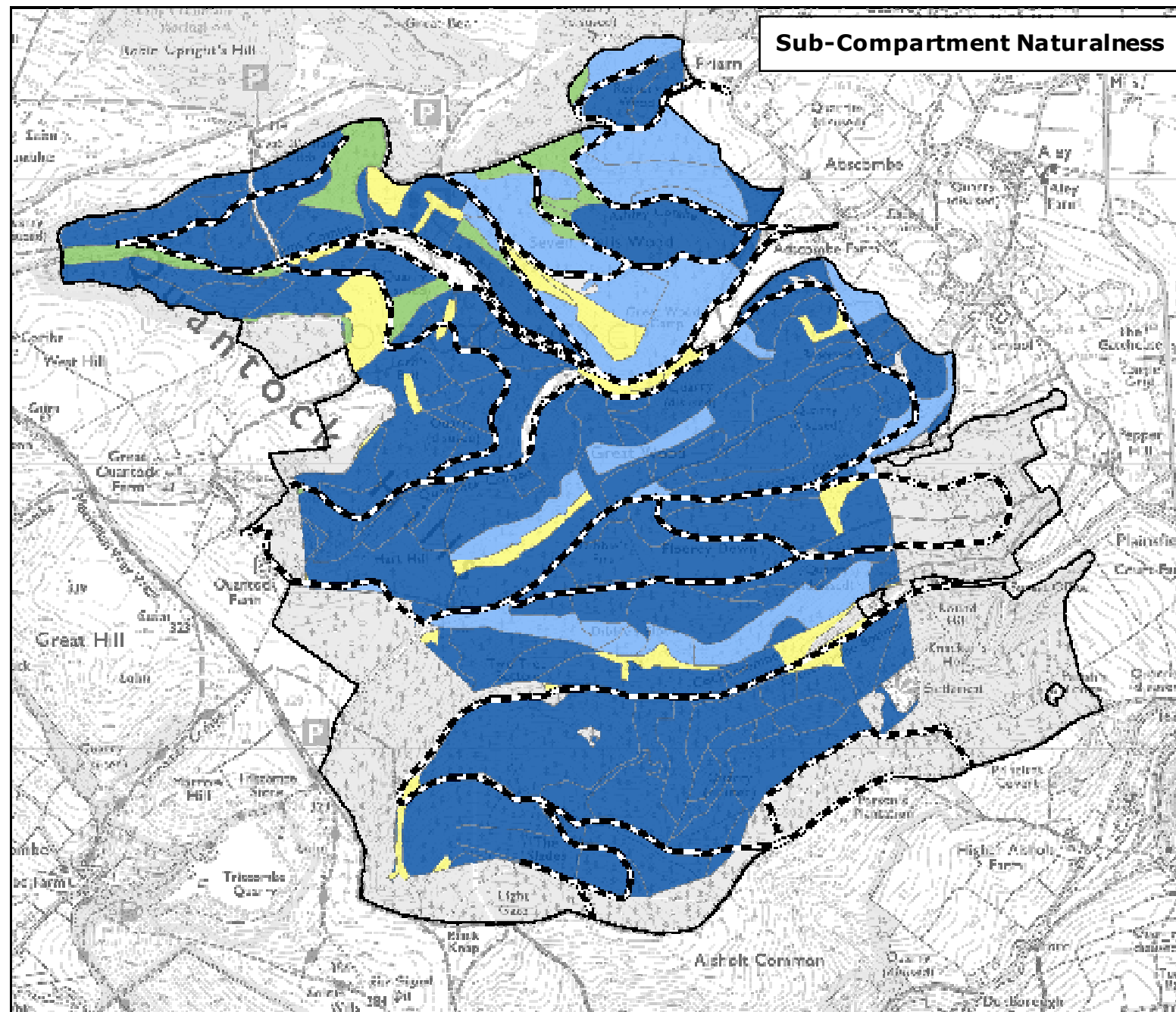
Ancient Woodland Sites

A total of 56% of the Quantock Plan area is designated as being an Ancient Woodland Site (AWS). The majority of this is in **Great Wood**, with smaller sections found in **Wind Down** and **Kings Cliff**.

The majority of these AWS are currently classified as Naturalness Class 4, meaning that less than 20% of the tree species currently found there are site native. These sites are predominantly Douglas fir or Sitka spruce crops, many of which are now operating on productive continuous cover systems. With limited site native seed source, conifer regeneration is in abundance. Areas with less non-native dominance, Classes 2 and 3 exist with planted oak and beech together with intruding birch and ash making up the majority of the native components. Classes 2, 3 and 4 are classified as Plantations on Ancient Woodland Sites (PAWS).

Areas of Ancient Semi-Natural Woodland (Class 1 - > 80% site native species) are mostly found towards the bottom of valleys, in wetter riparian areas where the soils are richer.

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



Legend

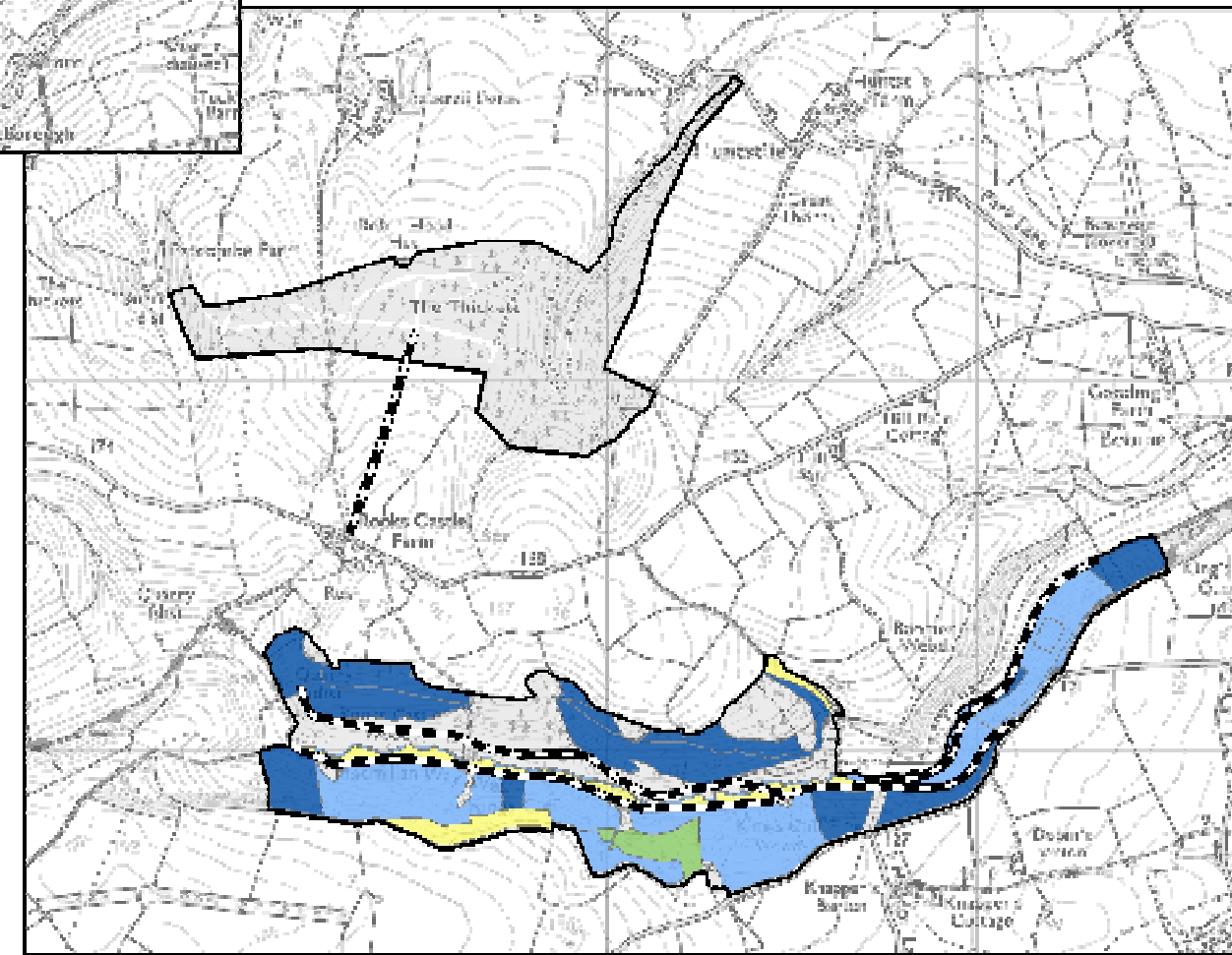
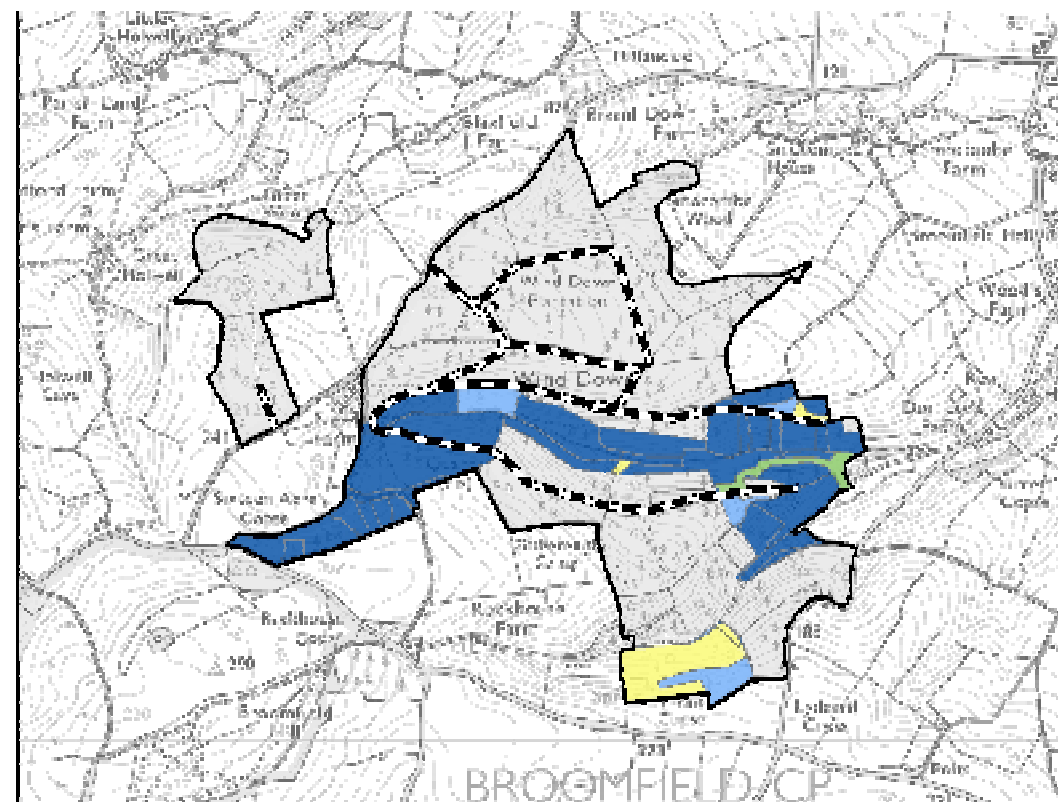
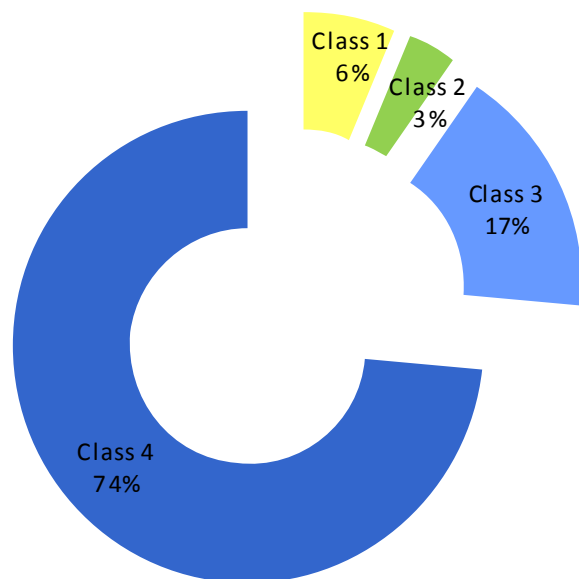
- Class 1 - > 80% Site Native Species
- Class 2 - 50-80% Site Native Species
- Class 3 - 20-50% Site Native Species
- Class 4 - <20% Site Native Species

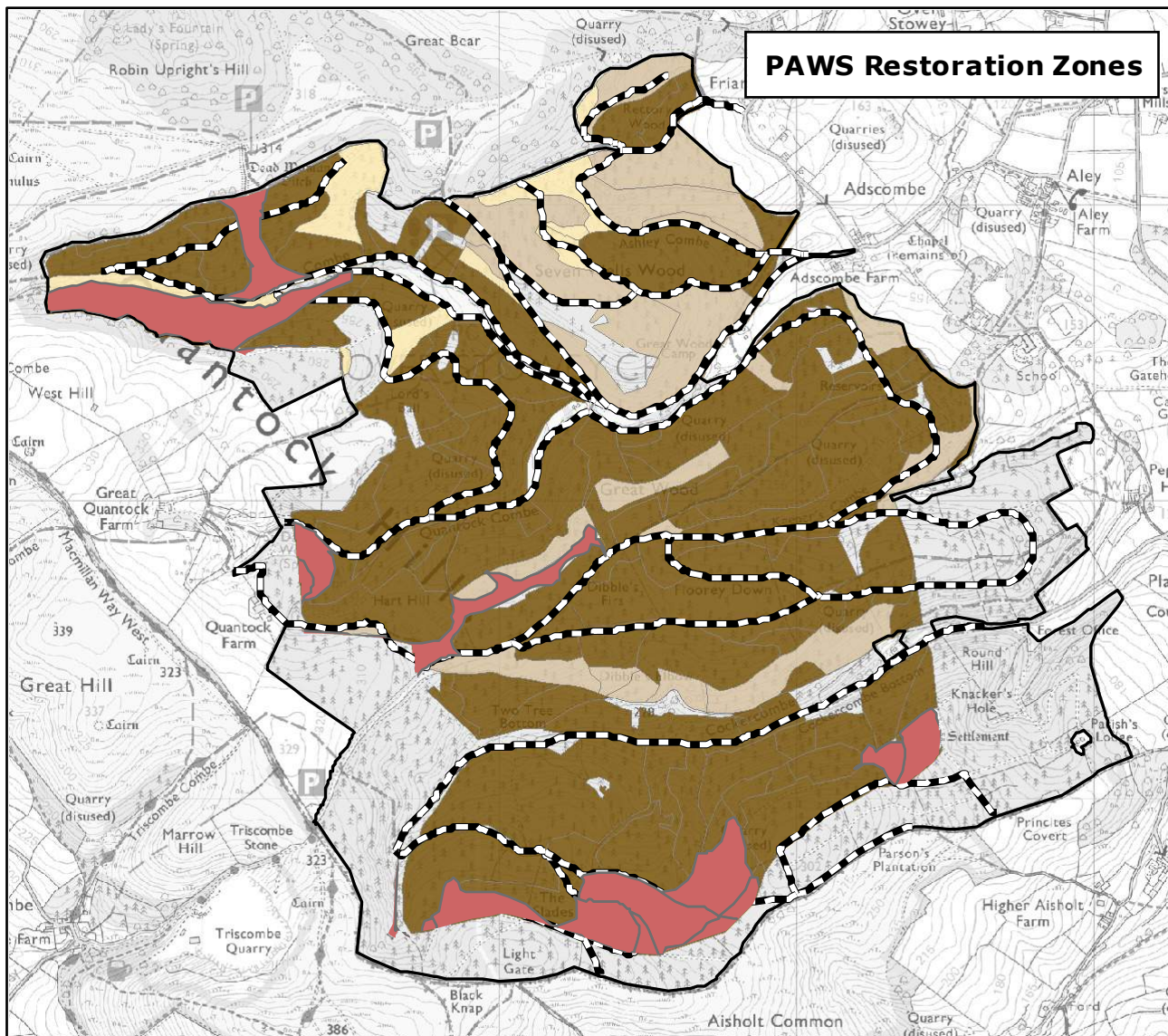
Note: Beech and sweet chestnut are considered to be not within their native range and therefore contribute to a non-native score.

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

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AWS Naturalness, 2015





PAWS Restoration Zones



Transition through thinning/group felling
Naturalness Class 2

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

Regeneration and establishment of native species is likely to be achieved through a combination of natural regeneration and group planting in order to ensure a future woodland with a diverse composition that should preferably aim for 4-5 native species.

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 of transition woodland
Naturalness Class 3

Areas within this category contain less than 50% of native tree species but have a proportion greater than 20% of the crop. Enhancement of native content will continue through thinning and group felling some of the conifer content.

Group fells may be actively restocked where native species regeneration is not expected to be adequate due to a lack of seed supply. Management of the existing crop will ensure broadleaf elements benefit from any thinning work undertaken.

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 crops
Naturalness Class 4

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 either depending on development of stand structure and the response of natural regeneration.

Any group fells will need to be actively restocked as native species regeneration is not expected to be adequate due to a lack of seed supply.



Clearfell

A number of clearfells will be used to convert PAWS. These will either be restocked with site suitable native species or maintained as permanent open space for additional ecological or cultural benefit.

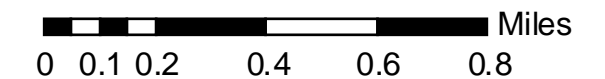
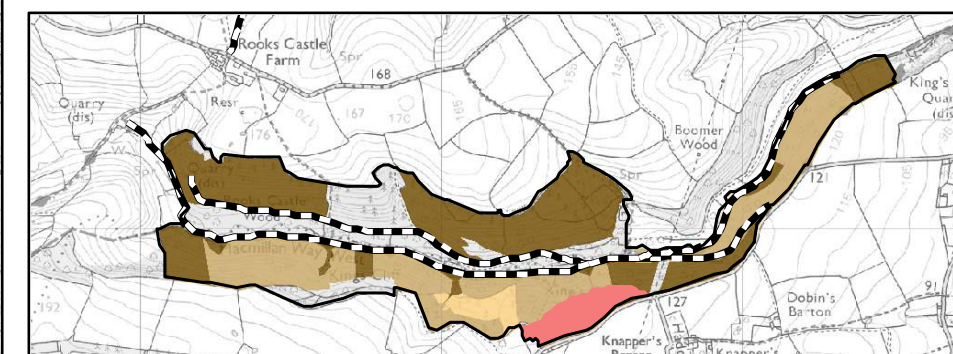
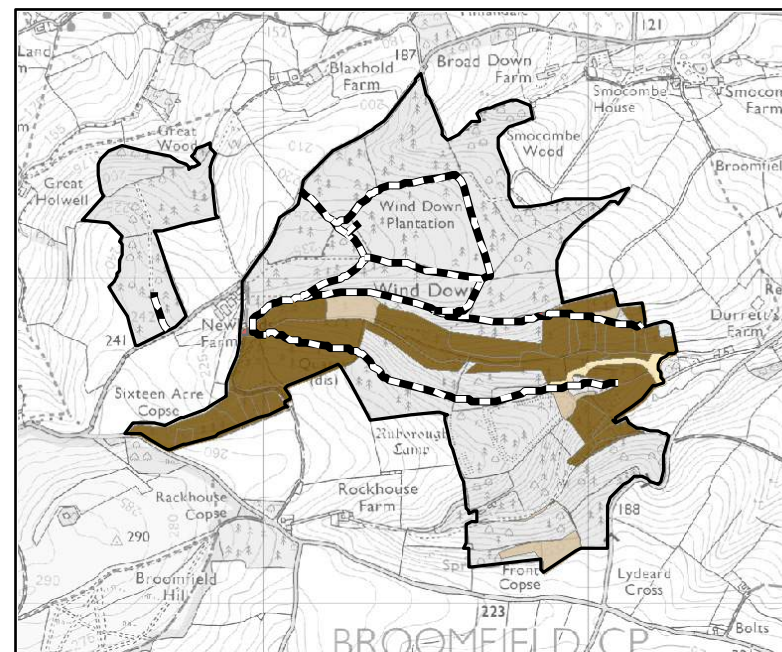
PAWS Restoration

The restoration of the PAWS of the Quantocks Plan area will take considerable time and resource because the limited native remnants from which sites can regenerate.

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

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

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



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Silvicultural Systems

Shelterwood Systems

These coupes will be managed through thinning so as to develop an understorey before the overstorey is felled. Seed sources and subsequent abundant regeneration of the species and density desired and therefore regeneration thinnings may be required to react to seasonal conditions. Structure will be stipulated by stand conditions and will therefore be irregular.

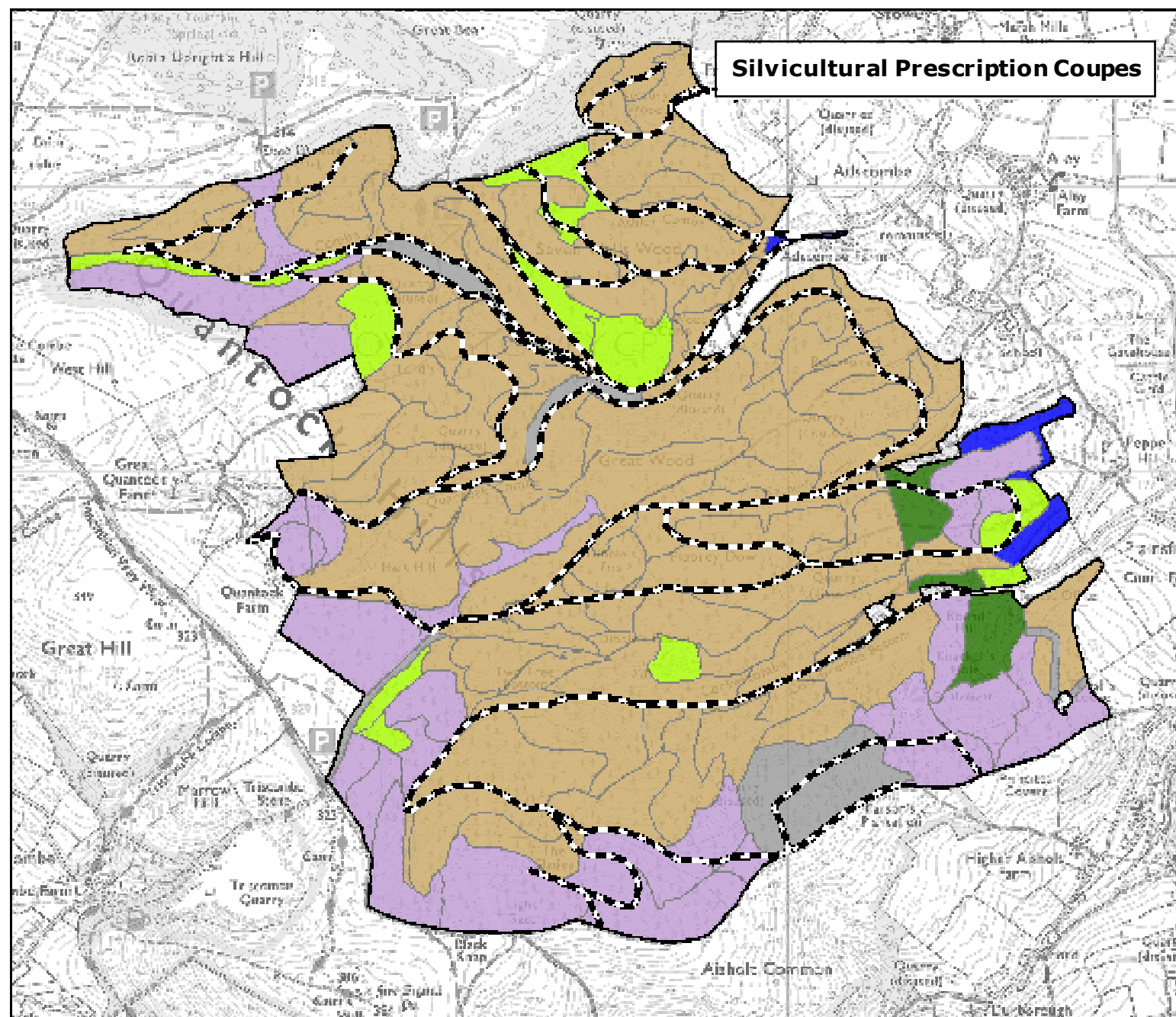
Broadleaf dominated shelterwoods will be thinned at 10 year intervals with the objective of developing sufficient native broadleaf regeneration of a wide species range so that when the overstorey is removed and the forest canopy remains continuously and diversely covered.

Conifer dominated shelterwoods will be thinned at 5 year intervals with the objective of developing sufficient conifer regeneration of a wide species range so that when the overstorey is removed the forest canopy remains continuously and diversely covered.

Mixed species and PAWS shelterwoods will be thinned at 5 year intervals to favour native broadleaf regeneration so that the overall proportion of native species increases over time whilst maintaining high forest cover.

Clearfell

These coupes will be managed on a clearfell rotation with ongoing gradual density thinning and cleaning to develop high quality timber. Restocking will be either through replanting or natural regeneration.

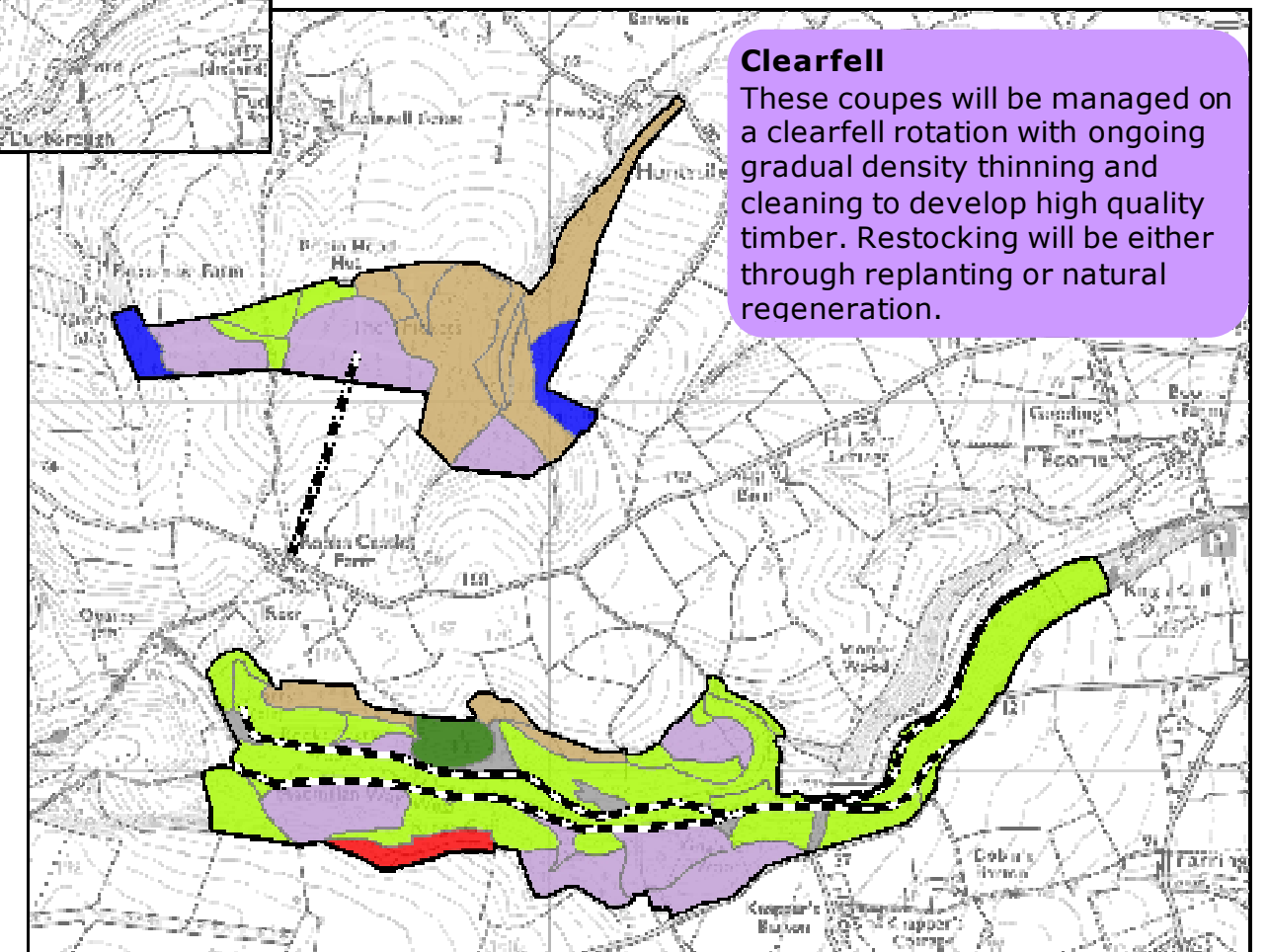
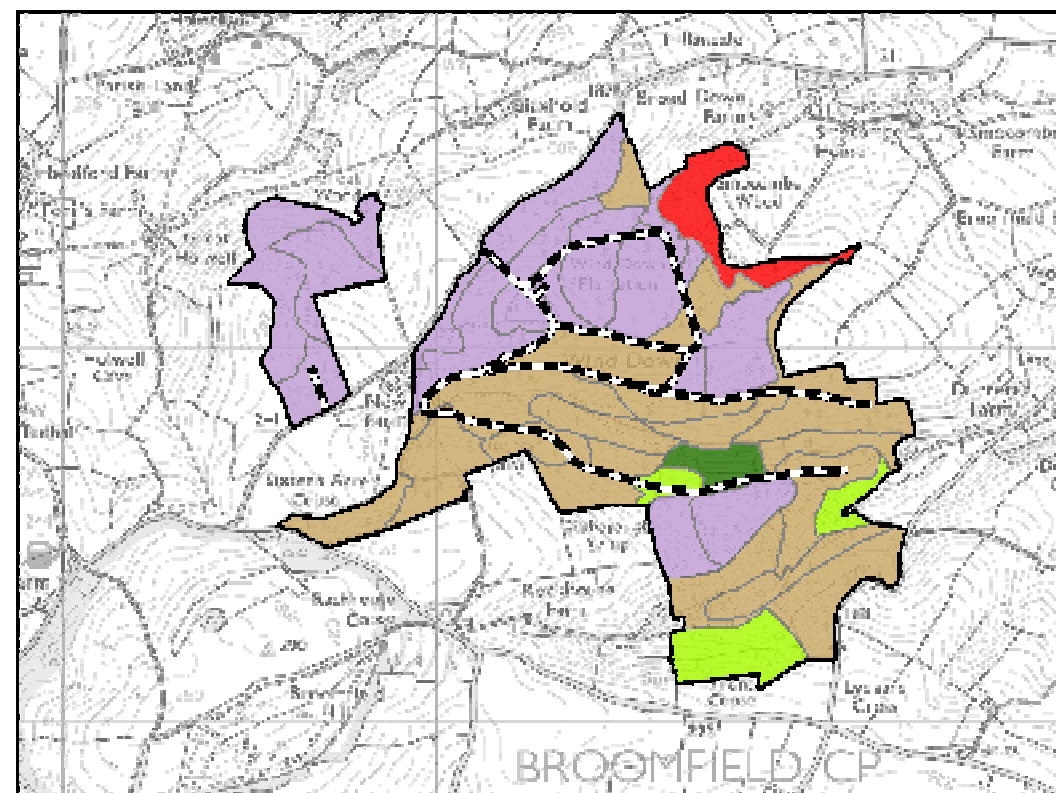
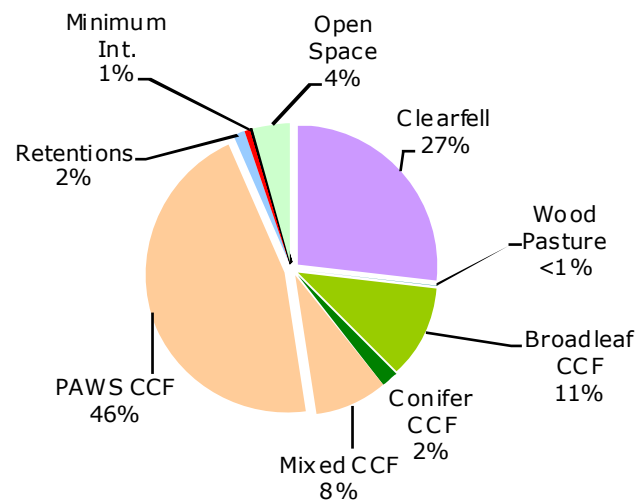


Legend

- Clearfell
- Broadleaf CCF
- Conifer CCF
- Mixed & PAWS CCF
- Minimum Intervention
- Long Term Retention
- Open

0 0.1 0.2 0.4 0.6 0.8 Miles

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Felling 2016 - 2026

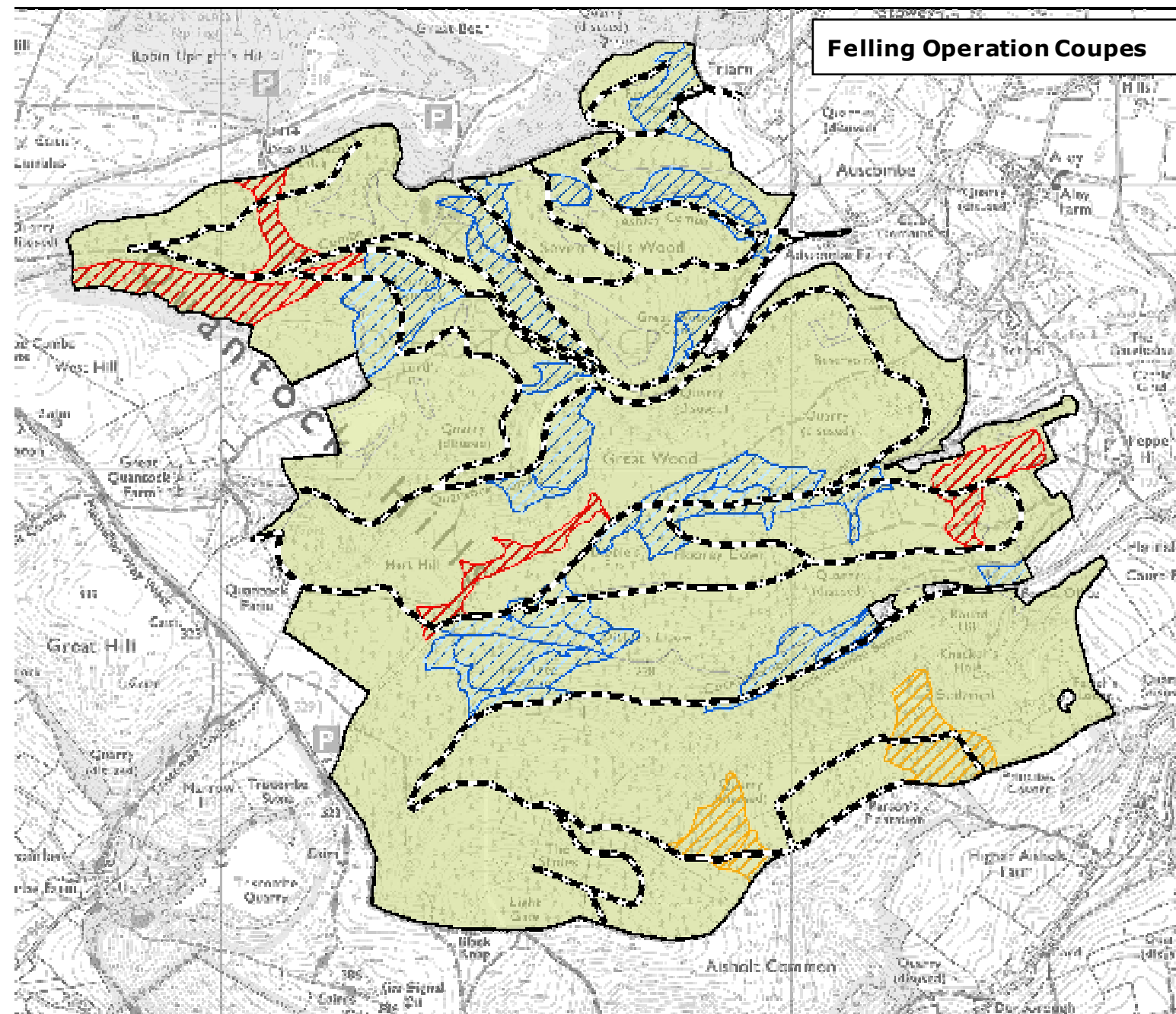
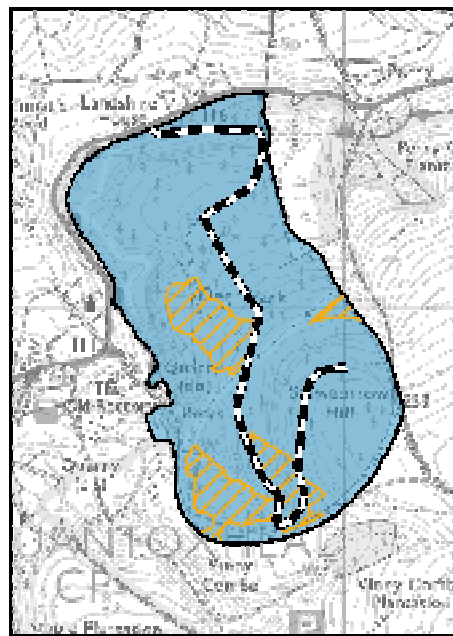
Within the life of the Plan up to 76.4 ha will be felled, not including thinning. 64.4ha of this will be clearfell and 12ha will be group selection felling. Thinning will remain ongoing, with broadleaves thinned every 10 years and conifers every 5 years.

Block	Clearfell (ha)	Group Sel. (ha)	Total (ha)
St Audries	8.7	0.0	8.7
Great Wood	36.2	7.0	43.2
Wind Down	15.2	16.2	13.6
Goathurst	3.3	0.0	3.3
Kings Cliff	3.6	4.0	7.6
TOTAL			80.2

Group Selection/Group fell

119.5ha of the Plan area will be managed under group selection. No group fell will be more than 0.5ha in size and operations will be spread throughout the coupes over the 10 year period.

Block	Area managed under Group Sel. (ha)	Number of fellings (up to 0.5ha)
Great Wood	77.2	14
Wind Down	4.0	2
Kings Cliff	38.3	8



Legend

- Group Selection
- Fell 2017 - 2021
- Fell 2022 - 2026

Intended Next Thinning Date

- 2015
- 2016
- 2017
- 2018
- 2019
- 2020

0 0.1 0.2 0.4 0.6 0.8 Miles

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Phytophthora ramorum

This airborne disease to which larch, rhododendron and particular alders and chestnuts host has been found in numerous locations both within and close to the Plan area.

The potential felling of infected stands under Statutory Plant Health Notice has been accounted for by ensuring adjacency of larch components with planned coupes has been kept to a minimum and planned clearfell volumes are relatively low. Some larch will be removed as part of the Plan's felling and thinning programme, and whilst host species will not be pre-emptively felled they will also not be retained or placed in minimum intervention areas.

