Coombs Wood Forest Plan 2017









North England Forest District





Planning and District Context

The Strategic Plan for the Public Forest Estate in England outlines the delivery of forest policy at a national level. At a regional level there are six Forest Districts covering the country that directly oversee the implementation of policy actions in local public forest estate woodlands. Forest Enterprise England is the organisation responsible for managing the English public forest estate.

North England Forest District (NEFD) is the management unit that manages the public forest estate in Northern England. This is an extensive area encompassing 9 county or unitary authority areas from the Scottish border to Durham and Lancashire.

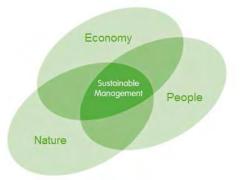


Our task is to realise the potential of each of the forests in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our forests supports the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. All are funded by revenue from timber sales and recreation provision.

The woodlands of the district are currently arranged in 62 management areas, and their management is covered by individual ten year Forest Plans that identify local issues and the broad silvicultural management of the woods. Forest Plans are reviewed every five years.

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Individual Forest Plans aim to deliver a range of public benefits with achievable objectives that deliver the three drivers of sustainable land management outlined in the North England Forest District Strategy.



These key drivers are supported by the following Forest District Policy;

- we will optimise the financial return from timber production compatible with achievement of other forest district objectives while complying with the UK Forestry Standard and meeting the requirements of the UK Woodland Assurance Scheme
- we will provide public access to all our forests and woodlands where there are no legal or safety restrictions. We will encourage and permit a wide range of recreational activities from walking and quiet enjoyment to more specialised activities including orienteering, horse riding and motor sports.
- we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value

Coombs Wood Forest Plan

This is the third revision for the Coombs Wood Forest Plan. Significant changes to the previous plan relate to the adoption of an alternative form of management to clearfell and restocking and changes to long term future species composition due to the woodland being designated as Ancient Semi-Natural Woodland since the previous plan was approved.

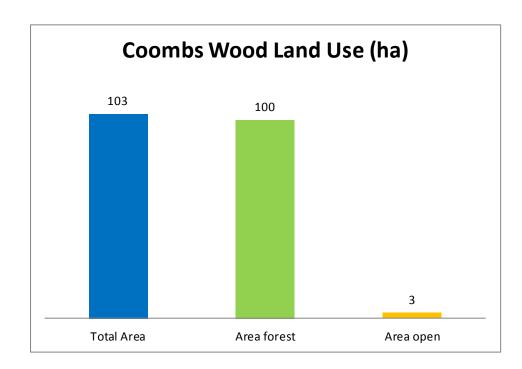
Part 1 Background Information

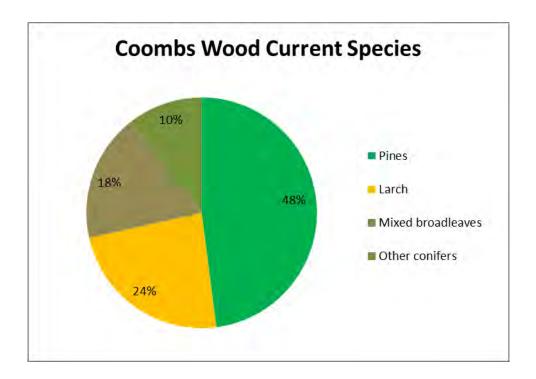
Introduction

Coombs Wood is freehold woodland acquired by the Forestry Commission in 1952. Sporting, including fishing rights is in separate ownership. The woodland which extends to 103 ha lies between Carlisle and Penrith to the east of the A6. The village of Armathwaite is 1km to the north of the woodland with the Eden Gorge comprising the western boundary of the woodland.

Current Woodland composition, species and timber potential

The Forestry Commission planted the site between 1954 and 1958. This has resulted in a predominantly conifer, even aged woodland the main conifer species being Scots pine, larch and Douglas fir. Western Hemlock and Silver fir is the predominant regenerating conifer and broadleaves predominate adjacent to the river.





Sporadic windblow has identified the issue of regeneration of western hemlock in some areas, a species which contributes little in terms of economic or ecological benefit. Areas of pine, larch and Douglas fir are of typically yield class 8-16 and will continue to yield, through thinnings, reasonable amounts of timber.

The windiness assessment of Coombs Wood shows that the whole forest is sheltered with Detailed Aspect Method Scores (DAMS) less than 14 and the eastern half very sheltered with DAMS score less than 10. As such the majority of the trees are very stable or stable (with a stability index less than 80 (calculated from the formulae top height/mean dbh (cm)) using pre thinning plot data). The soils in the plan area are predominantly brown earths with a band of podzol running north south splitting the forest in half.

Designated areas

Most of the forest is a Plantation on Ancient Woodland Site (PAW's) or Ancient Semi Natural Woodland (ASNW). The PAW's designation was introduced after the previous plan was approved in 2006. The ancient woodland status of the forest now dictates that there is a presumption for conversion to native species in line with current Forestry Commission Policy.

The woodland is adjacent to the River Eden which is part of the European Habitats Directive Special Areas of Conservation (SAC). The River Eden itself was designated as a SSSI in its own right in May 1997 principally to reflect the riverside habitat and the range of plant and animal life that the river supports.

The woodland also includes a geological SSSI, part of the Eden Gorge SSSI which is an excellent example of "cross-bedding" formations.

Conservation

The woodland is intrinsically linked through its physical adjacency to and as a catchment of the River Eden and its associated Gorge. The River Eden SAC contains European priority alluvial forests, which are Alder dominant woodland on flood plains of lowland rivers. Other European interest mentioned in the document includes Otter (*Lutra lutra*) and the River Eden is considered one of the best habitat areas in the U.K.

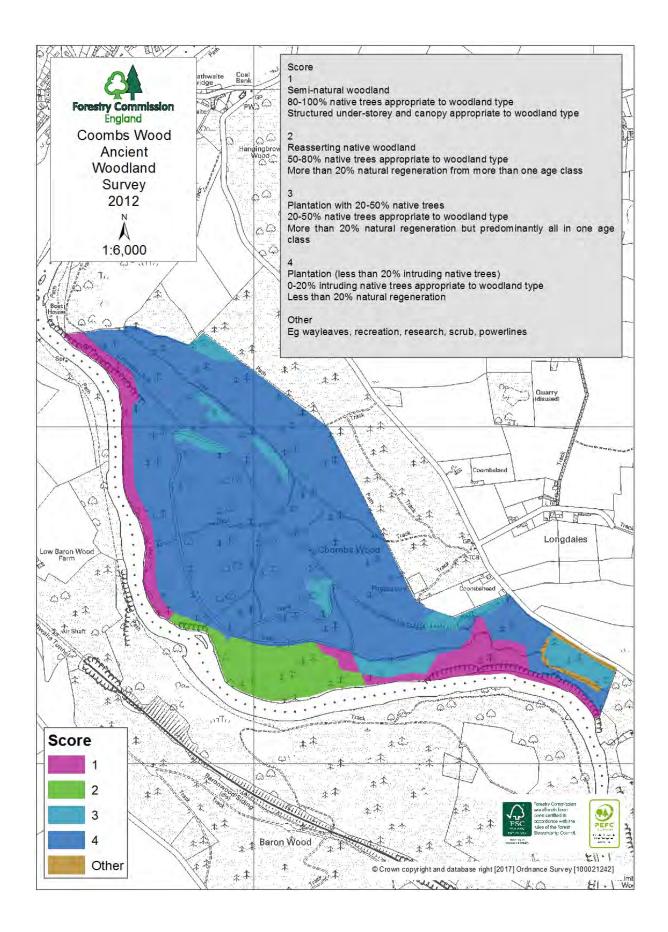
Areas of native broadleaved woodland predominate immediately adjacent to the river and regeneration of native broadleaves and holly is evident to varying amounts throughout the woodland.

The southern cliffs adjacent to the River Eden form the other scheduled conservation interest within the woodland. They form part of the Eden Gorge SSSI. Within the Coombs Wood section of the SSSI the cliffs are home to an outstanding lichen flora and an interesting moss and liverwort flora not usually found in Cumbria outside the Lake District. A management plan for the SSSI has been agreed with Natural England.

The conservation interest in the forest is mainly attributed to the status of much of the woodland as a Plantation on Ancient Woodland Site (PAW's) and the primary objective therefore is to restore this area to ancient semi-natural woodland in line with the Forestry Commissions Ancient Woodland Policy.

Coombs Wood is home to a variety of bird life and supports a population of Red Squirrels. Although not recorded there is potential for bats to roost in some of the older native broadleaves and multi branched Scots Pine and the cliff faces along the River Eden. A number of badger setts and fox earths have been identified across the forest.

An Ancient Woodland Survey was undertaken in 2012. The results of this survey, shown in Map 1 will be used in conjunction with the CCF Plan (2016) to formulate an intervention plan for the PAW's restoration. The rate at which this conversion is achieved will be dictated by successful regeneration of native species following thinning interventions rather than producing a regular sustainable yield.



Forest Management

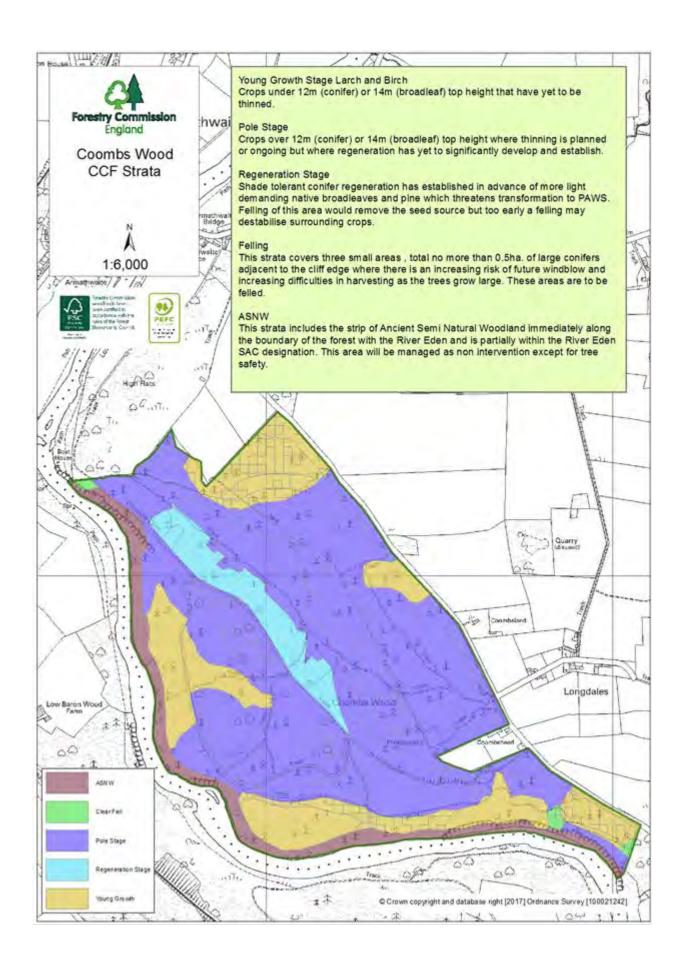
During the period of the previous plan two coupes were clear-felled. In response to the subsequent PAW's designation it was concluded that restoration would be better achieved through Continuous Cover Forestry (CCF) techniques and an amendment to the previous plan in 2012 changed two felling coupes to CCF. Subsequently a Continuous Cover Management Plan, produced in 2016, extended the area of CCF to 56ha. The CCF plan identifies silvicultural objectives for defined strata (see Map 2 below) based on age of over-storey, species composition and levels of regeneration. The aim is to encourage a complex stand structure to develop aiming for establishment through natural regeneration but accepting that in some areas under planting or gap planting may also be desirable to introduce other species to improve forest resilience. Within the area of PAWS designation the vision is to see a shift in species composition, over time, towards native broadleaf and away from conifers. There is a strong argument for the adoption of CCF throughout the entire plan area for the principal reasons listed below:

- PAWS restoration would be better achieved gradually through CCF techniques rather than clear felling.
- The previously proposed clear fells would open up the forest to wind blow putting some of the existing isolated and narrow planned CCF areas at risk.

On steep slopes adjacent to the cliffs localised felling of high volume per hectare tall conifers may be needed to reduce the risk of landslip adjacent to the SAC. Replacement with lower weight scrub and small native broadleaves would be more appropriate.

Access and roading

A single steep forest road through the forest is shared with a public right of way. This limits public access during harvesting. There are no plans for further development or extension of the forest road network.



Landscape and Topography

From a landscape perspective the woodland is an important, integral part of a mixed pastoral and wooded valley landscape. Within an attractive rolling mixed landscape Coombs Wood occupies a prominent position, dominating the eastern bank of the River Eden in this location. It is clearly seen from the Settle to Carlisle Railway and from numerous minor roads in the locality.

Coombs Wood is in the Eden Valley Management Zone (NEFD Strategic Plan) and the area is characterised by a fairly dry climate, sandy soils and gently undulating terrain with steep banks along the sides of the River Eden. Other woodlands within this area are generally small and fit within a landscape of mixed farmland, broadleaved copses and hedgerow trees with most woodland lacking species and structural diversity.



Coombs Wood viewed from Nord Vue farm

Heritage

The carved stone faces in the cliffs adjacent to the river Eden at the northern end are an interesting historical feature. Access to them is difficult and not possible when the river is high and present levels of access are not thought to threaten them. Management of the scrub regrowth at the base of the cliff will prevent potential damage. The Eden Benchmark carved stone, commissioned by the Eden Benchmarks programme is another interesting feature in the wood adjacent to the public right of way.

Communities and recreation

The freehold of Coombs Wood has been dedicated under the Countryside Rights of Way Act 2000 (CRoW), giving open access on foot for all, in perpetuity. The woodland is well used by members of the public, mainly but not exclusively by local people.

The recreation facilities are low key, with access into the wood via the public right of way, the forest roads and along with the traditional routes from other locations along the forest boundary. The woodland offers users approx. 2km of forest road and an informal network of trails that has developed over the years especially along the banks of the River Eden. There are three parking areas next to the public road along the western boundary and at the forest gate with shared access for management and timber transfer.

In addition to walking routes a number of 'unofficial' mountain bike trails have developed. There are no rights given to individuals to develop trails or other structures in the forest without the sole permission of the Forestry Commission. Within our woodlands we have a responsibility and liability for everyone that uses the woodland and a duty of care that they do so in a safe environment. We therefore have to consider the impact illegal development could have on legitimate users by taking a risk based approach and these features are monitored and removed if safety concerns are raised. Rock climbing is a popular informal activity along the cliff faces at the southern end of the forest.

The Penrith Angling Association has the rights to fish along the River Eden adjacent to Coombs Wood and have a small car park within the forest accessed via the forest road.

Pests and diseases

Larch is threatened by the disease Phytophthora ramorum. The previous Forest Plan indicates that future species would consist of 27% larch. However, given the PAWS designation and Phytophthora risk the long term future for larch as a major component of the forest species is questionable. Consequently there will be no future restocking of larch and it will be actively thinned in areas of continuous cover and proactively removed in the event of disease outbreak (in accordance to Statutory Plant Health requirements agreed at the time).

Coombs Wood supports a population of Roe Deer and the population is managed by a local ranger in partnership with the FC beat Wildlife Ranger. An effective deer management plan is critical to establishing regeneration.

Grey squirrels are also present throughout and the Penrith Red Squirrel group undertake mostly reactive grey squirrel control in response to sightings reported to them or passed on by Red Squirrels North England.

Part 2 Analysis and Concept

The factors outlined in Part 1 present various opportunities and issues. These are summarised below:

Factor	Opportunities	Issues	
Management type	Areas of low DAMS score supports thinning and development of stable crops under a Continuous cover management regime. Brown earth soils provide good growing conditions for a range of species. Bracken has been a major problem under the clearfell and restocks system.	Continuation of the previous clear-fell regime could compromise PAW's restoration and open up existing CCF areas of the forest to wind blow.	
Biodiversity	Continuous Cover management should help protect the special qualities of the River Eden SAC through soil protection and reduced risk of sedimentation. PAWS designation encourages move towards more diverse forest structure and species mix favouring native species.	PAWS designation limits future for non-native species such as Douglas fir which can produce highly valuable timber and are easier to regenerate than light demanding native species. Full ASNW restoration will take many interventions to achieve in some areas extending to possibly 100-150 years.	
Harvesting	Continuous cover management will provide a gradual change in woodland structure which benefits both biological and landscape sensitivity whilst producing a sustainable economic yield of timber. Increasing market for wood fuel should make broadleaf thinning more viable in the future.	Yield and timing of operations unpredictable. Steep slopes especially immediately next to the river make long term management for timber unsuitable. Three small areas (<0.5ha) of large conifers adjacent to the cliff edge are at increasing risk of windblow and present harvesting challenges as the trees grow large. These areas need to be felled.	
Pests and disease		Deer present challenges to natural regeneration and grey squirrels threaten native red squirrels. Potential Phytophthora ramorum impact.	

Conversion to notive enesies	Larch not desirable and ash is not a
•	
· ·	favoured species in the long term due to Chalara risk.
-	due to Chalara HSK.
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•	
•	
	Presence of larch (at risk from P.
	Ramorum), and ash regeneration
8	(at risk from Chalara) will need
	regular monitoring.
•	Good regeneration of shade tolerant
	species such as Silver fir and
	Western Hemlock pose a threat to
	PAWS restoration.
	Trivo restoration.
•	
•	
•	
	Single steep forest road through
•	forest shared with right of way
	limits public access during
	harvesting
	Conversion to native species remains the long term objective for areas of PAW's woodland. Birch regeneration is high enough on the lower slopes to establish future woodland to a density suitable for timber production Conifer species generally growing well which will provide a sustainable yield throughout the conversion process Well thinned Scots Pine forest offers opportunity for open gaps for group planting of light demanding native tree species The majority of the crops have a low stability index i.e. wind firm Adequate internal network of forest road

Appraisal

Restructuring of Coombs Wood over recent years, mainly through clear felling and replanting with coniferous tree species has been a principle aim. Other important management drivers are conservation, linked to a highly designated river and riparian area, PAW's restoration, landscape - both internal and external and supporting public enjoyment of the woodland. The gradual transition of a still predominantly coniferous woodland to a more mixed woodland type achieved through processes less intrusive in terms of landscape, sedimentation and public amenity would seem therefore a more appropriate way forward. Delivery of this type of woodland management could be achieved through continuous thinning of existing crops to support an attractive wide spaced conifer over storey of mature pine and other conifers supporting the regeneration and establishment of new woodland incorporating an increasing proportion of native species. Continuous Cover Forestry techniques without the need for intensive ground preparation and with minimal if any chemical application makes an appropriate Sustainable Forest Management option to deliver the required objectives of this woodland.

Part 3 Objectives and Proposals

The following objectives have been identified based on FEE National Policy and NEFD Strategic Plan

Forest District Strategic Goal	How Forest Plan delivers
ECONOMIC Wood Production — 'we will optimise the financial return from timber production compatible with the achievement of other district objectives whilst complying with the UK Forestry Standard and meeting the requirements of the UK Woodland Assurance Scheme'	Felling proposals are based on the continued thinning of all the forest under a continuous cover regime giving rise to marketable timber to generate a financial return. Interventions will involve thinning of the conifer and non-native broadleaf component with the aim to thin the main area of the wood within the next 5 years according to the CCF Management Plan (2016). The Intervention Plan indicates the management required to achieve conversion using the 2012 AWS as a baseline for future assessment and future management decisions. 0.5ha of over mature Douglas fir adjacent to the cliff edge will be felled for safety reasons.
'we will continue to diversify the age class structure of our even-aged woodlands and increase the value of all our woodlands and forest for wildlife' 'we will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value'	Restoration of ASNW - timing and yield of operations will be guided by how the woodland is responding to change and not be driven by productivity. A re-survey of ASNW is planned for 2022. Features of interest associated to the ASNW, such as veteran or feature trees, will be protected and enhanced during operations through sympathetic management. River Eden SAC – a move away from clearfelling to Continuous cover management throughout the wood will aim to reduce excessive run off of soil particles thus reducing

inappropriate sedimentation. CCF management is consistent with the NEFD chemical reduction strategy. In areas immediately adjacent to the river development of wet woodland will be encouraged particularly favouring alder and willow species managed with minimal intervention. Vigilance will be maintained for the presence of invasive species such as Japanese knotwood and Himalayan balsam and controlled as necessary.

Eden Gorge SSSI – there will be no management intervention for the designated area of cliff face and small area of broadleaved woodland above the gorge which is supported by the physical limitations presented by the site. Adjacent woodland will be managed under CCF with the exception of a small area of mature Douglas fir which will be felled for safety reasons and to mitigate potential sedimentation risks in the event of windblow.

PEOPLE

'we will utilise the land and resources at our disposal to assist communities close to our forests to enhance their environments and hence their quality of life'

'we will provide public access to all our forests and woodlands where there are no legal or safety restrictions...'

Maintain attractive woodland both in terms of the internal landscape for the benefit of local users and externally to support the wider landscape value of the Eden valley. Maintain and enhance the existing walking routes and maintain links with local communities. In conjunction with High Stand, scope exists to minimise disruption to public access by maintaining one of these woodlands without activities whilst the other is being worked thus allowing unconstrained public access in either or both of these woodlands on a consistent basis.

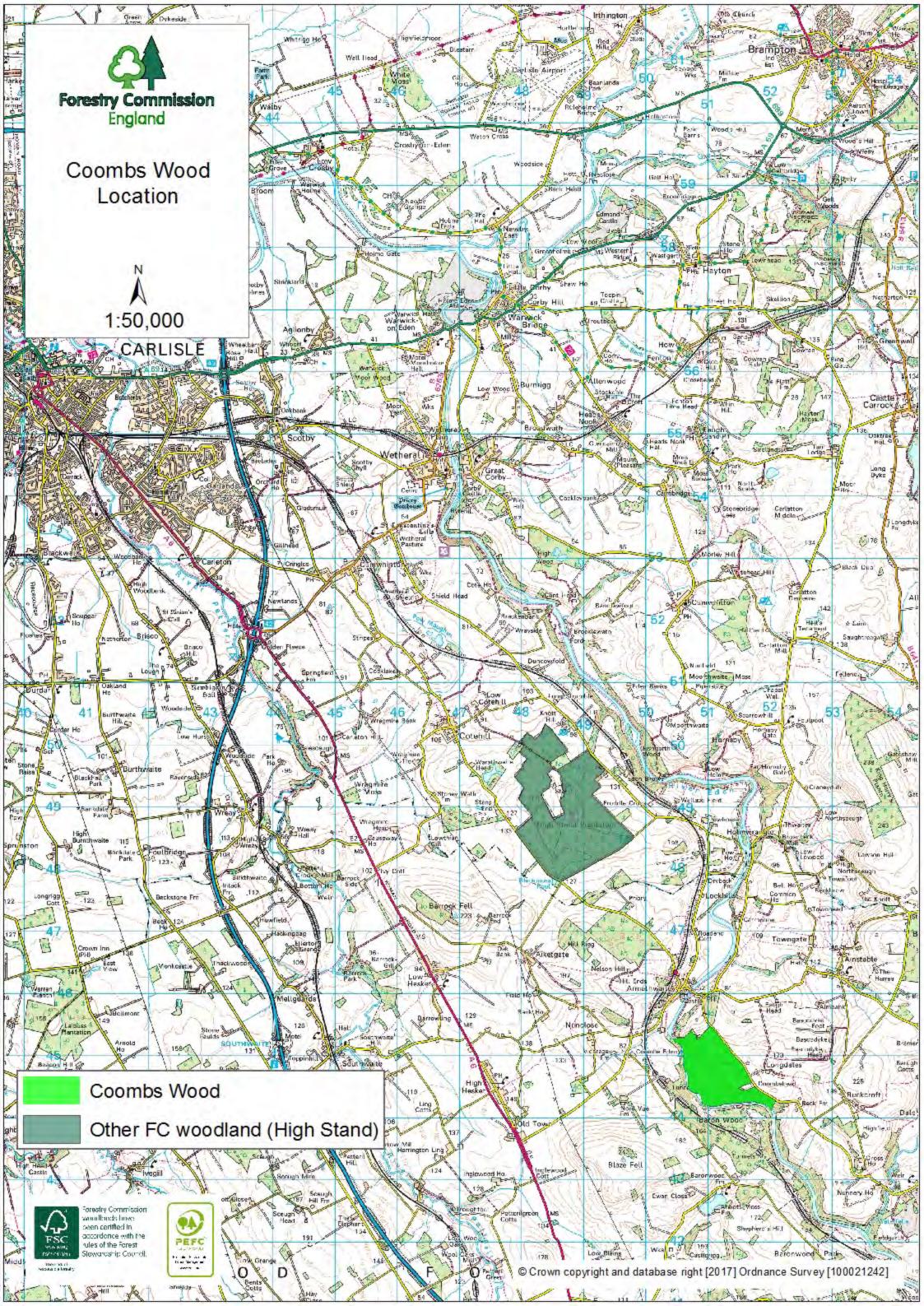
Part 4 Monitoring plan

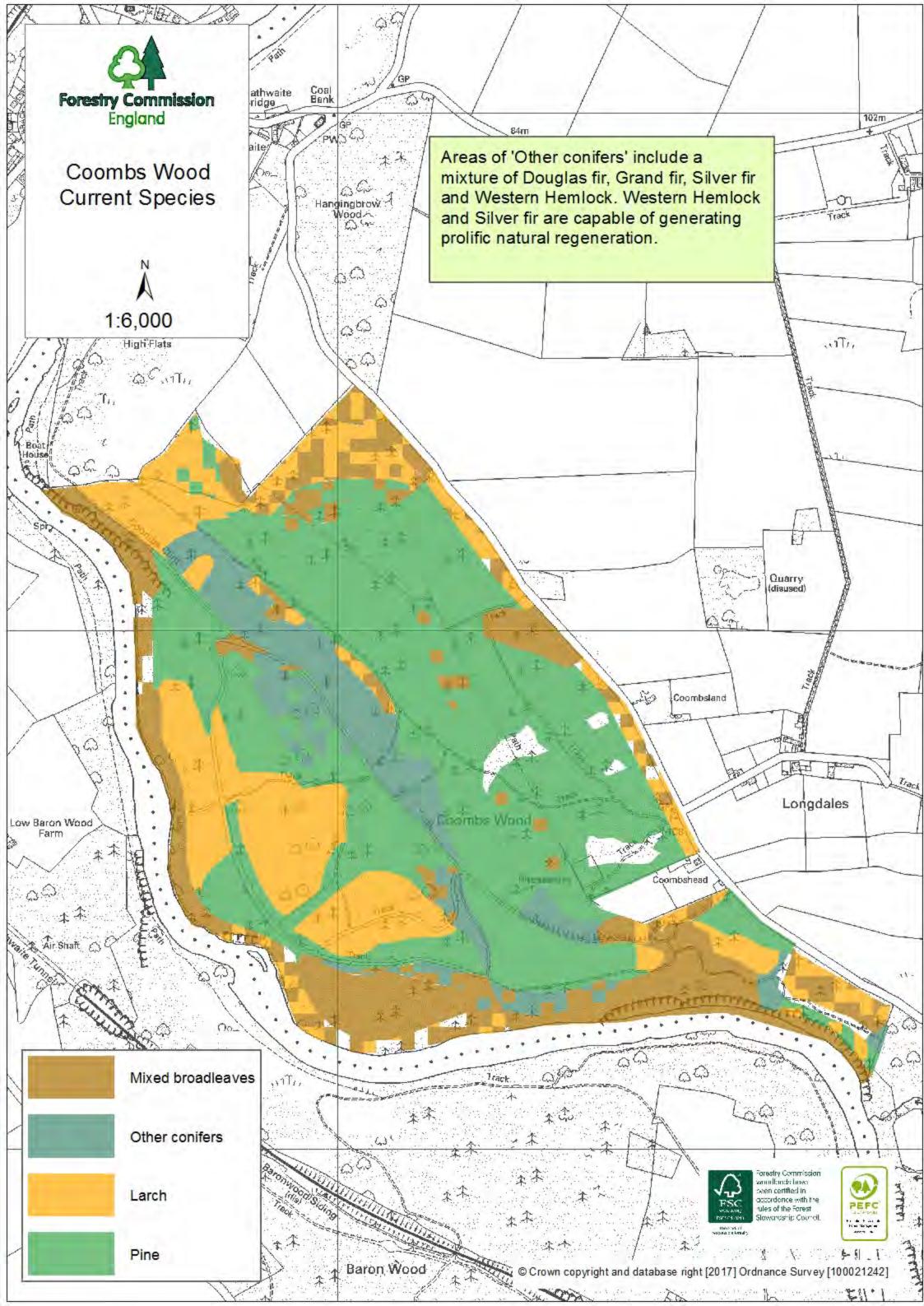
The objectives identified in section 3 will be monitored in the following ways;

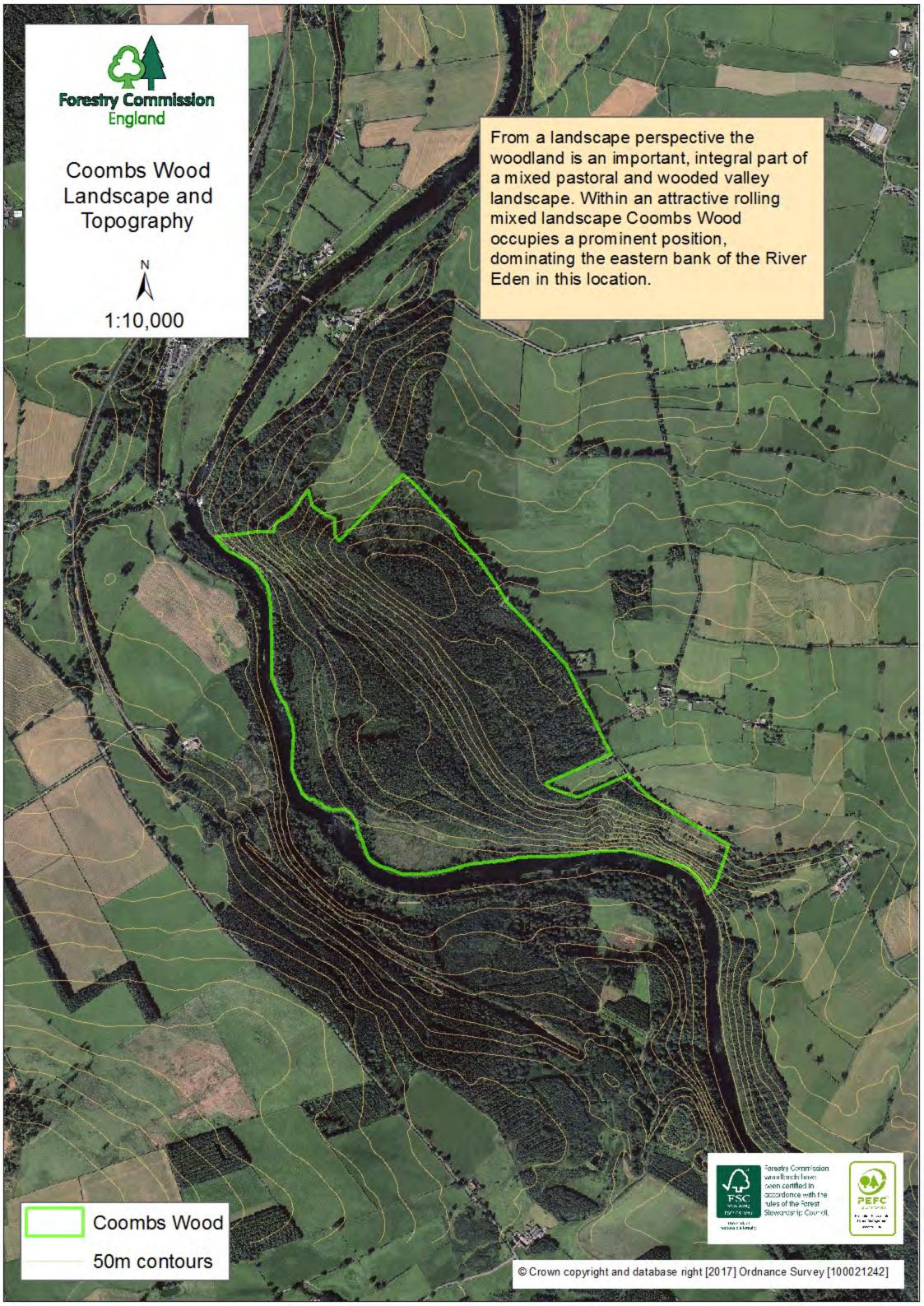
Objective	Criteria for success	Assessment
ECONOMIC		
Wood production	Marketable parcels of timber on offer to the market	Contract and sales records CCF Management Plan
Sustainable economic regeneration	Maintain timber harvesting access and infrastructure	monitoring
NATURE		
Restructuring and ASNW restoration	Delivery of Forest Plan felling/thinning/coppicing proposals	Five yearly Forest Plan review
	Advanced natural regeneration	Monitored visually at each site visit and, during pre-thinning B6 plots. ASNW survey 2022.
PEOPLE		
Visual and access enhancement to visitors	Ongoing restructuring of the woodland and local community engagement as appropriate.	Five year Forest Plan review.

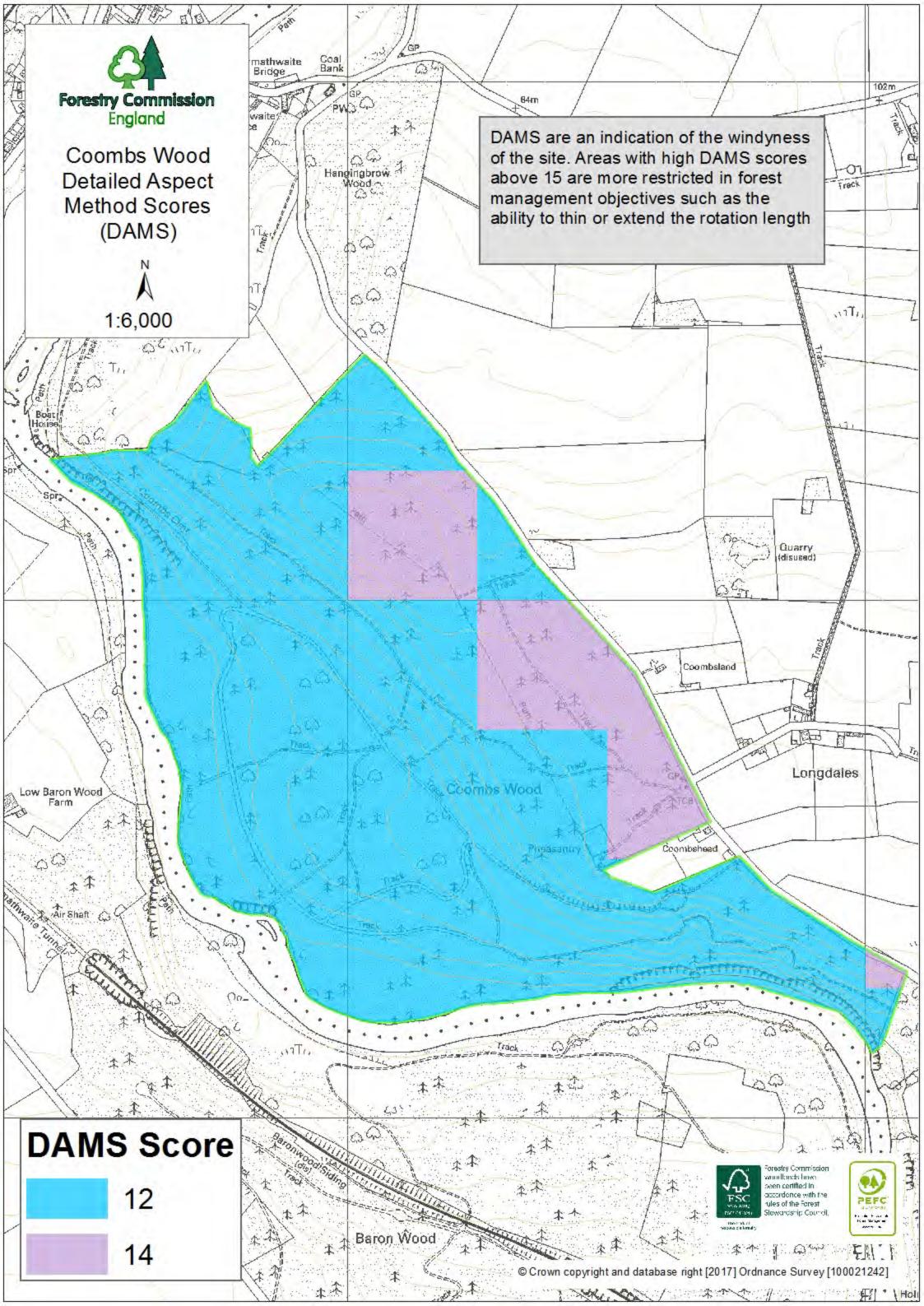
Part 5 Forest Plan Maps

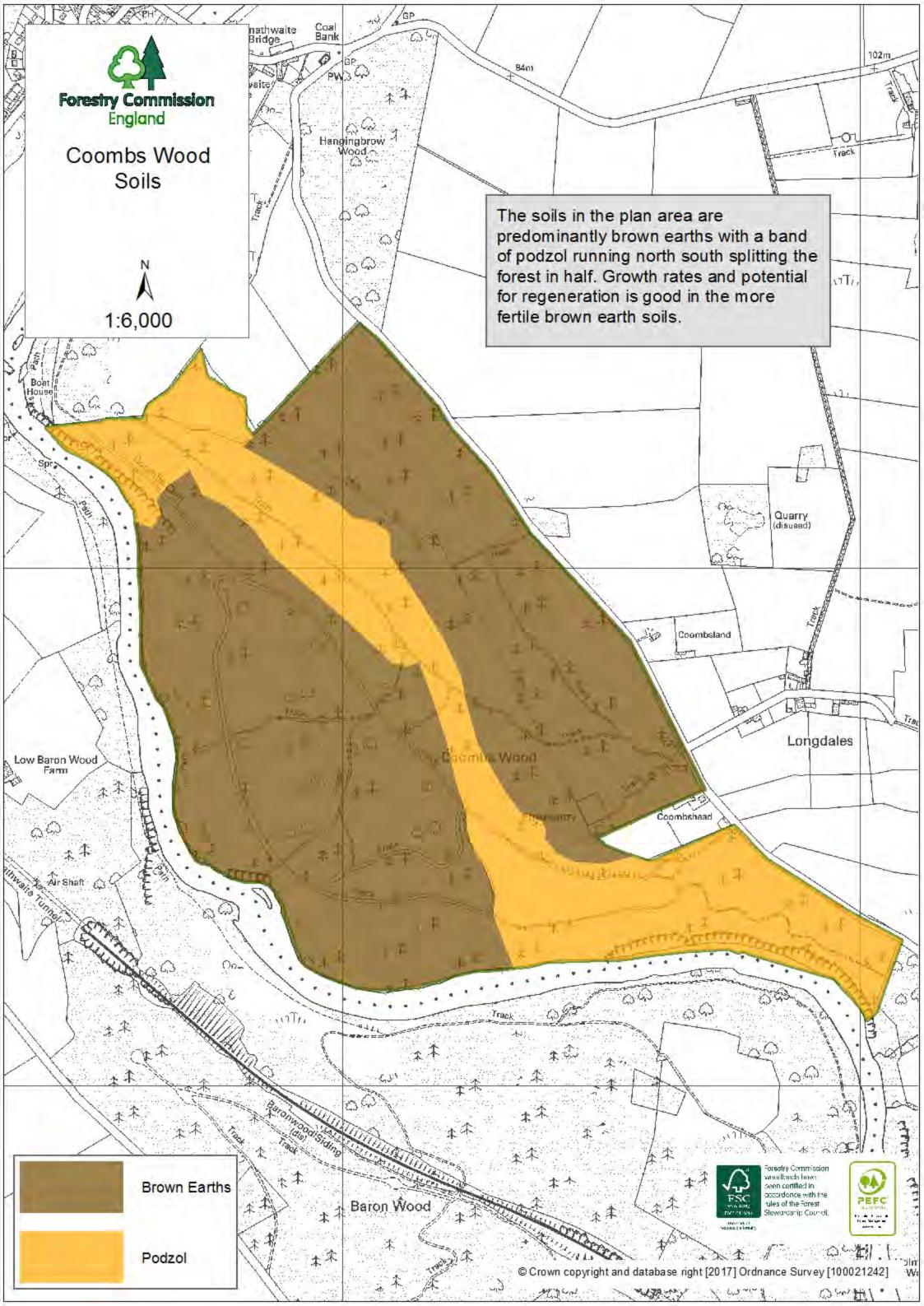
- ➤ <u>Location</u> 1:50,000 scale showing location in context of other woodland in the local area
- Current Species species composition in 2016
- <u>Landscape and Topography</u> indicating topography of the woodland and local area
- ➤ <u>Wind Hazard</u> crop stability represented by Detailed Aspect Method Score
- ➤ <u>Soils</u> indicating soil composition across the woodland
- Conservation and Heritage statutory and non-statutory conservation and heritage features.
- Access and Services formal public rights of way, FC access and local services.
- > Intervention Plan representing broad principles of management.
- ➤ Operations Proposals showing felling proposals.
- > <u>Future Species</u> representing the long term vision for future species composition.

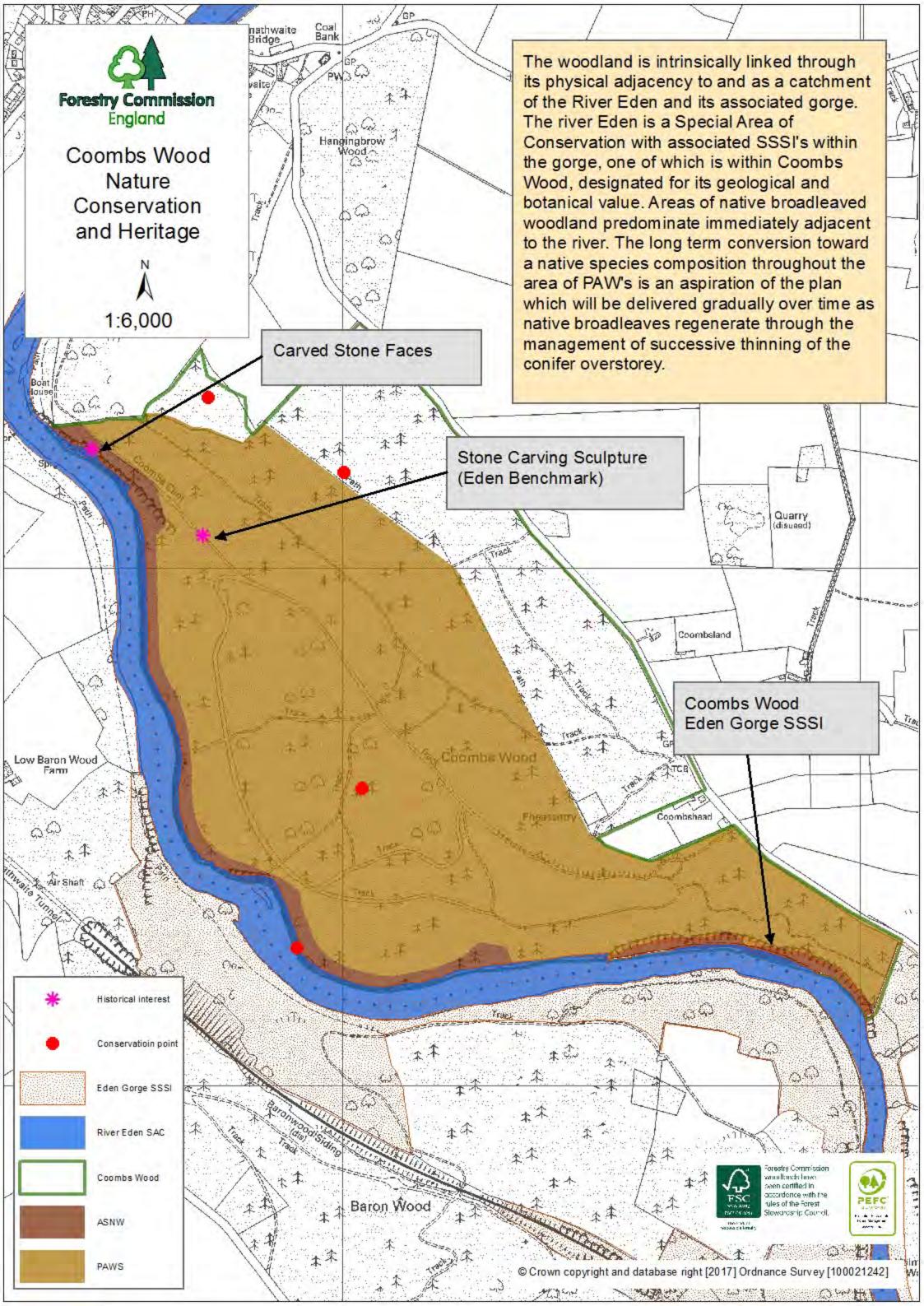


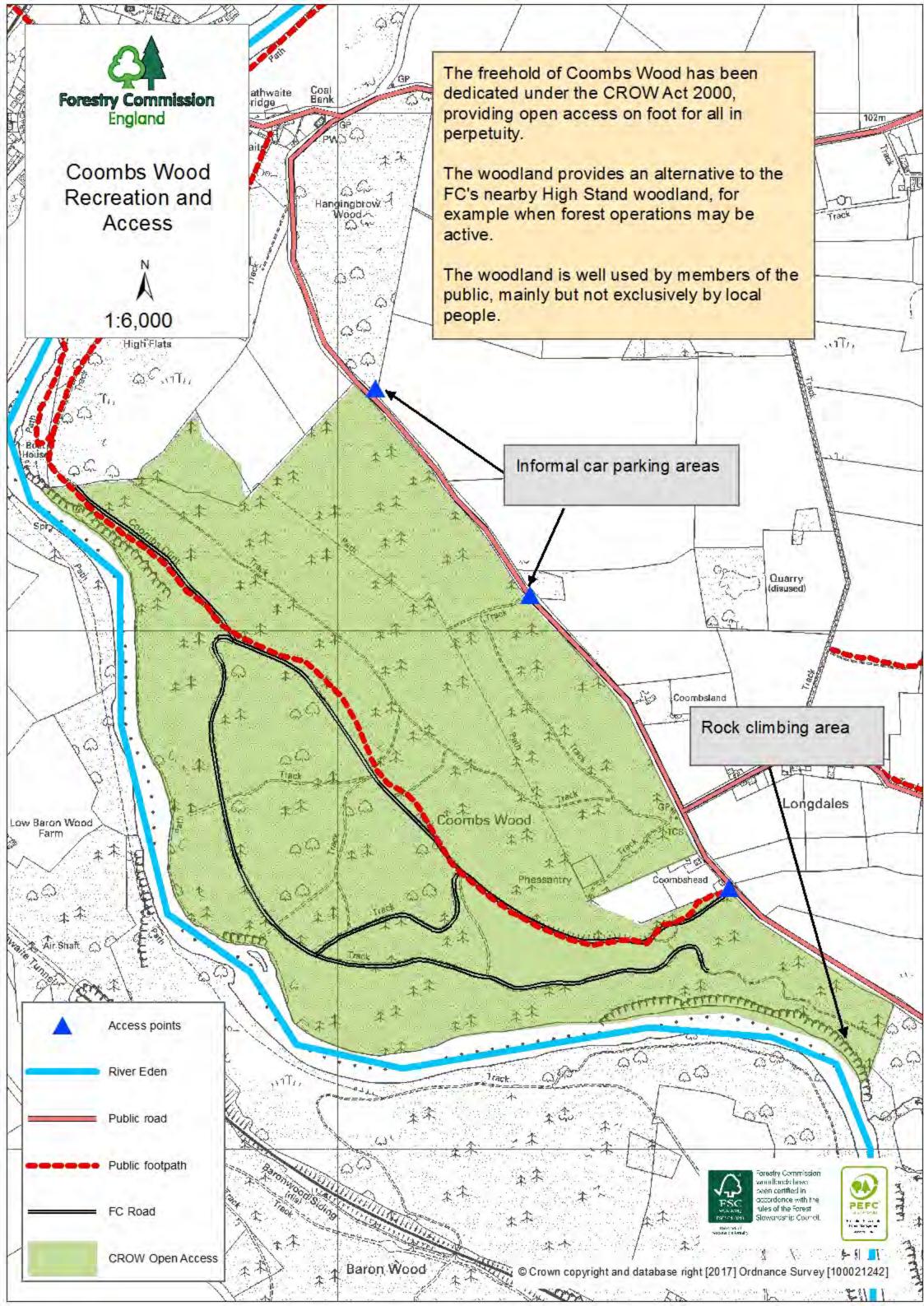


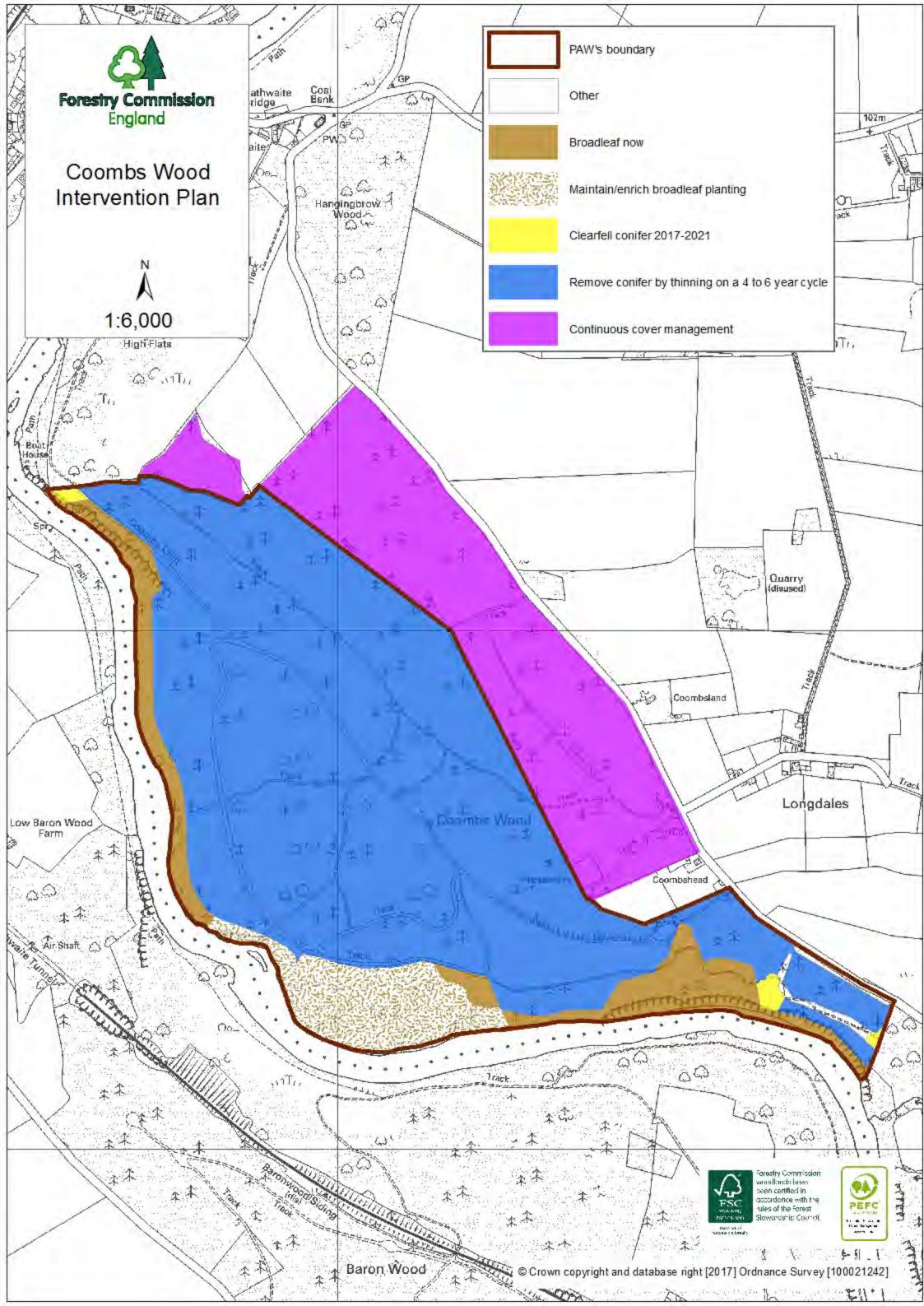


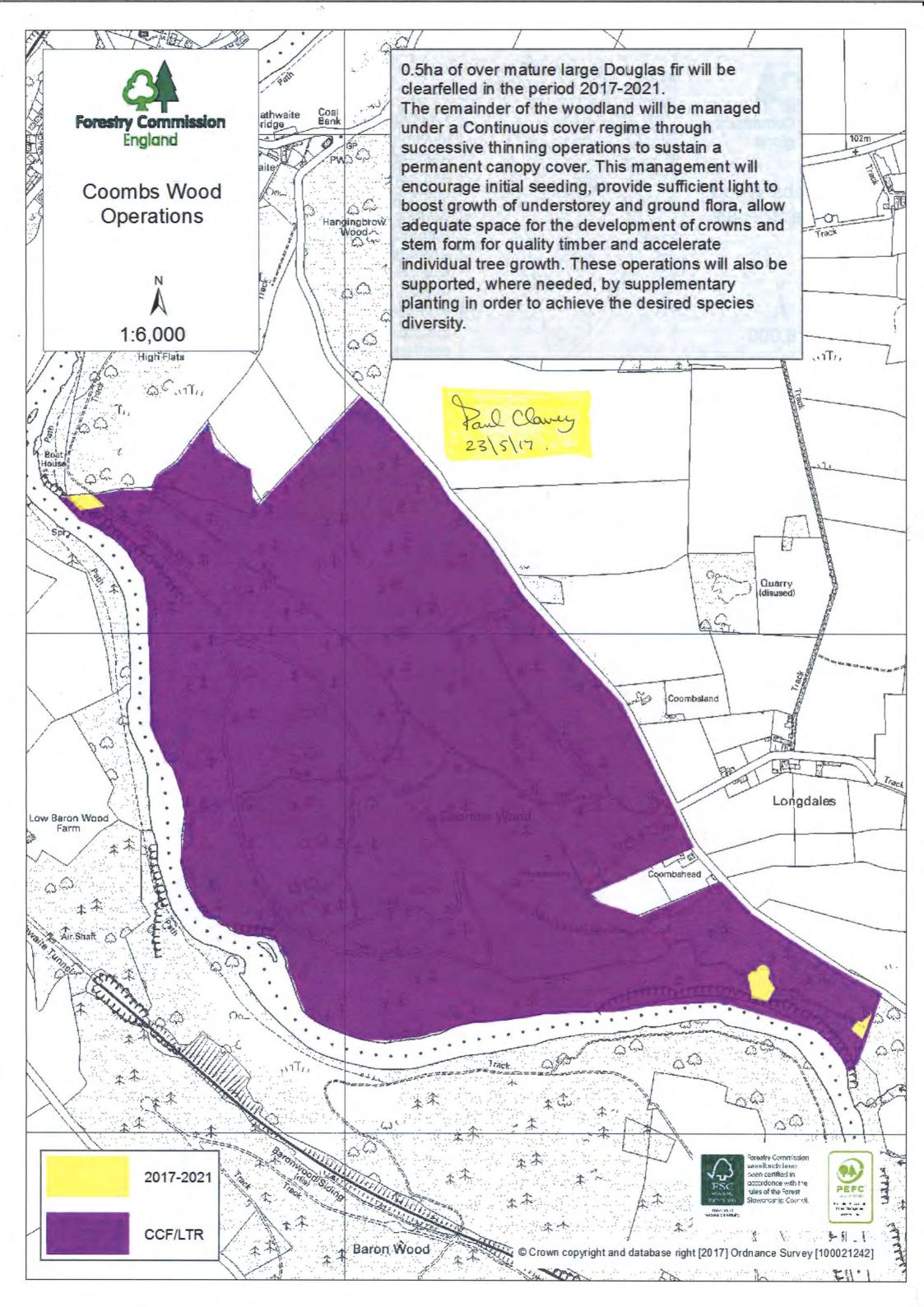


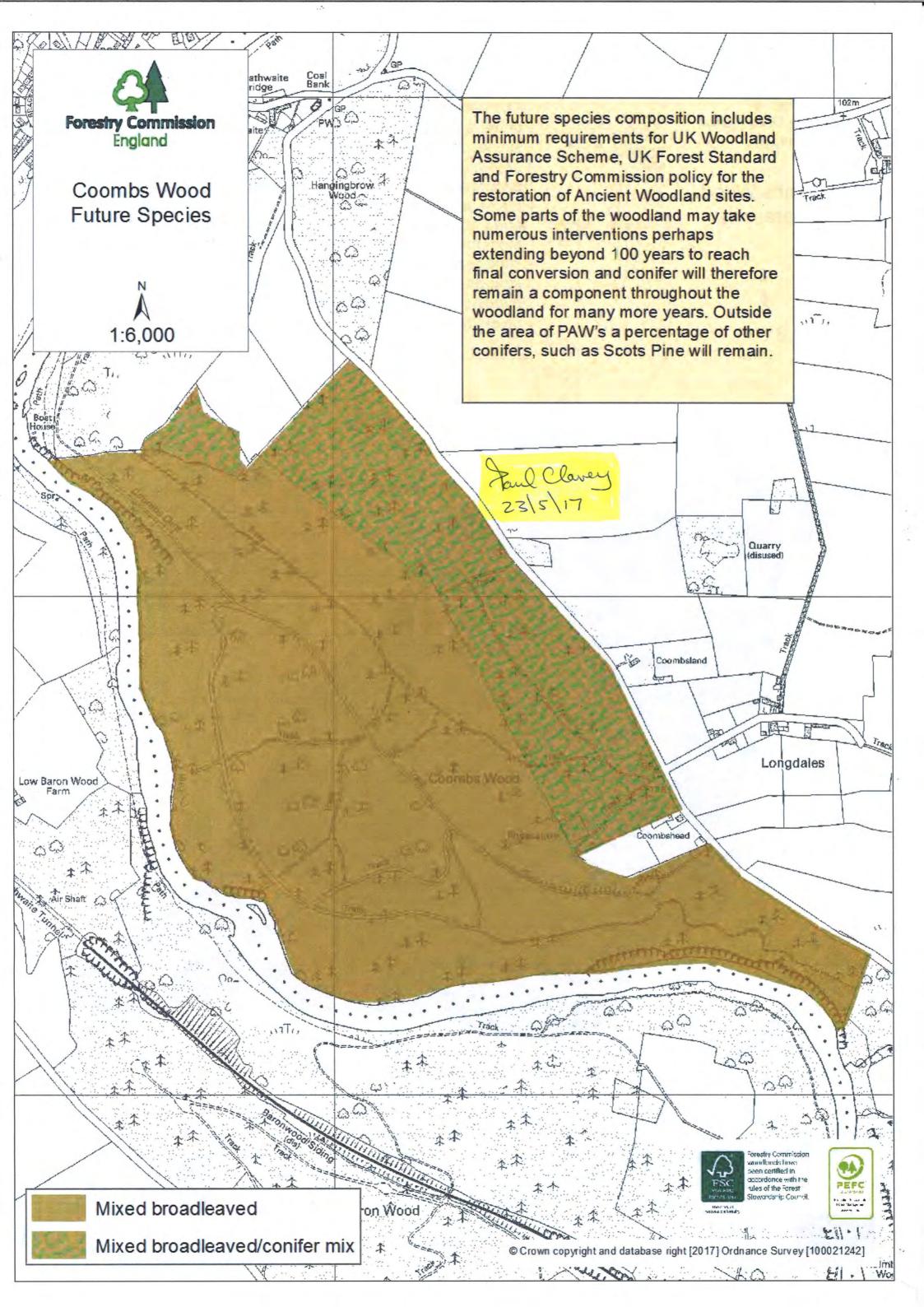












Part 6 Forest Plan Outcomes

Nature Conservation

Restoration of Ancient Semi Natural Woodland habitat is a primary objective of management. This will be slowly achieved through the ongoing removal of non-native species principally by thinning with some localised felling of Western Hemlock due to its potential to generate shade tolerant natural regeneration.

Through the ongoing management of Coombs Wood we will;

- > Restore species richness of the semi-natural woodland communities.
- ➤ Maintain and enhance other habitats of local and national importance.

Landscape Appraisal

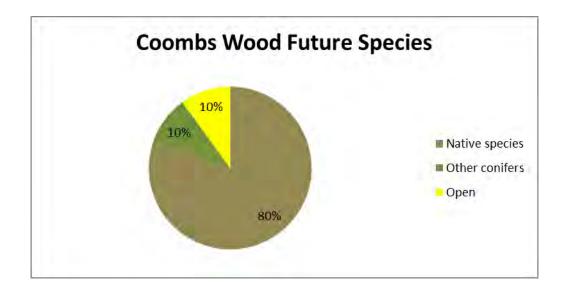
Visual sensitivity is assessed with consideration to the importance and nature of views of the woodlands from key viewpoints. A comprehensive landscape appraisal was completed as part of the previous forest plan, at which time the landscape benefits of Continuous Cover management of the woodlands was recognised. Coombs Wood fits well in the landscape in its current form and the ongoing continuous cover management through the period of this plan will continue to protect and enhance the landscape character of the woodland.

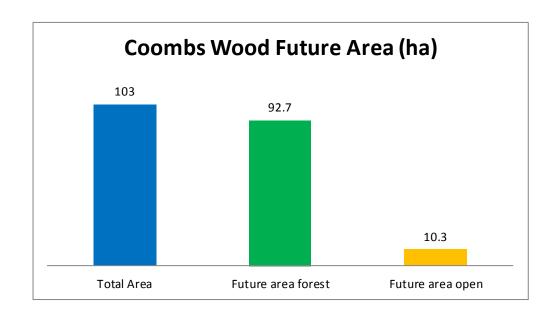
Timber production

Timber production is not a major objective of the Forest Plan and therefore there is no analysis of future timber yield or productive capacity. The harvesting of timber, through either the removal of any exotic conifer or non-native broadleaved species will be dictated on the basis of progress toward PAW's restoration guided by ongoing Ancient Woodland survey. However, given the length of time that conversion is likely to take the woodland will continue to produce an economic return for many more years and silvicultural decisions such as intensity and timing of thinnings will therefore aim to optimise income from these crops.

Future Species

The future species composition shown below includes minimum requirements for UK Woodland Assurance Scheme, UK Forest Standard and Forestry Commission policy for the restoration of Ancient Woodland sites. As previously stated some parts of the woodland will take numerous interventions perhaps extending beyond 100 years to reach final conversion and conifer will therefore remain a component throughout the woodland for many more years. Outside the area of PAW's a percentage of other conifers, such as Scots Pine will remain.





The United Kingdom Forest Standard (UKFS)

The UKFS is the reference standard for sustainable forest management in the UK. The UKFS is supported by a series of guidelines which outline the context for forestry in the UK, defines standards and requirements and provides a basis for regulation and monitoring. These include General Forestry Practice, Forests and Biodiversity; Climate Change, Historic Environment, Landscape, People, Soil and Water.

Coombs Wood Forest Plan is able to demonstrate that relevant aspects of sustainable forest management have been considered and the stated objectives in Part 3 show how sustainable forest management will be achieved. The plan provides a clear means to communicate the proposals and to engage with interested parties and serves as an agreed statement of intent against which implementation can be checked and monitored.

In addition to conforming to general sustainable forest management principles UKFS is demonstrated in the following key areas:

Productivity Productive potential is optimised through the delivery of the

thinning programme, ecosystem services and other non-market benefits included in biodiversity, climate change mitigation,

water, people and landscape.

Structure Future species composition; 80% native species, 10% other

conifers and a minimum 10% open ground meets UKWAS and UKFS minimum requirements (100% native species in area of PAW's). Long term structure will improve through linking of

permanent broadleaved and open habitats.

Silvicultural Continuous cover forestry (CCF) principles will be adopted with

long term retention (LTR) of areas of broadleaved woodland as these develop. This will improve species and age class diversity

over time.

Biodiversity Management of priority habitats and species are the primary

objective. Ecological connectivity achieved by extending and linking areas of native broadleaved woodland and open space will

be enhanced ensuring that the area is managed with conservation and biodiversity as a major objective.

Climate change CCF/LTR areas will minimise soil disturbance. Natural

regeneration will benefit forest resilience.

Landscape The planning process refers to the Local Landscape Character

Assessment to inform the appropriate woodland management

and design.

Historic Features are recognised and their safeguard will be incorporated

into operational management.

People The Forest Plan is consulted with individuals, the local

community and organisations with an interest in the

management of the area.

Water Quality will be protected through adherence to Forest and Water

guidelines as a minimum during any harvesting and forest

management operations.

Longer term management proposals

The proposals in this plan continue to build on the success of previous plans to support the management of Coombs Wood. Exotic conifers and non-native broadleaves will continue to be removed from areas of previous ASNW offering timber to markets across the region. Continuous cover management throughout the whole woodland will help to protect soils and safeguard important SAC features. Public access will remain an important objective helping to provide a resource for the local community and visitors into the future.