



Forestry England

# Dalton Craggs Forest Plan 2026-2036

North District



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

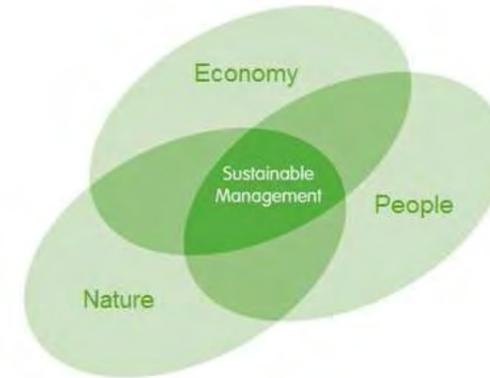


# 1. Planning and District Context

The Strategic Plan for the Nation's Forests 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 the nation's forests. North Forest District (NFD) is an extensive area encompassing 4 counties and two unitary authority areas from the Scottish border to County Durham and Lancashire.



These plans and their associated forest operations ensure that produce from the woodlands is endorsed by the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification (PEFC) as being produced from woodlands under good management that meet the requirements of the UK Woodland Assurance Standard (UKWAS) and the UK Forestry Standard (UKFS). 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 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 Standard.
- 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.
- We will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value.

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 56 land 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.

## Dalton Crags Plan 2026

This is the third revision of the Dalton Crags Forest Plan which sets our Forestry England's plan for the period 2026-2036. It replaces the previous plan which ran from 2013-2023, and there are no significant changes. The plan follows a comparable approach to the previous revision. It has been brought up to date in terms of work achieved over the last plan period, and ongoing implementation of the management objectives.

## 2. Background Information

### 2.1 Introduction

Dalton Crags is situated approximately two kilometres east of the M6 motorway, near to the village of Burton-in-Kendal, Cumbria. The woodland area amounts to 119.3 hectares and occupies a south-west facing slope on the edge of the Hutton Roof massif.

The woodland was acquired from Dalton Hall Estate in 1947 on a 999-year lease. The estate retained the sporting rights.

Prior to acquisition by the then Forestry Commission, the site had a history of being managed for conifer production, with a crop of European larch, Scots pine and Norway spruce being felled during the Second World War and the years that followed. The native broadleaves were also felled at that time and regenerated as coppice.

Following acquisition, the site was managed for timber production and a trial area for the afforestation of limestone soils. Grazing was discontinued in 1951, and birch and bracken increased as a result. These areas were then planted with a 2:1 mix of beech and Scots pine. Further experimental planting took place on the limestone pavements, consisting of young sycamore with balls of soil around the roots planted into the grykes, this was also repeated with black walnut. Later, in 1955, trial sowings of ash seed were made directly into the pavement grykes. The results from this are still evident today with the high forests of beech, ash and sycamore.

In 2008, cattle grazing was re-introduced in an attempt to maintain open space and grassland habitats. This is low key and extensive and is having a positive effect on the diversity of the site, although scrub growth is expanding on some parts. Initial problems were encountered with the lack of water at the top of the hill, meaning that the cattle were spending most of the time in the woodland at the bottom of the hill rather than on the grassland at the top. This has now been resolved, and the cattle are using the whole site.

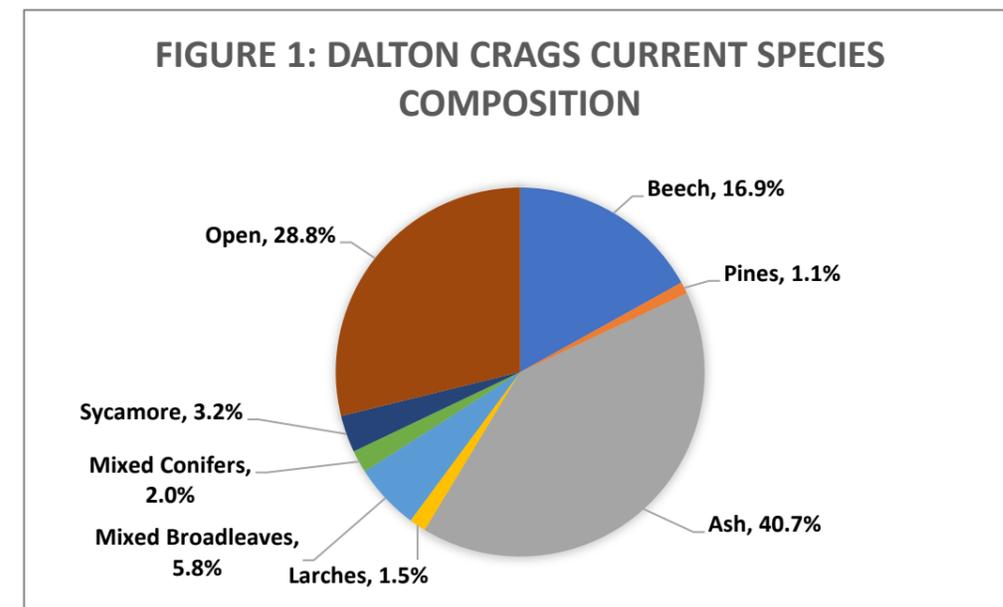
Recent management of the woodland has involved the removal of nurse crops, felling of conifer blocks and silvicultural thinning, in addition to the eradication of undesirable regeneration. This has favoured native species wherever possible. The primary objective has been to maintain favourable condition status of the SSSI: this includes the enhancement of site condition for butterflies in partnership with the Butterfly Conservation. Work with this organisation and its volunteers has led to the widening of tracks and rides together with

increasing coppice management, leading to a sympathetic improvement of habitat and some timber being generated for commercial value as fuel.

Felling coupes originally scheduled for the periods 2012-2016 and 2017-2021 have yet to be completed due to various constraints across the district as whole, including outbreaks of *Phytophthora ramorum*, and storm Arwen. However, plans are underway and harvesting of these coupes should be completed in early 2025.

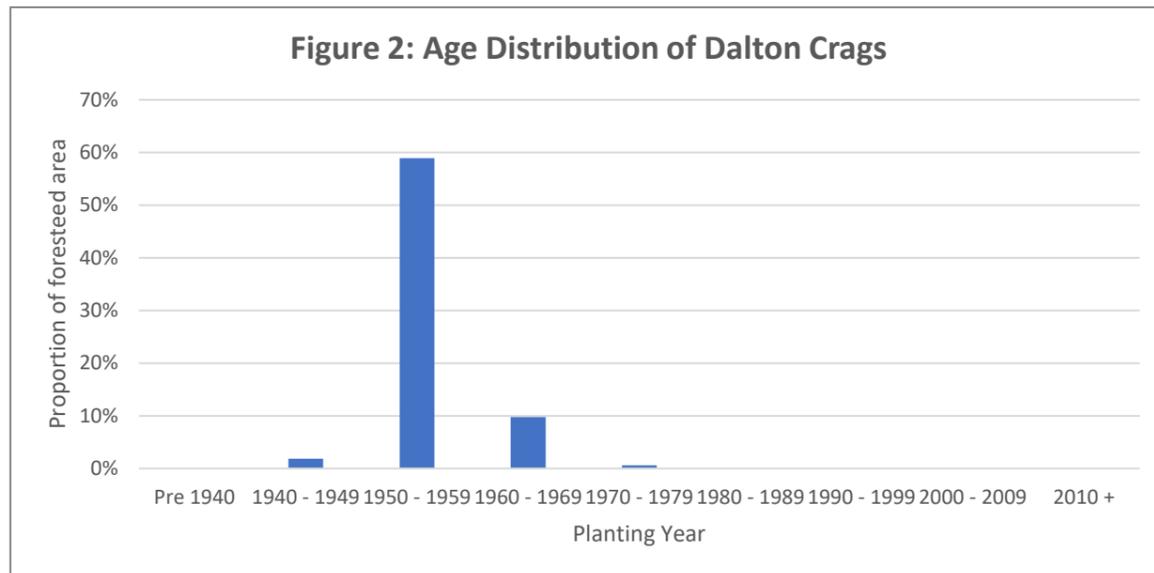
### 2.2 Current woodland composition

As can be seen in figure 1, ash remains the dominant species in Dalton Crags, however due to the presence of *Hymenoscyphus fraxineus* (ash dieback) this composition and class structure is likely to be dramatically affected moving forward. The age class distribution of the forest is still relatively young and narrow for broadleaves (figure 2) and future management will continue silvicultural thinning, favouring broadleaves and other natives and removing diseased ash and larch.



Yield class is way of measuring the productive potential of trees, and as can be seen in map 4, the yield class of Dalton Crags is predominantly 0-4. This is across the broadleaved areas, as can be seen in map 2 (current species) and represents the move away from productive conifer forestry in Dalton Crags.

The average wind hazard class in Dalton Crags is 3, which is medium, however there are areas where the wood meets Hutton Roof where wind hazard class 4 can be found. Thinning operations are getting to their limits at class 4, but a low impact silvicultural system, such as group shelterwood would be suited to wind hazard classes 1-3.



## 2.3 Designations

Dalton Crag forms part of the Morecambe Bay Limestones which are unique to Cumbria and Lancashire, it is categorised as type 3 coastal limestone, sub type 3a, open farmland and pavements, as per the Cumbria Landscape Character assessment. This area enjoys protection through the Limestone Pavement Order which confers a legal duty to protect the limestone features from further damage.

Additionally, Dalton Crag also forms unit 002 within the Hutton Roof Crag site of special scientific interest (SSSI), summarised in table 1, and Morecombe Bay Pavements special area of conservation (SAC) site UK0014777 (Map 3). The SSSI was last assessed in 2025, and the condition of Unit 2, Dalton Crag was graded as 'Unfavourable - declining', which changed from its previous assessment in 2015 as unfavourable recovering.

The site was assessed for its limestone pavements, limestone grasslands and limestone woodlands, the main findings are as follows:

**Limestone Pavements** - The limestone pavement is considered to be in unfavourable declining condition at Hutton Roof Crag SSSI.

This unit contains many areas with unacceptable scrub cover and *Pteridium* stands. This unit should be a priority for management of scrub and *Pteridium*.

The central large pavement areas are generally in good condition with well represented positive indicators. The far southeast pavements are in poor condition and some localised points more to the north also contain dense scrub. The majority of the large pavement stands are in good condition but there are localised areas with serious issues of scrub and *Pteridium* cover and strangely absent positive indicators in otherwise suitable pavement.

SSSI	Hutton Roof Crag
County	Cumbria
Forest	Dalton Crag
Unit ID	1010667
Unit Name	Dalton Crag
Feature	Inland rock - Limestone pavement, limestone grassland & limestone woodland.
Unit No	002
SSSI Area (ha)	395.62
Unit Area (ha)	100.28
Area FE (ha)	100.28
Proportion of SSSI in FE Management	25.3%
SSSI (Unit) Condition	Unfavourable declining.
Threat	High. Overgrazing & suppressed tree regeneration and ground layer. Tree disease (ash)
Date last NE Survey	2025: calcareous grassland, limestone pavement & vascular plants. 2015: woodland component

**Limestone Grassland** - Overall, calcareous grassland is limited to small areas of CG9, confined to edges of pavement and scattered within areas of scrub with calcareous soils. Many within or adjacent to trees. The sward itself has good structure and is generally forb rich, although listed positive indicator species were not common and present only at low cover.

This feature is considered to be in **unfavourable condition** across units 1-3 due to *Pteridium* encroachment, rank swards of *Sesleria* and a lack of diversity and cover of positive indicators.

**Limestone Woodland** - The woodland was very variable. Stands of beech were of low interest but these are still being progressively removed. Natural stands had reasonable structure with understory and canopy targets met and standing and fallen deadwood present. Composition (in these stands) was within target and the ground flora rich. Regeneration was occasional and met targets. The woods here have been progressively restored over the past 20 years so there is some lack of old growth and mature age-class. However, this is a matter of patience rather than management change. Juniper stands were not noted. The vascular plant assemblage passed assessment with abundant rigid buckler fern and quite frequent limestone fern. Blue moor-grass (*Sesleria caerulea*) was fairly constant.

This forest management unit is adjacent the Hutton Roof Crag national nature reserve (NNR). That designation does not directly influence the management of the forest, but the management objectives of the forest will complement those of the NNR.

## 2.4 Historic Environment

Dalton Crag contains no scheduled monuments, however there are 5 undesignated archaeological features of historical interest which require consideration during forestry operations.

There are three mounds recorded and shown on the heritage map. There is also a lime kiln behind Russell Farm, none of which are recorded on the Historic Environment Register but are worth preserving as historic features of the previous land use. There is a Scheduled Monument out with the forest boundary immediately south of Russell Farm, a Romano-British farmstead, list entry number 1021250. Whilst this is not within the boundary of Dalton Crag it is thought that an abandoned Medieval village surrounded the farmstead which does share a boundary with Dalton Crag and although not designated could be of local historical interest.

## 2.5 Environment and Conservation

The limestone geology of Dalton Crag makes it an important ecological site for a number of habitats. Hutton Roof Crag SSSI supports a diverse range of semi-natural habitats. Within this, the Forestry Commission holding at Dalton Crag comprises a mosaic of semi-natural and planted broadleaved woodland, scrub, conifer plantation and calcareous grassland on discontinuous limestone pavement.

Much of the area is an ancient woodland site which has largely been replanted in the 1950s, although some areas of semi-natural woodland remain, these support the northern calcareous hazel-ash stand type. The dominant tree is ash with some oak, wild cherry and elm; there is only a small amount of hazel. There are also records of the rare wild service tree. The ground flora includes dog's mercury, wood false brome, bramble, honeysuckle, male fern, violets, herb robert, bluebell, barren strawberry and lords and ladies.

In the 1950s, some parts of the woodland were replanted with beech and non-native species such as European larch, Lawson cypress and Corsican pine, much of which has now been removed with the remaining European larch being felled in 2024.

The whole of Dalton Crag is identified as either ancient semi-natural woodland (ASNW) or plantations on ancient woodland sites (PAWS) (Map 4). Where these areas still contain any non-native conifers and beech in plantation, this plan continues previous ambitions for conversion to native broadleaves in line with Forestry England and UKFS policy on native woodland restoration.

Ancient Woodland sites are measured using Semi-Natural Woodland scores. SN1 refers to Ancient or fully restored woodland with 80% of species native, either planted or natural regeneration, SN2 50-80% native species, SN3 20-50% native species, and SN4 less than 20% native species. A proportion of the native component (<20%) can be 'advancing native species' or 'honorary natives', which are termed neo-native. These are species whose climate envelope will move from their current range to encompass some or all of the UK and include beech, sweet chestnut, and sycamore.

The Ancient Woodland of Dalton Crag are scored as 84% SN1, 0% SN2, 1% SN3, and 8% SN4 and 7% other/open, as of 2024. This is much improved over the last 20 years from the survey of 2002 when the scores were approximately 13% SN1 and 52% SN4. Large strides have been made in restoring the native woodland of Dalton Crag, this work will continue with further harvesting of remaining conifers and beech scheduled for the next planning period.

The limestone pavements form open clearings within the plantations. Mature trees occur on most pavements, the most common species being sycamore and ash with occasional beech, holly, European larch, Scots pine, wild cherry, wych elm and yew. One of the pavements supports an open woodland dominated by yew. Young trees occur on all of the pavements: sycamore and ash are the most common, but rowan and yew are also frequent. Scrub is also present with hawthorn being the most abundant species, other species include hazel, holly, juniper, buckthorn, gooseberry, common dog rose, raspberry, bramble, grey willow, elder and blackthorn. The rare Lancastrian whitebeam has also been recorded on the pavements.

The limestone pavements support a rich flora with a number of rare and uncommon species. The nationally scarce rigid buckler fern is abundant/frequent on most of the pavements, and Hutton Roof Crag is the British stronghold for this species. Other nationally scarce species include angular Solomon's seal, mountain St John's wort, limestone fern and blue moor-grass; uncommon species include lily of the valley, lesser meadow rue, mountain melick and brittle bladder fern. The grikes also support many commoner species including wall rue, hart's tongue fern, maidenhair spleenwort, male fern, hard shield fern, herb robert, dog's mercury and wood sage.

Where thin soils overlie the limestone, calcareous grassland is present, this is dominated by the nationally scarce blue moor-grass. Grassland herbs include limestone bedstraw, lady's bedstraw, common bird's-foot trefoil and wild thyme with occasional cowslips and early purple orchids. Many of these grassland areas have been planted with conifers and beech, others have been planted with broadleaved trees or have been colonised by scrub. The litter and shade produced by the trees is causing impoverishment of the flora. Dwarf shrub heath, dominated by heather or bilberry, occurs in very small clumps on pockets of loessic soils, this is often within a mosaic of calcareous grassland. Bracken is also associated with the deeper loessic soils.

The Hutton Roof Crag complex supports a diverse invertebrate fauna a landscape characterised by large expanses of upland mixed ash wood and wooded limestone pavement and limestone grassland. The woods support high-brown fritillary, whilst the grassland is important for butterflies such as northern brown argus, high-brown fritillary, pearl bordered fritillary. It is an important site for butterflies and supports a strong colony of the nationally declining pearl-bordered fritillary, small pearl-bordered fritillary, high brown fritillary; other species present include dark green fritillary and grayling.

Mammals which have been recorded include badger, fox, roe deer, rabbit, hare, mole, pygmy shrew and grey squirrel. Red squirrels were formerly present on the site but they have not been seen for a number of years and it was believed to have died out. However, a recent sighting in July 2023 of a red squirrel was reported in Hutton Roof, and further efforts to control grey squirrels alongside monitoring could help local populations. This is something to be explored in partnership with nearby red squirrel groups. Reptiles recorded on the site include common lizard and slow worm. Birds present include sparrowhawk, buzzard, tawny owl, green woodpecker and wood warbler.

Table 2: Priority Species and actions supported by this forest plan		
Species	Objective	Actions supported by this forest plan
Red Squirrel, Schedule 5 & 6 WACA 1981	Maintain habitat suitable for breeding & feeding.	Forest structure provides breeding opportunities. Coupe checks prior to operations & apply appropriate mitigation.
Badger, Badger Act 1992	Protect existing setts.	Coupe checks prior to operations & apply appropriate mitigation.
Wood warbler, UK Priority Species	Maintain suitable habitat.	Mature forest structure provides nesting opportunities.
Common Lizard, UK Priority Species	Maintain suitable habitat.	Provision of areas of open ground including grass, woodland clearings and glades provide habitat for this species.
Slow Worm, UK Priority Species	Maintain suitable habitat.	Provision of leaf litter and increased woodland edges provide habitat for this species.
Buzzard, Schedule 1 WACA 1981	Protect existing nests, maintain suitable habitats.	Mature forest structure provides nesting opportunities. Coupe checks prior to operations & apply appropriate mitigation.
Tawny Owl, Schedule 1 WACA 1981	Maintain Owl boxes.	Mature forest structure provides nesting opportunities. Coupe checks prior to operations & apply appropriate mitigation.
High brown fritillary, UK Priority Species	Maintain suitable habitat.	Restoration and management of coppice, improving connectivity provide habitat for this species.
Small pearl-bordered fritillary, UK Priority Species	Maintain suitable habitat.	Provision of areas of open ground including grass, woodland clearings and glades provide habitat for this species.

## 2.6 Landscape and Topography

Limestone pavement is an important feature of the area, with Hutton Roof Crag of considerable geological importance and covered by a Limestone Pavement Order. This rare habitat of international importance Hutton Roof and Farleton Knott are the finest sites in Britain for their range of structural dip and aspect, combined with their outstanding relationship between morphology and glaciation.

Dalton Crag forms part of the Morecambe Bay Limestone Landscape Character area, in particular type 3 coastal limestone, sub type 3a open farmland and pavements<sup>1</sup>.

This area fringes on the northern and eastern edge of Morecambe Bay and is characterised by conspicuous steep scarp limestone hills rising from farmland with sporadic scrub and woodland on the slopes (plate 1).

Viewed from the west, the woodland dominates the lower slopes of Hutton Roof. From the east, the views tend to be close range or, from a great distance, where the woodland only appears as a thin band of trees.

Dalton Crag lies on a west facing slope below Hutton Roof Crag in the contour range of between 110 - 260m altitude. Limestone pavements are evident throughout the wood. The site displays a range of morphologies associated with the changing dip. The pavements have

massive clints, some occur on more than one stratum and the pavements are “stepped” in form separated by low scars. Solution features include deep grikes, linear runnels, solution basins and the occasional centripetal drainage form. Many of the pavements have been extensively damaged in the past by removal of rockery stone.

Glacial drift is present over parts of the site. The soils tend to be shallow with a mixture of clay and grit. Where glacial drift is absent, very thin rendzina soils have developed on the edges of the pavements.

The presence of small deposits of brown silt is of particular interest, these are identified as loessic sediments and are interpreted as the wind-blown products of glacially derived sediments which accumulated in Morecambe Bay as the Lake District and Irish Sea ice wasted. The loessic soils do not contain calcium carbonate and are more acidic than the soils derived from glacial drift or weathering of the limestone bedrock. Although loessic deposits are widespread and well preserved on the limestone hills around Morecambe Bay, they are generally uncommon in Britain and are mostly confined to the south of England.



Plate 1: Dalton Crag limestone pavement looking south-West to Morcombe Bay.

<sup>1</sup> Cumbria County Council, Cumbria Landscape Character Guidance & Toolkit, 2011.

## 2.7 Communities & Recreation

In 2006, an agreement was reached with the lessor to dedicate the land under the Countryside and Rights of Way Act 2000 (CRoW Act). This formalised the existing public access that had already developed on the site. The wood has good links to existing rights of way and access land and is popular with walkers who use the woodland tracks to gain access to the summit plateau of Hutton Roof (Map 5). There is a car park and picnic site in a disused quarry, just outside of Forestry England's holding and this is used by visitors to the wood.

In addition to this Forestry England has a Memorandum of Understanding in place with the Butterfly Conservation organisation for Dalton Crag. This allows for survey and conservation work to take place, which engages volunteers in opening/widening tracks and rides as well as coppicing.

## 2.8 Pests and diseases

Browsing damage on tree regeneration and ground flora by mammals/herbivores is a threat to achieving a good structure in a native woodland and there is strong evidence of browsing impacts in the forest (plate 2). There are roe deer in the area and stalking takes place on the estate through a private contractor responsible to the Dalton Hall Estate which retains the sporting rights. Grazing is also a strategy for maintaining the limestone grassland and cattle can be controlled by adjusting stocking density and timing.

By far the biggest threat to Dalton Crag is the tree disease Ash dieback (*Hymenoscyphus fraxineus*), which has been identified in the woodland. This will clearly impact the composition of the woodland going forward as approximately 40% of the woodland is still made up of ash. Going forward with silvicultural thinning, the policy from the previous plan of automatically removing beech in favour of the ash will no longer be relevant. Decisions over the removal of species will need to consider thinning to retain a good woodland structure and cover. Any dangerous ash trees that are close to public roads, paths or rides will be removed in management operations.

Grey squirrels are present in the forest and a control programme has been in place since 2022. Forestry England will continue to work with partners to control grey squirrels whilst seeking opportunities to encourage native red squirrels.

## 2.9 Access and Roding

There are no roads suitable for timber lorries in the wood and there are no plans to develop forest new roads. There is a lorry access point at the bottom of the wood which serves as the main timber transfer point during tree harvesting operations. There are extensive networks of tracks and rides suitable for tractors and forwarders which allows timber to be moved down to the transfer point. An agreed timber transport route runs along the edge of Dalton Crag on the C5085 which links on to the A6070 at Burton in Kendal.

## 3. Review of Previous Plan

Objective	Has objective been met?	Comments
Protect the limestone pavements and their associated geological features	Ongoing	No damage to the limestone pavements has been recorded.
Maintain and enhance the botanical interest of the limestone pavements	Ongoing	Work has been completed to widen the tracks and rides within Dalton Crag, in addition to regular coppicing which takes place by volunteers from the Butterfly Conservation.
Continue restoration of the ancient woodland sites	Yes	Removal of the last conifer in Dalton Crag has assisted with the PAWS restoration. Beech is still an ongoing issue and will now be the focus, especially where it is damaging the ground vegetation.
Bring the SSSI further towards favourable condition	Ongoing	The last remaining pockets of plantation conifers have been removed, rides have been widened. Whilst the introduction of cattle grazing has helped the management and creation of open space, there is ongoing work to control the scrub on the better areas of calcareous grassland.
Maintain small-scale broadleaved timber production, generating an income for the woodland	Yes	Timber has been harvested efficiently and economically. The last of the conifer has been removed and the wood should be capable of generating positive returns through firewood sales from thinning and clear-felling of mostly beech.

## 4. Analysis and Concept

Table 4: Analysis of opportunities and issues		
Factor	Opportunities	Issues
Management type	Clear-felling of the remaining beech plantation would open up the pavement closest to Hutton Roof, allowing ground vegetation to improve. This would also help reduce the number of beech in the SSSI significantly and improve the semi natural score.	The operation of clear-felling the beech must be undertaken with no disturbance or damage to the limestone pavement.
Biodiversity and heritage	SSSI Management Plan presents opportunities to enhance the biodiversity of the woodland. Removal of the plantation beech will also allow other woodland species to thrive creating a more diverse woodland.	Keeping on top of the scrub clearance on the better areas of calcareous grassland has proved an issue in the past and a maintenance programme with regular interventions would see this improved. Grazing has not been sufficient to achieve open habitat on its own.
Access/Roading	Dalton Craggs has extensive networks of tracks and rides suitable for small machinery such as tractors and forwarders.	There are no roads suitable for timber lorries in the wood, nor are there any such plans to be. Previous harvesting operations have made use of the tracks and rides to bring timber to transfer points at the bottom of the wood. All effort must be made to not damage or disturb the pavement during such operations.
Pests and disease	The tree disease, <i>Hymenoscyphus fraxineus</i> , ash dieback, has been identified in the woodland. Hazardous trees close to paths, tracks and rides have started to be removed. Every effort will be made to retain ash trees further in the wood where they present less risk to the public.	The previous plan was to thin beech in favour of ash, however that is no longer dependable. The challenge is now to identify which species will thrive in place of ash.
Future Species	<p>Within the SSSI the ambition is to allow natural regeneration to direct the future; expected species will include hazel, birch, hawthorn and juniper.</p> <p>This could be supplemented by planted local Lancastrian Whitebeam and scrub species such as dwarf birch, providing a seed source can be found.</p> <p>Outside the SSSI restocking will be with mixed broadleaves, planted at commercial densities for future wood production.</p>	<p>Plant health risk to ash creates uncertainty.</p> <p>Depending on natural processes would end up favouring beech regeneration which is not the long term solution for Dalton Craggs.</p> <p>Silvicultural thinning will need to continue to be a management intervention to limit the extent of beech in Dalton Craggs.</p>
Landscape	Clear-felling of the last of the planted beech stands in cpt 560/561 would complete phase 1 of restructuring the woodland, which is long overdue.	The clear-felling operation must be sensitive to the Limestone pavement.
Public access	Maintain existing visitor access opportunities.	

### 4.1 Appraisal of Opportunities and Constraints

**4.1.1** Once the remaining stand of pure beech is clear-felled (cpt 560/561 - coupe 78005) the management systems will move to low Impact silvicultural systems (LISS), predominantly silvicultural thinning and group felling. This will provide the opportunity to move towards more sensitive management of the pavements, by regularly thinning the woods, allowing light to the forest floor improving the ground fauna and creating a more diversely structured woodland.

**4.1.2** The presence of *Hymenoscyphus fraxineus*, ash dieback, presents both an opportunity and constraint. Whilst potentially having both short-term impact and long-term impact through an unplanned change in woodland composition, it also presents an opportunity to diversify the woodland through natural regeneration and enrichment planting with local species such as Lancastrian Whitebeam. Outside of the SSSI a mixed broadleaved woodland can be maintained along more traditional commercial management approaches.

**4.1.3** Forestry England has improved the condition of the ancient woodlands as set out in 'Growing the future: 2021-2026'. In removing the last of the beech plantation this will allow for further improvement. The change in SSSI condition reflects the challenges in balancing interventions to meet the current definitions of habitat condition. This will require more detailed monitoring to specify interventions (Table 6).

**4.1.4** The main challenge to future interventions will be to ensure that sufficient wood volume can be removed to cover the cost of work.



Plate 2: Browsed tree growth.

## 5. Objectives and Proposals

The following objectives have been identified based on Forestry England National Policy, 'Growing the future: 2021-2026'.

Within the period of this plan the principle interventions will be:

- Removal of the last stand of pure beech (cpt 560/561 - coupe 78005).
- Silvicultural thinning and group felling. Focusing on the southern edges of the forest in compartments 563/564.
- Maintenance of forest ride margins for habitat - invertebrates & plants.



Plate 3: Coupe 78001 naturally regenerating.

Table 5: Forestry England goals supported by this Forest Plan	
Growing the future vision	How Forest Plan delivers
<p><b>ECONOMIC</b></p> <p>'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 Standard'</p>	<p>The removal of the plantation beech (coupe 78005) will provide an economic return in addition to improving the SSSI habitats.</p> <p>Thereafter the use of tinning through LISS will provide a sustainable yield of broadleaved timber into the future for wood markets. These operations will offset the cost of interventions with biodiversity objectives.</p>
<p><b>NATURE, HERITAGE and LANDSCAPE</b></p> <p>'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'</p>	<p>The use of low impact silvicultural thinning systems will allow the forest canopy and composition to be manipulated to increase structural and species diversity.</p> <p>Historic features will be routinely identified and protected during our planning and implementation of forest operations.</p> <p>Regular clearance of the scrub on the better calcareous grassland using a maintenance programme will benefit and enhance the conservation value.</p>
<p><b>PEOPLE</b></p> <p>'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...'</p>	<p>Increased landscape diversity through native species planting will improve the visual appeal of the forest for visitors. Encourage existing low-key recreational use in Dalton Crag.</p>

## 6. Forest Plan Maps for Dalton Crag

The proposals for future management are illustrated in the future Habitats and Management Type maps. The other maps are presented to provide the context for decisions.

- Map 1 Location - 1:50,000 scale showing location in context of other woodland in the area.
- Map 2 Current Species - species composition in 2025.
- Map 3 Conservation and Heritage - statutory and non-statutory conservation and heritage features.
- Map 4 Ancient Semi-Natural Woodlands (ASNW) & Plantation on Ancient Woodlands (PAWS).
- Map 5 Access and recreation - formal public rights of way, FC access and local services.
- Map 6 Management Type - broad management prescriptions for felling & thinning.
- Map 7 Future Habitats - representing the 20-year vision for future forest composition.

## 7. Forest Plan Outcomes

### 7.1 Felling Proposals

The proposals in this plan remove the last stand of beech plantation from the SSSI, which advances the biodiversity objectives for Dalton Crag.

Harvesting of marketable timber remains a feature of Dalton Crag, although it provides minimal timber in comparison with the wider Gisburn Beat. The transition to LISS will result in less intensive interventions, but this will provide a steady yield of smaller quantities of timber over more regular periods.

The clear-felling of the remaining plantation beech will provide a one-off timber yield of c3,000 m3. This will then be followed by a lull in production, as part of a transition towards a low impact silvicultural system (LISS) approach. Thinning will typically yield approximately 18-25m3/ha from each intervention (every 5 years).

Forestry England uses timber sales to offset the cost of habitat interventions. If the value of from timber does not offset the cost of an intervention, additional funding will need to be sourced to deliver the outcome.

### Restructuring and Restocking

This plan reaffirms Forestry England's ambition to protect the limestone pavements and maintain and enhance their botanical interest.

Within the SSSI a reliance on natural regeneration will be the mainstay for restocking. This will focus on native woodland species which will include hazel, birch, hawthorn and juniper. Beech and sycamore are also expected to be a component of the natural regeneration, and monitoring in the woodland will need to define the management interventions necessary.

Uncertainties created by the presence of tree diseases and the influence of climate change on vegetation will require forest managers to monitor the forest structure and consider alternative approaches as appropriate.

Deer management will remain an important action in securing woodland regeneration. In tandem with this, monitoring and adjustment of the cattle grazing will also need to be in place.

Supplementary planting of suitable species such as Lancastrian Whitebeam and dwarf birch will be considered and implemented as appropriate.

Outside the SSSI restocking will focus on mixed broadleaves, planted or regenerated at commercial densities for future wood production.

Forestry England will continue to work in partnership with Butterfly Conservation to maintain and enhance ride side and glade habitat condition and habitat connectivity for the benefit of fritillary butterflies.

### Natural capital

Natural Capital refers to the stock of all natural assets upon which the economy and society is built. Natural capital produces value for people in the form of 'goods' such as timber or minerals and 'services' such as climate regulation and air purification.

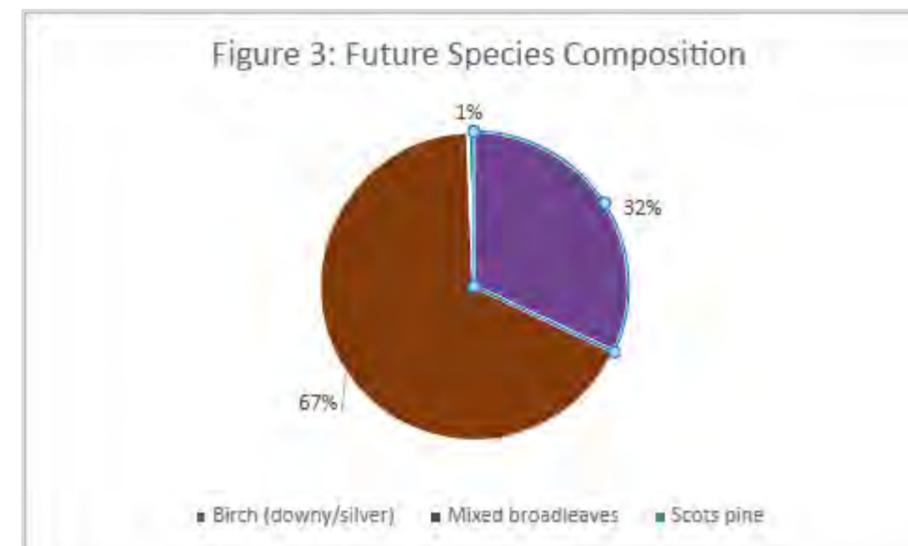
To realise the benefits of some natural assets, humans need to intervene (e.g. harvesting timber) but in other instances natural capital produces value through natural processes (e.g. trees reducing flooding).

The Dalton Crag forest plan delivers ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape including public health and well-being, productivity through increased carbon sequestration, species diversification and climate change resilience, landscape enhancement and increased native woodland and priority habitats.

### Future species

The future species indicated in figure 3 represents how the composition could be in 20 years' time based on the restock proposals contained in this plan. The principle difference between figure 3 and figure 1 is that the conifer will have been removed and the proportion of beech greatly reduced.

By continuing a thinning programme, this will help continue to influence and improve the age structure of the forest, as well as species diversity. This will improve future biodiversity gains in terms of developing older feature trees, whilst simultaneously bringing on the next generation.



## 8.0 Monitoring Plan

The objectives set out in section 5, table 5 will be monitored using established business reporting practices (table 6). Because of the time gaps between SSSI condition monitoring rounds, local staff will need to devise a methodology to make an independent assessment of progress towards favourable condition.

**Table 6: Monitoring plan**

Objective	Criteria for success	Assessment
<b>For Climate</b>		
Wood production	Marketable parcels of timber offered to the market. Progress against the forecast felling programme.	Contract and sales records.  Year 5 mid-term forest plan review assessment of progress against programme.
Maintenance of a viable woodland structure.	Restocking/regeneration of felled forest. Increasing species diversity & forest resilience.	PPG 4 stocking density assessments, & browsing damage assessments.  Sub-compartment database records changes in woodland composition.  Growing stock attributes survey (yr 21).
<b>For Wildlife</b>		
SSSI Favourable Condition	Favourable condition.	Review of SSSI management plan and assessment of favourable condition.
PAWs restoration	Delivery of forest plan felling & thinning proposals.  Improved semi-natural scores from Ancient Woodland survey.	Year 5 mid-term forest plan review & analysis of the sub-compartment database.  Re-survey of PAWs. Re-assessment of Semi-natural woodland score.
Improved biodiversity	Healthy habitats & species populations.	Species monitoring & records. Butterfly Conservation records.
<b>For People</b>		
Achievement of the Hardknott partnership objectives.	Achieving forest plan objectives.	Year 5 mid-term forest plan review.
Historic features; enhancement/protection.	Protect and enhance historic features.  Maintain access provision.	Operational planning records.

## UK Woodland Assurance Standard (UKWAS) compliance table

Item	Forest Plan Area (ha)	Forest Plan Percentage	Forest District Area (ha)	Forest District Percentage
Total area	119.3	100%	85,888	100%
Total wooded area	97.2	81.5%	58,069	67.61%
Area of conservation value*	119.3	100%	11,322	13.18%
Long-term Retentions and Low Impact Silvicultural Systems	82.7	69.3%	10,449	12.17%
Open space	24.6	20.6%	27,819	32.39%
Natural Reserves	0	0%	873	1.02%

\*Area of conservation value is the sum of designated areas including any Ancient Woodland, Long-Term Retentions, Low Impact Silvicultural Systems, and areas of Natural Reserve.

## 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.

The Dalton Crag Plan demonstrates that relevant aspects of sustainable forest management have been considered and the stated objectives in Part 5 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 small clearfell programme of the plantation beech, and long-term thinning programme of broadleaf species. Ecosystem services and other non-market benefits include consideration of climate change mitigation, water, people, and landscape.
- Structure. Long term future species composition: >80% native species and a 30% open ground meets UKWAS and UKFS requirements. Long term structure will improve through expansion and linking of permanent broadleaved and open habitats.
- Silvicultural. Low Impact Silvicultural Systems (LISS) principles will be adopted with long term retention (LTR) of areas of Scots Pine to provide seed source for Red Squirrels. This will improve species and age class diversity over time.
- Biodiversity. 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.	Increase of LISS areas will minimise soil disturbance. Natural regeneration where possible and species diversification will benefit forest resilience.
Landscape.	The planning process refers to the SSSI plan for the Morecambe Bay Limestone Pavements as the unique landscape that it is, informing the appropriate woodland management and design.
Historic.	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.

## Longer term management proposals

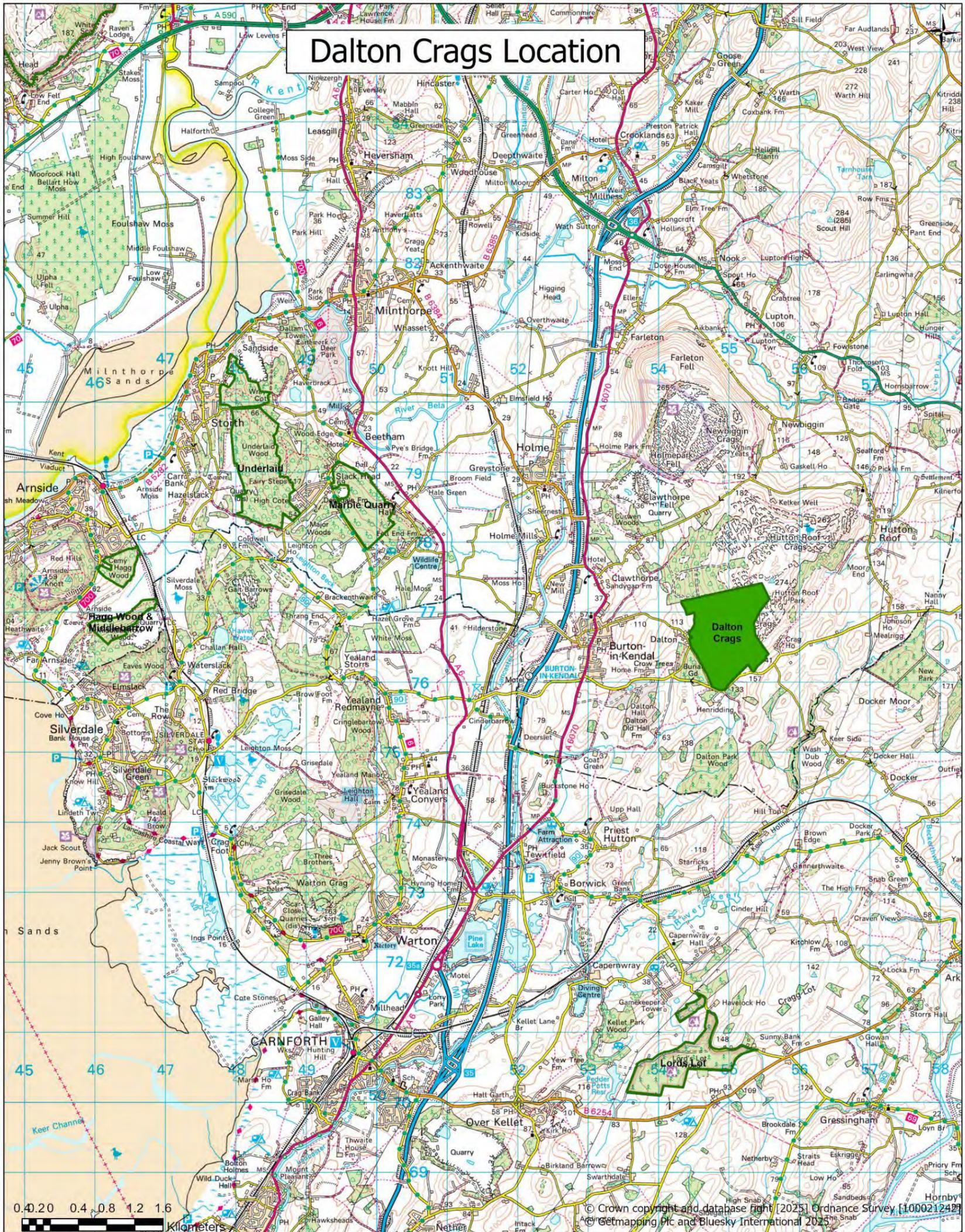
The proposals in this plan continue to build on the success of previous plans to support the management of Dalton Crag. It is acknowledged that the current disease *Hymenoscyphus fraxineus*, ash dieback, in the woodland will have a negative impact on the forest and wider landscape.

Future management will focus on the conversion of the woodland to a low impact silvicultural systems. The woodland will comprise of majority native broadleaf with a small area of Scots Pine under long-term retention, to provide small seed source for Red Squirrels recently spotted in the area.

Public access will continue to provide quiet woodland enjoyment, increasingly important to local communities.

This management plan will help to ensure that Dalton Crag continues to make a positive contribution in the local landscape, whilst continuing to provide timber.

# Dalton Crag Location



Title: Dalton Crag Location  
 Current Time: 17/03/2025 13:49  
 User: Rachael Jepson  
 Scale: 1:50,000  
 Scale at A3

## Legend

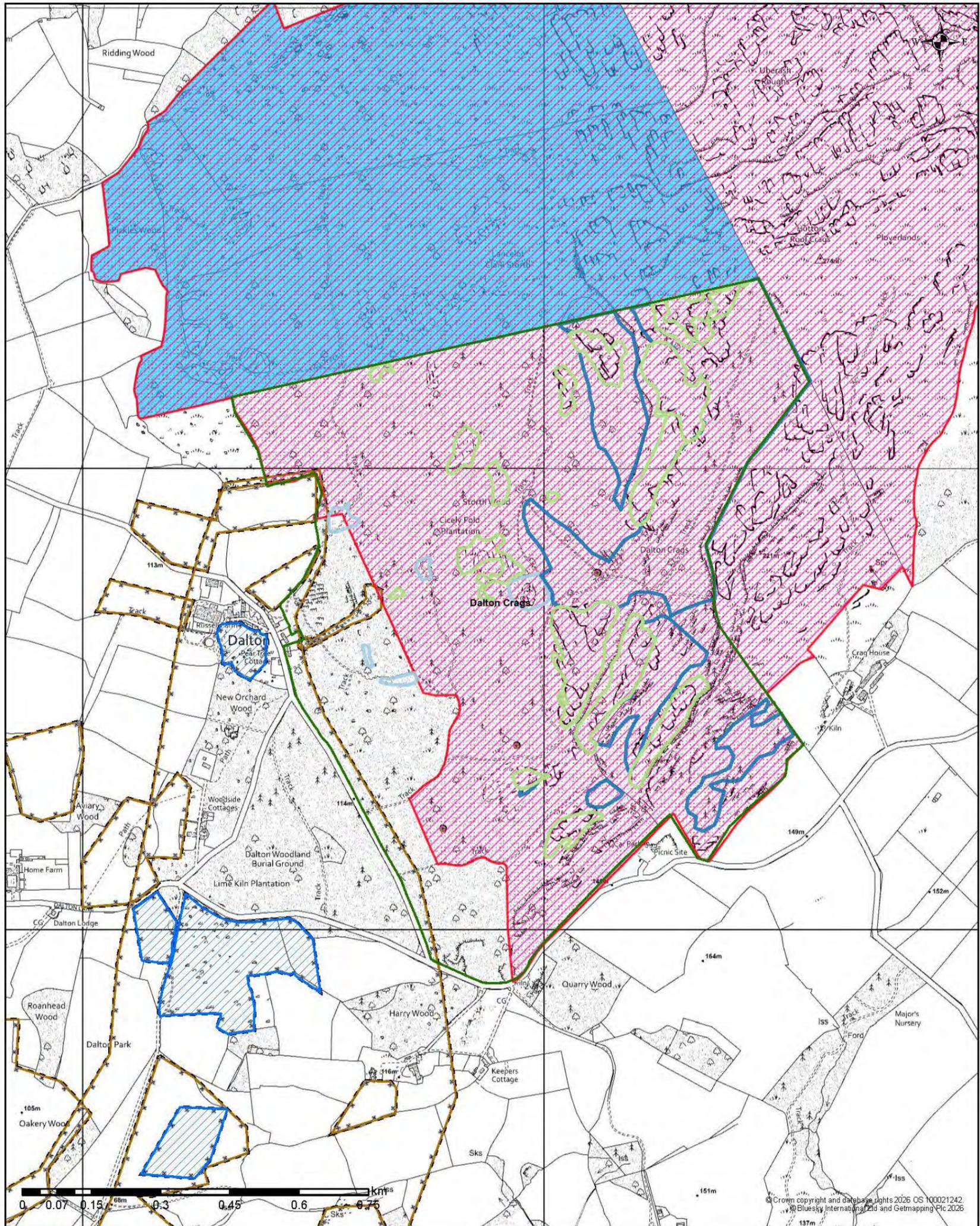
- Dalton Crag
- Other Forestry England Woodland



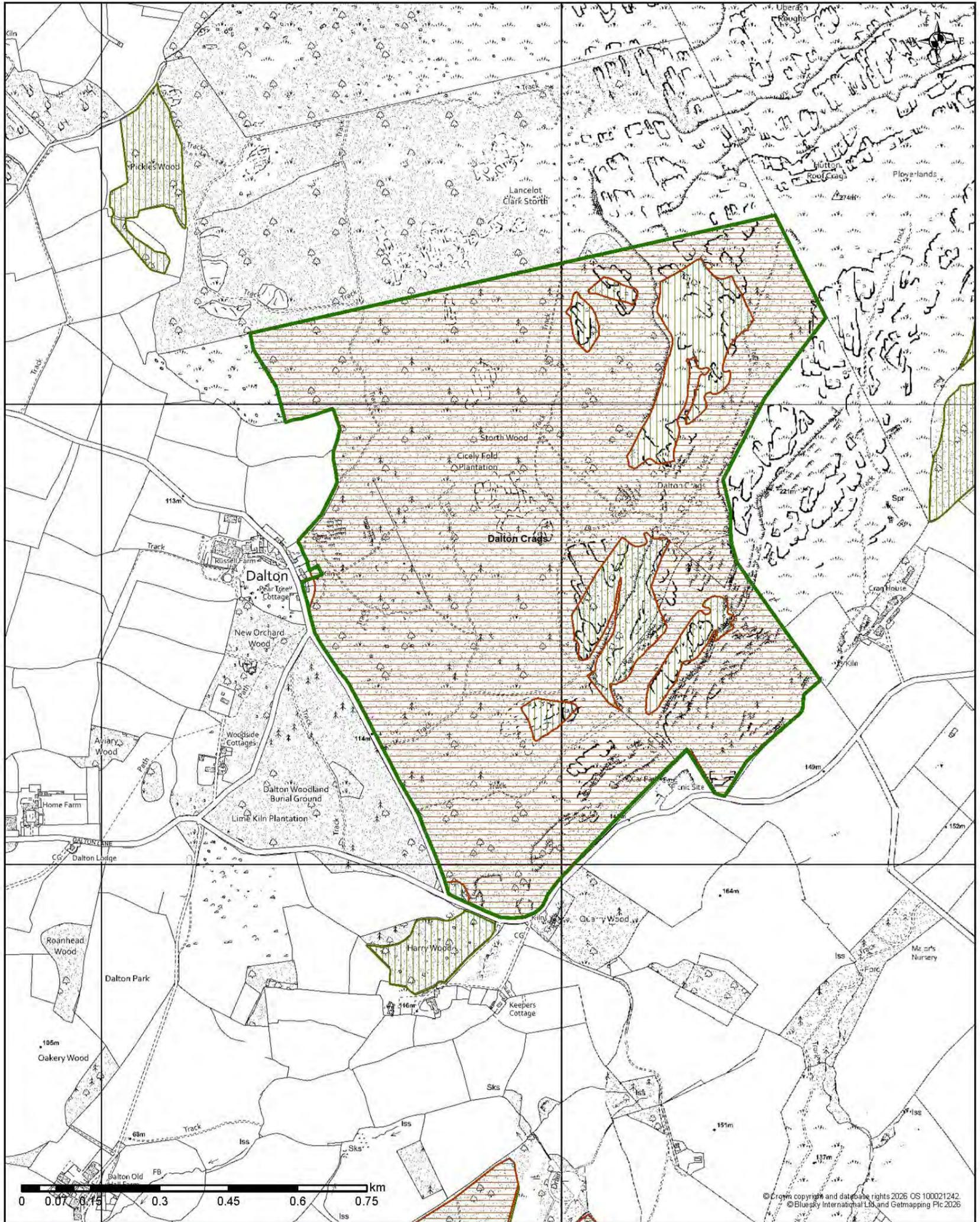
Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)







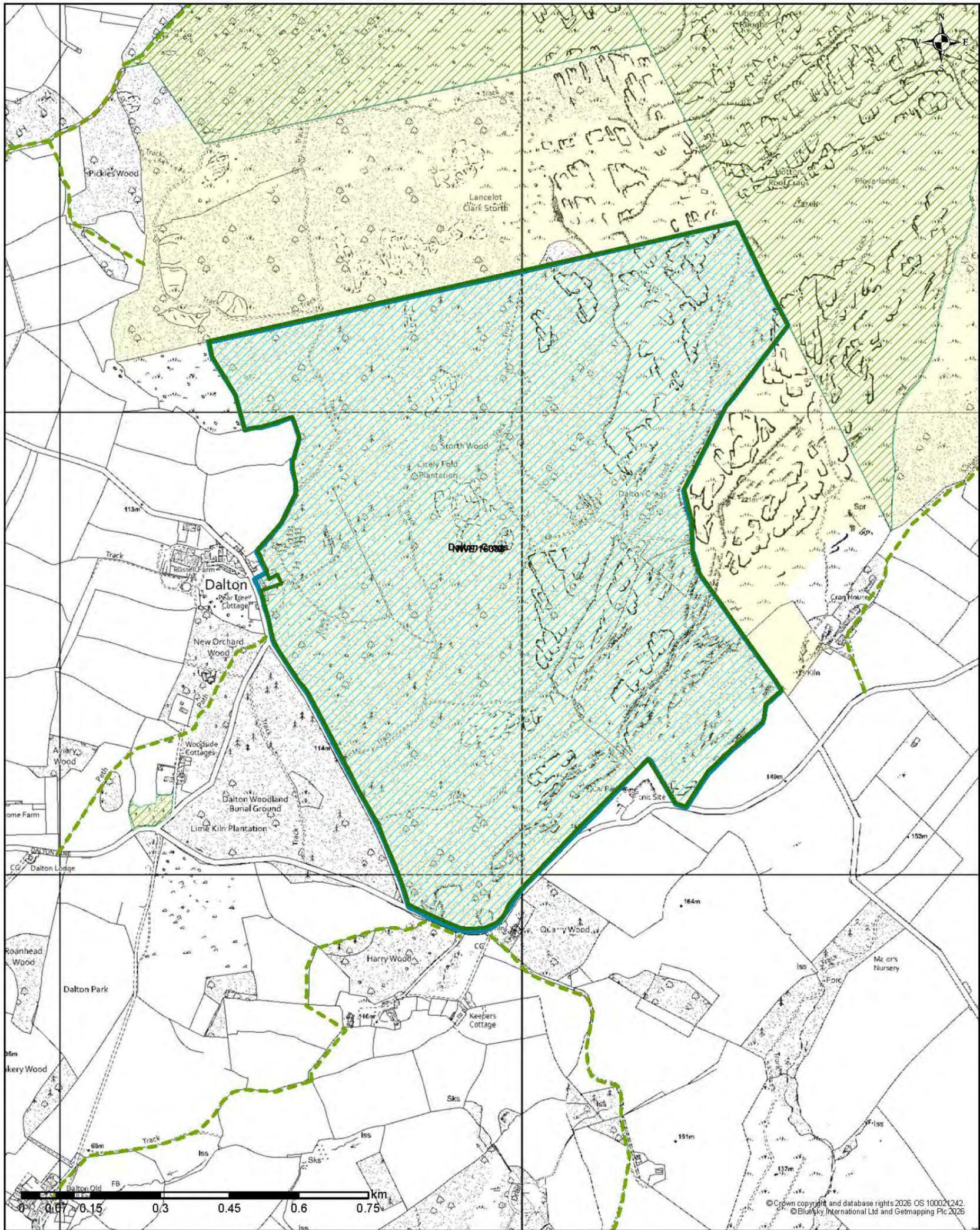
<p><b>Forestry England</b></p> <p>Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)</p> <p>FSC</p> <p>PEFC</p>	<p><b>Blocks</b></p> <p>Dalton Craggs Open</p> <p>Glade</p> <p>Limestone Grassland</p> <p>Limestone Pavement</p>	<p>All other values</p> <p>Sites of Special Scientific Interest</p> <p>Special Areas of Conservation</p> <p>National Nature Reserves</p>	<p><b>Heritage Designations Designation Type</b></p> <p>Battlefield</p> <p>Listed Building</p>	<p>Other</p> <p>Park and Garden</p> <p>Scheduled Monument</p> <p>Heritage</p>
	<p><b>Title: Map 3 Conservation &amp; Heritage</b></p> <p>Date: 6 March 2026</p> <p>Author: Giles Brockman</p> <p>Scale @ A3: 1:7,500</p>			



**Title:** Map 4 Ancient Woodlands  
**Date:** 5 February 2026  
**Author:** Giles Brockman  
**Scale @ A3:** 1:7,500

- Blocks
- Ancient Woodlands**
- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Ancient Wood Pasture

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Woodland Assurance  
Standard (URWAS)

**Title: Map 5 Access & Recreation**

Date: 5 February 2026

Author: Giles Brockman

Scale @ A3: 1:7,500

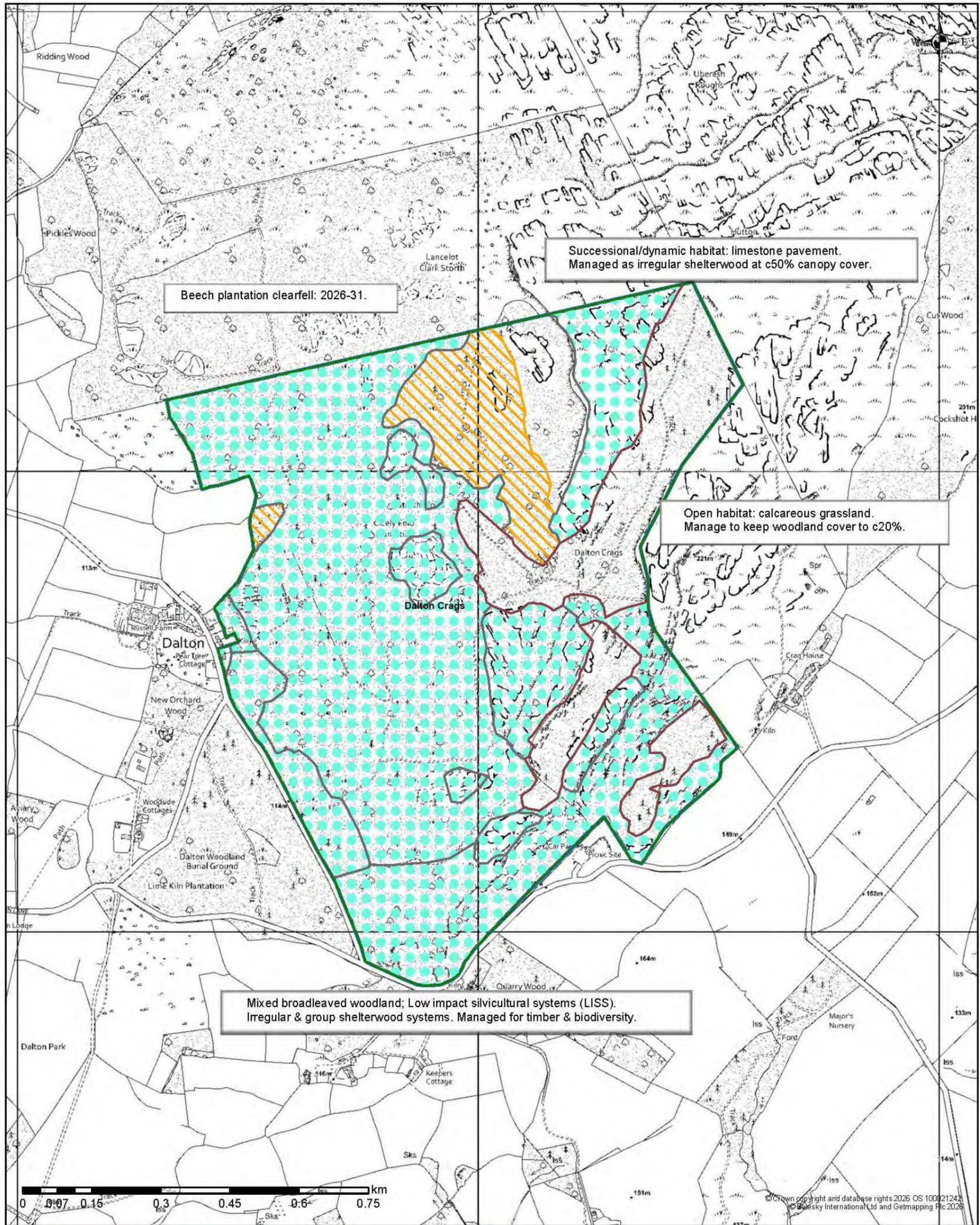
Blocks

Public Rights of Way  
(Eng.)

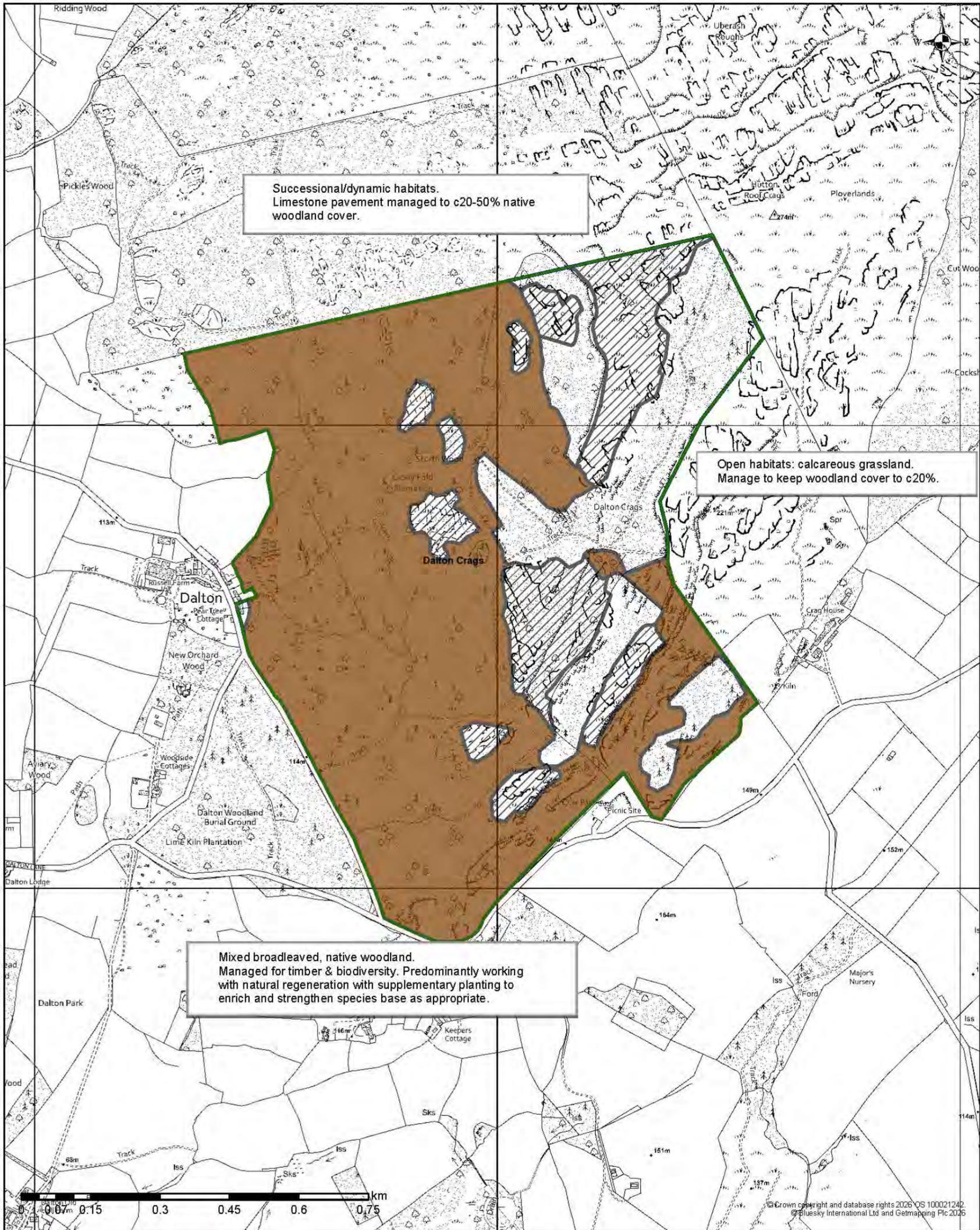
CRoW Dedications  
(Eng.)

CRoW Act 2000  
Common Land

CRoW Act 2000 -  
Access Layer



<p><b>Forestry England</b> Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)</p>	<p>FSC www.fsc.org</p>	<p>PEFC www.pefc.org</p>	Blocks	2027-2031
			2032-2036	2037-2041
<b>Title: Map 6 Management Operations</b> Date: 6 March 2026 Author: Giles Brockman Scale @ A3: 1:7,500			2042-2046	Beyond 2046 or LISS
			2022-2026	Fell Date Passed
			<b>Management Coupes</b> <b>Felling period/ Management Type</b>	Other/Open land



<p>Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)</p>	Blocks	Open
	Forest	Successional

**Scenario Restock Areas**

**Title: Map 7 Future Habitats**  
**Date: 6 March 2026**  
**Author: Giles Brockman**  
**Scale @ A3: 1:7,500**