

Woodland Management Plan



This document is a consultation draft of the Rusland Woodland Management Plan and should be read in conjunction with the maps contained within Annex 1.

Any comments, observations and suggestions are welcomed from stakeholders and interested parties.

Feedback can be submitted via the Microsoft Form ([Draft Rusland Woodland Management Plan – Stakeholder Consultation](#)) by scanning the QR code above, or by email to olivia.wass@lakedistrict.gov.uk.

The consultation period closes on **Wednesday 29 July 2026**

Section 2: Vision and objectives

To develop your long-term vision, you need to express as clearly as possible the overall direction of management for the woodland(s) and how you envisage it will be in the future. This covers the duration of the plan and beyond.

2.1 Vision

Describe your long-term vision for the woodland(s).

The Lake District National Park Authority's woodlands in the Rusland Valley will be managed collectively as a resilient, ecologically rich and well connected woodland resource, supporting nature recovery, cultural heritage and public benefit.

Over the lifetime of this plan, these woodlands will become increasingly established within a sustained programme of active management, delivering the structural and ecological foundations required to maintain and enhance their condition over the long term, while enhancing landscape connectivity and supporting resilient species populations and the wider habitat network.

As management progresses, woodland structure will become more diverse and uneven-aged, moving away from uniform, closed canopies towards a varied woodland with a well-developed understorey, scattered open space and an interconnected network of rides and glades. Natural regeneration will be widespread and successfully establishing through successive growth stages, supported by effective management of grazing and browsing pressures, representing a marked shift from more simplified woodland conditions in recent decades.

Ecological function will be strengthened as woodland condition improves. Deadwood will be abundant across a range of forms and decay stages, supporting a wider range of woodland species. Veteran trees and ancient woodland features will be safeguarded, with future generations developing to maintain their continuity, and Plantations on Ancient Woodland Sites (PAWS) will be well advanced in their transition towards native woodland. Ground flora will become more diverse, supporting increasingly rich woodland communities. SSSIs will be actively managed to resolve the underlying factors inhibiting favourable condition, with targeted action having placed them on a clear path towards improvement.

The Rusland Valley will continue to function as a stronghold for temperate rainforest habitat. Woodland conditions will maintain stable, humid microclimates and a continuity of suitable substrates, enabling characteristic lichens, mosses and liverworts to persist and expand.

Ongoing woodland management will support ecological restoration while sustaining the long-term condition and management of the woodlands. Timber arising from ongoing management will provide a regular, low-volume supply of material, prioritised for local and internal use in infrastructure, habitat management and site improvements. Higher-quality material will support local craftspeople, while income from surplus timber will be reinvested to sustain long-term woodland management and restoration.

Historic and cultural features within the woodland will continue to be protected and maintained in good condition, remaining visible and, where appropriate, interpreted as part of the woodland environment.

Public access will remain an important part of these woodlands, supported through a managed network of Public Rights of Way, open access land and permitted routes that allow people to experience, enjoy and connect with the woodland, while protecting sensitive features. These woodlands will continue to provide opportunities for people to benefit from contact with nature, supporting health and wellbeing through activities such as walking, volunteering, learning, quiet recreation and, where appropriate and sustainable, organised events.

Through ongoing monitoring and adaptive management, these woodlands will become increasingly resilient to climate change, pests and disease, continuing to develop as dynamic, diverse and functioning woodland systems within the Lake District landscape.

2.2 Management objectives

State the objectives of management demonstrating how sustainable forest management is to be achieved. Objectives are a set of specific, quantifiable statements that represent what needs to happen to achieve the long-term vision.

No.	Objectives (include environmental, economic and social considerations)
1	Improve the ecological condition of the woodlands
2	Support sustainable timber production that generates income to reinvest in woodland management, supports local contractors and craftspeople, and provides wood products internally for LDNPA projects
3	Protect and enhance the Rusland Valley's internationally rare temperate rainforest habitat, maintaining the conditions required to support its characteristic indicator species
4	Safeguard ancient woodland and veteran trees as irreplaceable assets
5	Reduce the impacts of livestock, deer and grey squirrel populations to enable the successful and sustained recruitment of natural regeneration and the recovery of Lake District National Park priority species
6	Build woodland resilience to climate change, associated climatic stressors, and pests and disease through adaptive management
7	Conserve features of cultural and industrial heritage and uphold attributes that define the Lake District's World Heritage Site status
8	Deliver benefits for people alongside nature recovery by supporting safe access, quiet enjoyment and opportunities for recreation, learning and community engagement
9	Monitor woodland condition and management outcomes, adapting management practices as required to achieve long term objectives

Section 3: Plan review – achievements

Use this section to identify achievements made against previous plan objectives. This section should be completed at the 5-year review and could be informed through monitoring activities undertaken.

Objectives	Achievement

Section 4: Woodland survey

This section is about collecting information relating to your woodland and its location, including any statutory constraints, such as designations.

4.1 Description

Brief description of the woodland property:

1. Thwaite Head (48.98ha)

Thwaite Head supports a complex upland habitat mosaic, strongly influenced by three becks flowing from north to south, which drive local hydrology and habitat variation. The site supports a range of semi-natural habitats, including open fell, wet flushes and basin mires, alongside gill and wet woodland. Numerous charcoal-burning platforms occur throughout the woodland, reflecting its historic management and its role in the local woodland economy. Woodland features of particular interest include upland oakwood, scattered areas of juniper scrub and hazel coppice.

1a Hewkin Plantation (1.10ha)

A narrow strip of former farmland which lies between the road and Dale Park Beck, planted with mixed broadleaves over 50 years ago. Woodland establishment is strongest in the northern part of the strip, which has been deer fenced and now supports developing understorey vegetation. In contrast, the southern section retains a more open canopy with a field layer dominated by bracken.

1b Dale Park Beck Woodland (4.84ha)

This fenced gill woodland is a diverse broadleaved stand shaped by variation in drainage along the valley sides and floor. The valley bottom and associated flushes are dominated by alder, with small-leaved lime and a rich wet woodland ground flora including wild garlic, valerian, marsh hawksbeard, wild daffodil and remote sedge.

Better-drained slopes support mixed oak–birch woodland with holly, hazel and rowan. On the eastern side, sycamore is locally frequent, with occasional beech and Scots pine present. The ground flora here is typically composed of wavy hair-grass, bilberry

and abundant bryophytes, with locally flushed patches supporting dog's mercury, wood anemone, bluebell and wood melick.

The eastern side of the gill below the footpath shows evidence of past coppice management. More recent small-scale tree planting is present and generally well established. A limited number of planted trees remain within protective tubes and will require ongoing maintenance.

1c Thwaite Head Fell (24.26ha)

Alder and birch-dominated woodland surrounding a complex of valley and basin mires developed on waterlogged peat, which are designated as a County Wildlife Site, supporting nationally scarce mire communities including bottle sedge and bog asphodel–Sphagnum mires, spanning acidic to base-rich conditions. These wetlands support a range of specialist species, notably sundews, bladderworts and diverse bog-moss assemblages.

Flushed slopes around the margins of the basins support coarse, purple moor grass dominated mire with scattered scrub, including downy birch, grey willow and occasional juniper. These areas grade into young to semi-mature birch woodland, particularly on the eastern edge of the main basin where regular flooding occurs and wet woodland is developing along the mire margins.

A beck runs northeast to southwest through the sub-compartment, bordered by low-lying ground supporting former coppiced alder woodland. This wet woodland is characterised by tall, multi-stemmed alder with a dense ground layer dominated by bog myrtle, rushes and wetland herbs, and scattered juniper. To the east of the beck, gently sloping ground supports former wood-pasture now dominated by dense bracken, with scattered mature oak, ash, rowan, yew, holly and crab apple. Downy birch has established extensively, forming a dense young to mid-aged canopy across much of this area, which is transitioning towards oak–birch woodland with acid grassland and heath elements. Small flushed depressions within this area support rush-pasture communities.

The woodland structure is predominantly high forest, with limited understorey development in places. Natural regeneration of canopy species is currently constrained by browsing pressure; holly regeneration is prevalent and locally forms dense understorey thickets. The site was grazed by sheep until 1998. Self-seeded conifers are present throughout the compartment, including scattered mature and regenerating Sitka spruce and larch, originating from adjacent plantations.

1d Goody Parrock (2.47ha)

A small, predominantly even-aged oak–birch woodland enclosed by a boundary wall, which is now largely redundant due to extensive failure. The primary canopy is approximately 80 years old, with targeted gap planting carried out in the 1980s; these planted trees are now well established.

The woodland has a closed, dense canopy and limited structural diversity. The ground flora is dominated by bracken, with a bramble understorey locally present. Holly occurs sporadically within the understorey and field layer but is heavily browsed by deer. Alder is present along a wet flush running through the area.

1e Horse Pasture (11.47ha)

This fenced compartment lies on the eastern boundary of the holding and comprises a structurally varied area of wet woodland, mixed broadleaved woodland and scrub.

Approximately 3.5 hectares is designated as a County Wildlife Site, which is dominated by mature alder coppice, now grown tall, forming alder-ash-yellow pimpernel woodland along the beck and extending onto flushed valley sides. On slightly drier ground, the woodland incorporates hazel coppice with ash, blackthorn, yew and holly. The ground flora is diverse and characteristic of wet woodland and flushed slopes, with species such as yellow pimpernel, marsh marigold, cuckooflower, marsh violet, marsh bedstraw, wild angelica, water mint and a range of ferns and sedges. This area represents a well-developed example of wet woodland associated with a natural watercourse and valley-side flushing.

To the west of the beck, areas of planted woodland are present and now well established. Along the eastern boundary wall, open ground supports abundant juniper scrub. This area is under pressure from self-seeded conifers, including Japanese Larch and Sitka Spruce spreading from adjacent plantations, which pose a risk of altering native species composition, particularly adjacent to the juniper.

A discrete stand of yew towards the northern end has previously been damaged by red deer, though past individual tree protection has been used to prevent further bark stripping. South of the compartment supports oak-birch woodland with abundant hazel and alder along stream sides. This area shows evidence of historic management as coppice with standards prior to acquisition. The canopy is beginning to develop natural gaps, contributing to increasing structural diversity, though regeneration of canopy species is locally constrained.

1f Burnt Wood/Jimmy Roan (4.63ha)

Two areas of former oak coppice on relatively fertile soils, with hazel locally frequent. Although the canopy is largely even-aged, subsequent planting in the 1990s and good natural regeneration of birch and rowan has contributed to the gradual development of a more varied stand structure. Natural canopy gaps are beginning to form as mature oak stems fail. The ground flora is generally species-poor and dominated by bracken with abundant bryophytes. However, flushed gullies support a more diverse assemblage, including wild garlic, dog's mercury and wood avens.

2-3. Stony Hazel (38.32ha)

Stony Hazel spans from Force Forge in the north to Rusland Church in the south. The woodland has a long history of coppice management linked to local industry, from the forge built in 1719-20 to the south west of the site, now a Scheduled Monument, through to later phases of working, including well-known coppicing undertaken by Bill Hogarth between the 1950s and 1980s. Long-established woodland practices continue today, with Owen Jones working on site in connection with traditional oak bark peeling and swill making. The site is well used and valued by the local community.

2a Stricely Wood (6.5ha)

Predominantly mature oak-birch woodland with a bilberry-dominated ground layer and frequent ancient woodland indicators including common cow-wheat, wood avens,

primrose, ramsons and lesser celandine. Flushes and ash-dominated stripes support wood melick, greater wood-rush and beech fern, adding ecological diversity. Small-leaved lime occurs along Force Beck and on a central crag, and a small (<1 ha) enclosure plot enclosed with plastic netting is currently being managed by Owen Jones, a local swill basket maker, as part of ongoing traditional woodland use.

2b Stony Hazel (5.3ha)

This compartment lies around the reading room and parish council building and forms part of a well-used local access network. Oak, birch and hazel dominate under a generally closed canopy, with increasing beech and sycamore. Historic disturbance around the former ironworks and hammer pond has created areas of open structure, while the beck corridor supports riparian woodland with lush ground flora including wood avens, water mint, lemon-scented fern, wild daffodil and toothwort. Deadwood availability is limited.

2c Stricely Spring (6.1ha)

Closed-canopy oak–birch woodland with a strong hazel component and a bracken-dominated ground layer. Deer browsing pressure is evident, though occasional rowan and ash are establishing above browse height. A substantial alder-dominated flush supports species-rich wet woodland vegetation, including *Sphagnum*, primrose, wood anemone, yellow pimpernel, water mint, meadowsweet, beech fern and reed canary-grass.

3a Sawrey Stricely (6.1ha)

A predominantly mature upland oak–birch woodland with a hazel understorey, much of which comprises long-neglected coppice forming an uneven-aged structure with large standards. Ground flora is characteristic of long-established upland woodland, with bluebell, wood sorrel, enchanter's nightshade and bilberry on thinner soils. Alder-dominated flushes and sumps support wet woodland indicators including *Sphagnum*, marsh valerian, marsh marigold, remote sedge and beech fern. Along the western boundary the canopy becomes more mixed with ash, willow, alder, wild cherry and dense hazel, and the ground flora notably rich with primrose, yellow pimpernel, violet, bluebells, beech fern and abundant bryophytes.

3b Brewer Wood (11.5ha)

This is enclosed by a long-standing deer fence and supports hazel coppice with oak and birch standards, showing variable structure reflecting different phases of past cutting. Extensive bluebell carpets and species such as wood anemone, ramsons, yellow archangel and dog violet indicate long woodland continuity. Wet flushes with alder and goat willow support *Sphagnum* and marsh marigold, while lichen- and bryophyte-rich boulders add structural interest.

3c High Crag Wood (2.8ha)

Also enclosed within the same deer fence as Brewer Wood, hazel is dominant with oak present as scattered standards and occasional dense regeneration. Coppice management was historically frequent, including by Bill Hogarth, with his last cut in 1987. Coppice stools are now heavily overstood, forming dense, largely impassable thickets, with stem density notably greater than in Brewer Wood. The ground flora

reflects acidic upland conditions, with bilberry, cow-wheat, tormentil, heath bedstraw and heather. Small areas of wet woodland support vigorous regeneration and a bryophyte-rich ground layer dominated by *Sphagnum* and haircap mosses, with thallose liverworts such as *Pellia*.

4. Glass Knott (13.97ha)

Glass Knott occupies steep and highly variable terrain with pronounced slopes, rock outcrops and incised gills associated with Bell Beck and its tributaries. The woodland shows clear historic coppice management, with numerous multi-stemmed trees and evidence of charcoal burning.

The canopy is dominated by oak and birch, with frequent hazel and locally abundant small-leaved lime, alongside scattered ash and alder in wetter areas. Small-leaved lime is a notable feature of the site, occurring both as mature trees and as collapsed or layering individuals, particularly on slopes above Bell Beck. This has led to localised vegetative spread. The woodland also supports scattered crab apple trees of local interest.

The site is of high ecological interest, supporting oceanic bryophyte and lichen assemblages associated with long continuity woodland, humid microclimates and abundant deadwood. In 2025, Glass Knott, together with Hall Brow, formed part of the #Species Survival Fund temperate rainforest restoration project, during which halo thinning, selective felling, and targeted beech and holly management were undertaken.

4a Glass Knott (6.67ha)

Predominantly closed-canopy oak–birch woodland on deeper soils, interspersed with rockier ground supporting more open structure. Hazel is frequent within the understorey. Ground vegetation varies according to substrate, with bluebell, wood sorrel and bracken characteristic of the more fertile areas, and bilberry and bryophyte-rich ground layers on rocky outcrops. The canopy is locally uniform, though structural diversity increases around rock outcrops. Notable epiphytic assemblages are present, including the nationally scarce bryophyte *Syzygiella autumnalis* on oak trunks, and *Scoliosporum pruinatum*, a lichen rarely recorded in the Lake District, on mature birch.

4b Bell Beck Gill (2.47ha)

A steep-sided gill woodland with a dense, enclosed canopy and very limited open ground. The canopy is dominated by oak, birch and hazel, with scattered ash and frequent holly. Large, mature small-leaved lime is a defining feature, particularly on slopes above Bell Beck. The terrain is rocky, with areas of exposed mineral soil supporting sparse ground vegetation, typically limited to ferns such as male fern and bryophytes.

Ground flora becomes richer closer to the beck, with dog's mercury, primrose, wood anemone, and enchanter's nightshade, alongside opposite-leaved golden saxifrage in wetter microsites. Alder occurs along the watercourse, with frequent regeneration of blackthorn in places.

Deadwood is abundant, both standing and fallen. The compartment supports important oceanic cryptogams, including *Thelotrema lepadinum* on oak, birch and mature holly, and nationally scarce *Phyllopsora rosei* on ash, alongside bryophytes such as the nationally scarce *Rhytidiadelphus subpinnatus* in damp ground conditions.

4c Bell Beck (4.16ha)

North of the powerlines is an area of wet woodland, with spring lines, flushes and minor becks creating a mosaic of conditions. The canopy is less continuous than elsewhere, with a strong shrub layer dominated by hazel, forming dense coupes - many of which have failed and are heavily browsed by deer.

Tree species include ash, alder, oak and small-leaved lime, the latter being particularly notable for its regenerative behaviour through layering and re-suckering from fallen stems. The ground flora is diverse and indicative of long woodland continuity and moist conditions, including dog's mercury, wild garlic, primrose, greater stitchwort, bugle, meadowsweet, and opposite-leaved golden saxifrage, alongside false brome and remote sedge.

Bryophyte interest is high along watercourses, including *Jubula hutchinsiae* on shaded, wet rock. Deadwood is abundant throughout. Browsing pressure is evident, particularly along well-defined deer tracks, contributing to a locally disturbed ground layer.

5. Rusland Moss (24.22ha)

Rusland Moss forms part of a rare remnant of lowland raised mire, once widespread around Morecambe Bay but now highly reduced. Within the Rusland Valley Mosses SSSI and National Nature Reserve, the LDNPA manages 25% of the SSSI area. Rusland Moss is the northernmost and highest of three peat domes, rising to around 8 m. Historic peat cutting and drainage have significantly altered hydrology, enabling colonisation by trees and scrub. A network of aging boardwalks crosses the site.

The SSSI is currently in unfavourable declining condition, largely due to tree and scrub encroachment, particularly where bog habitat is absent and indicator species are lacking. Ongoing drying and oxidation of the peat is evident. Condition is further affected by modified water levels resulting from historic drainage, and by high deer densities leading to grazing pressure on sensitive bog vegetation.

5a Oxenpark Moss (13.8ha)

The mire margins and dome flanks are dominated by self-seeded birch and Scots pine, with birch typically 15–25 cm dbh and pine between 30–60 cm dbh. These stands, alongside extensive rhododendron, reflect past drying of the peat surface and continue to contribute to reduced wetness.

Woodland structure varies, with scattered oak and areas of wet woodland containing willow species, including grey and eared willow. Dense stands of bog myrtle occur locally. The ground layer is typically dominated by purple moor-grass, with patches of Sphagnum, cross-leaved heath and tormentil persisting. To the northern end, more mature pine and some oak stands are present. Under pine, the field layer is species-poor with bilberry, wavy hair-grass, purple moor-grass and mosses, while under oak

tufted hair-grass is more common. Fern species include royal fern and buckler ferns, with occasional lady fern.

Margins support a mosaic of wet grassland and fen communities. Wetter areas contain purple moor-grass, Yorkshire fog and creeping bent with soft rush, meadowsweet, marsh thistle and lady's smock. Drier patches include devil's-bit scabious, heath bedstraw and lady's mantle. In areas of former carr clearance, species-rich fen vegetation has developed, including globeflower, wild angelica, purple loosestrife, marsh cinquefoil, sedges, marsh marigold, ragged robin, valerian, tormentil and marsh milkwort. Skunk cabbage is present locally, with evidence of expansion.

The site supports notable fauna, including raft spider and large heath butterfly, alongside several uncommon invertebrates. Roe and red deer are abundant and use pine stands for shelter.

5b Rusland Moss Dome (6.49ha)

The central dome retains areas of active bog vegetation, although the surface remains degraded in parts with areas of bare peat. Past clearance of birch and pine (2009) and damming has increased water retention, with standing deadwood from these operations still present.

Vegetation includes a strong representation of bog species, with Sphagnum mosses forming hummocks alongside heather, cross-leaved heath, bog rosemary, bog asphodel, white beak-sedge, cotton grass, hare's-tail cotton-grass and sundews. Bog cranberry is frequent, with occasional crowberry and deergrass. Despite this, the dome shows variable condition, with some areas lacking full bog structure.

5c Southern Sub-compartment (0.46ha)

A small, isolated unit 300m south of the main block supports dense, low willow and alder carr with a ground layer of purple moor-grass and tufted hair-grass.

6. Hall Brow (29.34ha)

Hall Brow Wood is an area of ancient woodland situated on steep slopes with frequent rock outcrops and scattered boulder features. As with much of the surrounding landscape, the woodland reflects a history of coppice management associated with charcoal production for iron working, and retains abundant archaeological features including pitsteads and kiln remains. More recently, the site has become a focus for temperate rainforest restoration, with work undertaken to diversify structure and enhance microhabitats, including localised halo thinning and veteranisation.

The woodland is broadly oak-dominated, with birch as a frequent secondary species and a varied but often patchy component including alder, ash, sycamore, holly and hazel, with increasing beech. Occasional and locally significant species include small-leaved lime, Scots pine, sweet chestnut, and yew, with aspen present in wetter areas alongside alder. Structurally, the woodland varies between relatively even-aged, closed-canopy stands and more open, structurally diverse areas with glades, wet flushes and rocky slopes. Despite this variation, a consistent feature across much of the woodland is a relatively sparse understorey and limited recruitment of young trees

into the canopy. In some areas, there are suggestions of historical land use patterns, including terraces and small pockets of more fertile soils.

The field layer is characteristic of upland oak woodland, though variable depending on canopy structure and browsing pressure. Bilberry is present on more exposed upper slopes, and bluebell, wood sorrel and ferns are widespread, alongside species such as wild garlic, dog's mercury and opposite-leaved golden saxifrage, particularly along watercourses and flushes. Bracken and bramble are locally dominant, especially in more open areas and along woodland edges.

The site supports specialist bryophyte communities associated with humid microhabitats, particularly on boulders, tree stumps and in riparian areas. Species of conservation interest and a well-represented Atlantic woodland assemblage are present, including *Jubula hutchinsiae*, *Lejeunea lamacerina*, *Lejeunea patens*, *Plagiochila spinulosa* and *Scapania gracilis*. Oceanic lichen communities are also widespread, with common species dominating much of the woodland but more notable assemblages occurring on older trees and in structurally diverse areas. A number of Nationally Rare and Nationally Scarce species have been recorded, alongside Southern Oceanic Woodland Indicator (SOWI) and Upland Rainforest Indicator (URI) species.

Herbivore pressure is a defining influence on woodland condition. Survey evidence indicates consistently high browsing impacts across the site, with red and roe deer present and additional grazing pressure from sheep locally. Browsing has resulted in widespread suppression of regeneration, with seedlings and basal shoots of species such as oak, hazel and alder frequently browsed and rarely progressing beyond early stages. A distinct browse line is visible in species such as holly, and while natural regeneration of oak does occur in places, it is generally unable to establish successfully into the understorey.

This has contributed to a simplified vertical structure in many areas, characterised by a dominant canopy, sparse or suppressed understorey, and a ground layer that is either heavily grazed or dominated by competitive species such as bracken and bramble. Holly is a frequent and sometimes locally dominant understorey component, particularly where browsing pressure fluctuates, and can further limit ground flora diversity and regeneration through shading.

6a Brock Bank Wood (6.81ha)

Characterised by relatively even-aged, oak-dominated high forest, structural diversity is limited. The understorey is sparse and regeneration is minimal, with browsing pressure preventing establishment of younger cohorts. As a result, the woodland structure is relatively simple, with a dominant canopy layer, little mid-storey development, and a patchy ground layer often influenced by bracken or grazing.

6b Machell Brow and Hall Brow Wood (15.96ha)

A greater display of structural and compositional diversity. These areas include remnants of former coppice systems, a more varied mix of tree species, and localised features such as small-leaved lime associated with gill systems. The field layer is generally more diverse than in 6a, particularly in association with moisture gradients and watercourses. However, despite this increased diversity, regeneration remains

constrained across much of the compartment due to continued browsing pressure, and understorey development is still limited.

6c Hall Brow Heights (6.48ha)

A more open and structurally varied, comprising a mosaic of mature woodland, scrub, wet woodland elements and exposed rocky ground. These features contribute to greater structural diversity, with locally increased light availability, more pronounced glade systems, and pockets of more successful regeneration. Wet areas and flushes support alder and associated species, while rocky slopes provide additional microhabitat diversity. Nevertheless, browsing pressure remains a strong controlling factor, and although regeneration is more evident here than elsewhere, it is still uneven and frequently suppressed.

7. Round Close (4.99ha)

Separated from Yewbarrow by the road and otherwise surrounded by farmland, the canopy is dominated by mature broadleaves, principally mature oak (50–80 cm dbh) with birch (20–40cm dbh), beech, sycamore, ash, alder, yew, sweet chestnut, the occasional hornbeam and Norway spruce. Notably, the site also contains several clusters of well-formed small-leaved lime. The stand has a predominantly high forest structure with a sparse understorey, although holly (including some mature specimens), overstood hazel, crab apple and scattered thorns occur beneath the canopy. There are a number of archaeological features including charcoal platforms, hut remains and quarries.

Ground flora reflects a typical upland oakwood community, with bluebell, bracken, bramble, honeysuckle, ferns and abundant bryophytes such as tamarisk, hair-cap and feather moss. Frequent crags and areas of exposed rocky substrate create varied microtopography and support specialist temperate-rainforest indicators such as *Bazzania trilobata*. Across the site, wet flushes and areas of standing water give rise to pockets of alder–birch wet woodland that support species including common rush, opposite-leaved golden saxifrage, lesser celandine and water forget-me-not.

Browsing pressure is high, and regeneration is largely confined to beech and holly. Boundary walls are currently stock proof following historic sheep ingress. Historic thinning has focused on the selective removal and ring-barking of sycamore and beech, creating standing and fallen deadwood. Despite this, sycamore and beech still form a major canopy component and are producing persistent regeneration, with little or no regeneration of the native oakwood assemblage. This pattern risks shifting future stand composition away from its native oakwood character.

8–11. Yewbarrow (91 ha)

Yewbarrow is the largest woodland block within the Rusland Valley holdings, representing a well-developed example of upland oak woodland, with notable transitions into yew-dominated stands, juniper scrub and open heath - which underpin its designation as both SSSI and SAC.

The woodland has a strong historic character, with evidence of past coppice management (related Archaeological features are widespread) and the notable roadside Rusland Beeches, which are protected by Tree Preservation Orders.

Woodland structure varies from closed canopy high forest and lapsed coppice to open, rocky and heath-associated woodland.

8 Skinner Pastures (21.32 ha)

A predominantly oak–birch woodland with frequent beech and sycamore, and occasional Scots pine and hornbeam, occurring as a mix of high forest and lapsed coppice. White Busk includes a deer enclosure, erected 20 years ago. The understorey is poorly developed across much of the compartment, with browsing pressure limiting recruitment and diversity - regeneration is largely restricted to beech and holly. The woodland structure is generally closed, though Walker Parrock is more open, with scattered planting and patches of bracken.

In the 2019 SSSI assessment, this unit was recorded as unfavourable with no change, reflecting the continued impact of high deer densities suppressing natural regeneration and understorey formation. This is compounded by the increasing presence of beech, sycamore and hornbeam within both canopy and regeneration layers, particularly toward the northern and lower parts of the compartment.

9 Low Intake and St Helens (23.7 ha)

Defined by steep, rocky ground and strong structural variation, with transitions between woodland and open heath. Upper areas support oak woodland with dense yew and scattered juniper, with a ground layer dominated by bilberry, heather and dog violet, and abundant bryophytes.

Rock outcrops and boulder fields support species such as polypody, scaly male fern, honeysuckle and wood melick, while small areas of more base-rich soils support a more diverse flora including woodruff, barren strawberry, primrose, false brome and yellow pimpernel.

Lower slopes consist of oak–birch woodland on rocky ridges, with frequent beech and sycamore, and a more developed field layer including bluebell and wood anemone. Regeneration of beech is widespread, particularly adjacent to the roadside beeches.

This unit was recorded as favourable in 2019, reflecting its structural diversity and presence of regeneration; however, it was noted that there is a risk of decline if current trends continue. In particular, the ongoing spread of beech and sycamore within the understorey, combined with persistent deer browsing, may alter future woodland composition and structure.

10 Yewbarrow Dale (21.0ha)

Containing extensive areas of dense, even-aged yew woodland, where heavy shading results in very limited or absent ground flora. These areas contrast with more open, rocky slopes such as Yewbarrow Breast, where stunted oak occurs over heather, bilberry and broom, and with higher elevations where the woodland grades into open heath with juniper and scattered trees.

Mature Scots pine stands are a prominent feature, rising above the canopy and contributing to the distinctive skyline. Lower slopes support oak high forest and coppice, with hazel, holly and wild cherry, and locally dense regeneration of beech near the roadside. Ground flora varies widely, including wild garlic, dog's mercury,

lesser celandine, strawberry, wood sorrel, foxglove, wood sage, bilberry and bracken, with grasses such as wavy hair-grass and creeping soft-grass often dominant. However, beneath dense yew and beech canopy, large areas are species-poor or bare.

This unit was assessed as favourable in 2019, with good structural diversity and areas of successful regeneration. However, as elsewhere, the expansion of beech within the understorey was identified as a potential long-term issue, with the risk of reducing ground flora diversity and altering woodland character if unchecked.

11 Great Ellerside (24.33ha)

Containing a steep, south-facing slope with rocky, uneven and locally inaccessible terrain, supporting a complex mix of woodland types. These include oak-birch high forest, lapsed coppice, dense yew stands, and open woodland-heath transition zones, with strong variation across the compartment.

The canopy includes oak and birch with occasional Scots pine, larch, holly, yew and hazel, while regeneration - particularly of beech - is locally abundant. Ground flora includes bluebell, bracken, bramble, honeysuckle, wood sage, stitchwort and wood sorrel, with areas of dog's mercury, violet and lords and ladies in more sheltered locations.

A central rocky outcrop supports extensive juniper stands, while wetter areas support birch woodland with sphagnum mosses and purple moor-grass. Toward the woodland margins, the structure becomes more open, with scattered trees and a ground layer dominated by heather, bilberry and bracken, giving a more wood-pasture character. Deadwood is well represented throughout.

The 2019 SSSI assessment recorded this unit as unfavourable with no change, primarily due to high levels of deer browsing, which are suppressing regeneration and preventing the development of a diverse understorey. The shrub layer is dominated by heavily browsed holly, generally remaining below canopy height, and signs of grazing pressure are widespread.

12. Border Moss (18.73ha)

Border Moss comprises a diverse mosaic of habitats, including upland oak ancient semi-natural woodland, areas of secondary wet woodland, remnants of lowland raised mire (including former cut-over peat), and adjacent wet pasture. Deep peat deposits occur in places, and there are transitions into former agricultural land now developing into rough grassland and areas of willow carr. The site shows clear evidence of historic coppice management, with charcoal platforms, the remains of charcoal burning structures, and frequent multi-stemmed stools of oak, birch, sycamore and alder. Coppicing by local legend, Bill Hogarth, took place 1950-1980.

12a Border Moss Wood (5.59ha)

Adjacent to the Rusland Cross road, on slightly elevated ground, the canopy comprises a mixture of mature oak, alongside younger broadleaves including birch and pole-stage oak, with occasional beech. The understorey is generally well developed, with frequent hazel, yew, holly and hawthorn, and scattered crab apple. Ground flora includes bluebell, greater stitchwort and bracken, while localised flushes

support ash with species such as primrose, violet, dog's mercury and wood avens; Herb Paris has also been recorded.

Natural regeneration is limited, and where present is subject to browsing pressure, particularly affecting holly. A pronounced browse line is evident on yew. Toward wetter margins adjoining wet woodland, the canopy becomes more open, with tufted hair-grass and bracken dominant in places. Tree cover in these areas includes oak, birch, yew, alder coppice and occasional aspen. Deadwood is present at moderate levels, both standing and fallen.

12b Spring Wood (2.18 ha)

Characterised by a canopy of mature ash, oak, yew and small-leaved lime, with occasional Scots pine. The alder has been coppiced in places in the past and has shown good regrowth, while browsing pressure is evident on hazel and ash regeneration, except where protected by dense bramble. Ground vegetation is typically grassy, with bracken, bluebell, greater stitchwort and wood sorrel, together with patches of bilberry and cow-wheat. At the south-western edge, there is an area of relatively young oak-birch coppice. The southern section contains rocky knolls supporting mature oak and birch, with occasional beech and an understorey of hazel, holly and yew. Part of the compartment was coppiced in the mid-1990s and again around 2010.

12c Border Moss (4.02 ha)

This area represents former raised mire that has been historically cut for peat extraction. Tree cover is sparse and scattered, with birch, Scots pine, alder, yew, and occasional oak and rowan. Vegetation is dominated by purple moor-grass, with bracken on slightly drier ground and sphagnum mosses and bog myrtle in wetter areas. Heather and bilberry are also present, along with a small stand of greater tussock sedge. Toward the south, the compartment opens out into wetter grassland dominated by canary grass, purple moor-grass, devil's-bit scabious, angelica and knapweed. An established population of yellow loosestrife has been recorded within these open areas.

12d Nook (1.10ha)

Mature broadleaved woodland on a low knoll, dominated by oak and birch with occasional beech. The understorey includes rowan, hazel, hawthorn, holly and crab apple. The ground flora is relatively simple, with bluebell and greater stitchwort prominent. Regeneration is generally sparse, with heavy browsing affecting holly and beech saplings. Evidence of deer activity is widespread, including bark stripping and characteristic damage to younger trees.

12e Rusland Pool Fields (3.39ha)

Two wet fields adjacent to Rusland Pool, including a small area of willow carr that has developed in the northern field. The remaining areas are open, supporting vegetation dominated by common reed, purple moor-grass, tufted hair-grass and rushes, with yellow loosestrife present. The fields provide open habitat and are used by barn owls, with perching posts installed to support foraging activity.

12f Rusland Pool Fringe (2.45ha)

Two areas of wet former pasture, also adjacent to Rusland Pool. Vegetation is dominated by rushes, canary grass and tufted hair-grass, with occasional stands of common reed. Along the eastern boundary there is a well-defined transition into woodland, with a band of willow, alder and blackthorn. Additional barn owl perches have been installed within this area.

13. High Dam and Bell Intake (36.27ha)

Above the village of Finsthwaite, High Dam and Bell Intake includes the early 19th-century reservoirs of High Dam Tarn and Low Dam, constructed to supply water to Stott Park Bobbin Mill, a major producer of wooden bobbins for the northern textile industry. This industrial legacy is reflected in the woodland's structure, particularly areas of coppice historically managed for timber and charcoal production.

The site is a well-used walking and wild swimming destination. In contrast to the other woodlands, with limited parking and low visitor pressure, the presence of LDNPA and alternative car parks at the entrance makes this one of the most accessible and heavily visited sites under our ownership.

Larch occurs throughout all compartments and is a defining feature of the site's character. Consequently, the risk of a Statutory Plant Health Notice (SPHN) for *Phytophthora ramorum* is a significant concern, as it could require widespread felling, resulting in a major loss of canopy cover and a marked change in landscape character.

13a Bell Intake (10.9ha)

A series of rocky ridges run north-south through Bell Intake, supporting ancient semi-natural oak-birch woodland. The understorey includes hazel, rowan, hawthorn and holly, with a rich ground flora of bilberry, lord's-and-ladies, enchanter's nightshade, dog's mercury, opposite-leaved golden saxifrage, wavy hair-grass, cow-wheat and cocksfoot, alongside abundant bryophytes. On deeper soils between ridges, hazel is more frequent, with bluebell, stitchwort, honeysuckle, bramble, bracken and wood sorrel.

Native broadleaves planted c.30 years ago are now well established. Scattered mature European larch occur throughout (typically 60–70 cm DBH, up to 98 cm). Small flushes support ash and dog's mercury. Along the southern boundary, a gill associated with the beck supports temperate rainforest indicators, with small-leaved lime, wych elm, ash and sycamore, and a ground flora including woodruff and greater wood-rush.

The woodland is largely high forest, though future management will focus on diversification and enrichment. Multi-stemmed oak and birch indicate past coppice management.

13b Deer Exclosure (1.83ha)

A mixed broadleaved woodland established within a deer-fenced exclosure (1999), now compromised by multiple failures in the fence (≥ 5 breaches, damaged sections and obstructed gate). As a result, deer access is high and browsing, fraying and bark stripping are evident across most trees, with regeneration limited.

The canopy is dominated by oak, birch and rowan, with wetter areas supporting alder. Occasional larch, beech, Scots pine and hazel are present. Birch regeneration is dense in places, and overall stand density is high in younger cohorts. Deadwood is abundant throughout. Ground flora is dominated by bramble, tall heather and bilberry, with frequent common rush, devil's-bit scabious, heath bedstraw and Sphagnum mosses.

13c (3.61ha) & 16d (9.93ha) Roger Heights and 16f (4.45ha) Finsthwaite Heights

Enclosing 6.25 hectares of water at High Dam and Low Dam Tarn, these compartments are made up of well-established mixed conifer-broadleaf woodland. Across all three compartments, wet woodland occurs along small watercourses and poorly drained areas, dominated by alder and willow. The ground flora in these areas includes Sphagnum mosses, bilberry and abundant bryophytes, with frequent devil's-bit scabious, tormentil, heath bedstraw and yellow pimpernel. In drier areas, bilberry and bracken dominate. European larch is a key component, with a good range of age classes and generally well-formed trees; this structural diversity is most pronounced in 16c. Mature oak, Scots pine and birch are also frequent. The understorey includes rowan, hazel, holly, bird cherry and whitebeam, with abundant natural regeneration of larch and birch, alongside increasingly frequent beech saplings.

13e (5.28ha)

The margins and backdrop to High Dam Tarn and the area to the west of Low Dam comprise a mosaic of mire, scrub and mature woodland. Along the north shore of High Dam, there is a well-developed transition from open water to mire, with bog myrtle, cross-leaved heath, Sphagnum moss, heather and purple moor-grass with flora such as germander speedwell, yellow pimpernel and bluebell. This grades into scrub woodland of birch, oak, yew, Scots pine, larch and willow.

A population of Duke of Burgundy butterfly was recorded here in 2011, with the species also present on adjacent fell land. On the western shore, more mature woodland is dominated by larch and birch, with occasional Scots pine, oak, holly, hazel and hawthorn, alongside rowan, willow and crab apple with bilberry, bramble, tormentil and woodland horsetail below. Areas of wet woodland dominated by alder are also present. Water levels at High Dam are subject to regular monitoring to meet the requirements of the Reservoirs Act.

14-17. Haverthwaite Heights (75.42ha)

Haverthwaite Heights, acquired by LDNPA in 1987, is situated on a prominent wooded spur between the Rusland and Leven valleys, rising steeply from the Lakeside-Haverthwaite railway to around 156m above sea level. The woodland is diverse in both structure and composition, reflecting a long history of management including coppice management associated with charcoal production and iron working, alongside more recent felling and restocking associated with PAWS restoration. This has resulted in a mosaic of ancient semi-natural woodland, transitioning plantations and developing native broadleaf regeneration. The site retains strong archaeological interest and is well used for recreation, particularly from Haverthwaite station, with an established network of public and permitted paths. Two small, grazed fields at the south-western end add to the varied landscape context, while restoration and access improvements have been a consistent focus since acquisition.

14 Kirkdoors, Haverthwaite Heights, Heights End, Common Height, Back Heights and Massicks Wood (36.70ha)

This compartment comprises predominantly ancient semi-natural oak–birch woodland on steep, rocky terrain, with a strong sense of continuity but evident structural variation resulting from historic coppice and more recent high forest development. Much of the canopy is oak-dominated, with birch as a frequent secondary species and locally abundant yew forming dense stands in places. Veteran and notable trees are a key feature, including mature Scots pine, sweet chestnut and occasional small-leaved lime, contributing to both landscape character and ecological value. Structurally, the compartment grades from closed-canopy high forest to more open, wood pasture-like areas with heathy characteristics, particularly on exposed ground where stunted oak and bilberry–heather communities occur.

Ground flora reflects this variability, with bryophyte-rich rock outcrops and woodland specialists such as bluebell and wood sorrel present in more intact areas, contrasted by bracken-dominated patches in more open or disturbed zones. Across much of the compartment, regeneration is limited and uneven, largely due to sustained deer browsing pressure. Holly is widespread and frequently dominant in the understorey, locally suppressing both regeneration and field layer diversity. Deadwood is present but not abundant in all stands, reflecting past management history. Localised pressures include grey squirrel damage and encroachment of rhododendron and conifer regeneration. Cultural features such as pitsteads and peelers’ huts are frequent, reinforcing the long history of woodland use.

15 Grassings Wood, Long Field and Back Heights Wood (16.69ha)

A structurally diverse woodland which reflects its history as partially planted ancient woodland that is now undergoing gradual restructuring. The canopy is a patchwork of remnant conifer stands, principally Sitka spruce, Japanese larch and western hemlock, alongside areas of naturally regenerated and planted broadleaves. Birch and sycamore are widespread and often dominant, with oak present but less consistently represented, and locally dense occurrences of yew and holly contributing to a variable understorey. Structurally, the compartment ranges from dense pole-stage regeneration, particularly in former clearfell areas, to very closed-canopy, heavily shaded stands, creating a strong internal contrast.

The field layer is similarly variable, with some areas, particularly where canopy has opened through thinning or windthrow, including bluebell, ramsons, dog’s mercury and woodrush, along with wetter ground flora including juncus and tufted hairgrass in flushes. Elsewhere, dense shade and understorey dominance limit ground flora diversity. Regeneration of desirable native species is generally sparse, constrained by deer browsing and compounded by heavy grey squirrel pressure affecting seedling establishment and form. Invasive species are a notable issue, particularly Himalayan balsam in more open or disturbed areas, with a risk of further spread within the compartment.

Windblow in conifer stands has increased light levels in places, but this has often favoured undesirable regeneration such as Sitka. Disease risk associated with larch remains a concern.

Stacks of spruce timber (multiple tonnes) remain on site due to poor extraction access. The presence of the tunnel prevents direct access to the road network, making timber



removal difficult. These constraints, combined with limited alternative extraction routes, present a significant challenge for operations and the implementation of a continuous cover forestry approach.

16 Trough Slack, Parrock Wood, Jimmy Nook, Bare Syke, Lag Bush Hazel Stile and Knott End Wood (11.5ha)

This compartment represents a PAWS restoration landscape at varying stages of development, characterised by a mosaic of restocked clearfell areas, regenerating native woodland and remnant plantation elements. Much of the canopy in restored areas is now dominated by birch and oak, often at pole stage, with sycamore and holly frequent within the mix. Understorey components include hazel and occasional yew, while residual conifers such as Sitka spruce, larch and western hemlock persist in places but are no longer dominant.

Structurally, the compartment is uneven, with recently established and mid-rotation stands interspersed with older woodland and former coppice areas. The field layer shows good diversity in places, particularly in association with flushes, stream corridors and less shaded stands, supporting species such as bluebell, wild garlic, primrose, yellow pimpernel and woodrush, alongside bryophyte-rich boulders. Former coppice areas retain a more continuous ground flora, indicating stronger ecological continuity.

Despite this, regeneration is inconsistent across the compartment, with deer browsing a pervasive constraint on the development of a new canopy cohort. Holly and bramble are locally dominant and contributing to suppression of regeneration, while bracken is expanding in some of the more open areas. Deadwood levels are generally low except where recent operations have introduced it. Ash dieback is evident where ash occurs, influencing stand condition and future composition.

17 Rigg Wood and Parrock Wood (9.47ha)

A mixed woodland of restored PAWS and semi-natural origin, with a broad range of stand structures reflecting past felling, planting and natural regeneration. Oak and birch provide the main native canopy framework, with sycamore locally dominant in areas. Hazel, holly and hawthorn form a common understorey, while conifer elements, including larch, spruce and western hemlock, remain present in parts of the compartment. The structure varies from young, restocked areas to more mature mixed stands, with some open rides and edge habitats adding further diversity.

The ground flora is generally typical of upland oak woodland but uneven in expression, with species such as bluebell, wood sorrel and ferns present but often suppressed under dense canopy or heavy browsing pressure. Ride edges and field boundaries support comparatively higher floral diversity and provide valuable transitional habitat. Across much of the compartment, natural regeneration is limited, with deer pressure a key constraint, leading to a lack of structural development in younger cohorts.

Across much of the compartment, regeneration is limited by sustained deer pressure, resulting in a lack of developing age structure. Bracken and bramble present an increasing influence in more open areas, while localised invasive species, including yellow archangel, ground ivy and laurel, are present. Deadwood is generally limited in some stands, and remaining larch carries an underlying risk of disease. Boundary condition, particularly fencing, continues to influence grazing pressure. Despite these constraints, the compartment retains strong potential for structural diversification,

particularly where regeneration has been successful within protected areas, and includes notable archaeological features and well-developed edge habitats.

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4.2 Information

Use this section to identify features that are both present in your woodland(s) and where required, on land adjacent to your woodland.

It may be useful to identify known features on an accompanying map. Woodland information for your property can be found on the [Magic website](#) and the [Forestry Commission Land Information Search](#).

Feature	Within woodland(s)	Cpts	Adjacent to woodland(s)	Map no
Biodiversity - Designations				
Site of Special Scientific Interest	Yes	5, 8-11	No	16, 28
Special Area of Conservation	Yes	8-11	No	28
Tree Preservation Order	Yes	8e, 9d	No	28
Conservation Area	No		No	
Special Protection Area	No		No	
Ramsar Site	No		No	
National Nature Reserve	Yes	5	No	16
Local Nature Reserve	No		No	
Areas of peat over 50cm deep	Yes	1c, 5, 7a, 12	No	4, 16, 24, 28
RSPB Important Bird Area	No		No	
Higher Level Stewardship grant-funded land	No		Yes	
Priority Habitats	Yes	All	Yes	
Notes County Wildlife Sites occur within cpts 1-4, 6, and 13-16. Rusland Moss was designated a National Nature Reserve in 1958. It was notified as an SSSI in 1981, and forms part of the wider Rusland Valley Mosses SSSI (95.6 ha). Designated in 1989, our ownership at Yewbarrow makes up 80% of the Yewbarrow Woods SSSI. The Rusland Beeches Tree Preservation Orders (TPOs) were confirmed in 1953. Cpts 5, 8-11 and 13 fall within Buglife Important Invertebrate Areas, reflecting the presence of habitat mosaics that support notable invertebrate assemblages. Management of woodland structure, open space, wetland habitats, ride edges and deadwood will contribute to maintaining and enhancing conditions for priority invertebrate species.				

The species below are examples of those recorded within the woodlands to date. This list is not exhaustive, and it is expected that further species would be identified through additional survey and monitoring. More detailed surveys of specific species groups may be undertaken prior to heavy operations to inform management, where appropriate.

Feature	Within	Cpts	Map no	Notes
Biodiversity - European Protected Species				
Bat	Soprano pipistrelle Pipistrelle Noctule	Yes	14f 14c 8e, 9d 8e, 9d	A detailed bat survey should be carried prior to heavy operations

	Whiskered				
Dormouse		Yes			
Great crested newt		Unknown			
Otter		Yes	4, 5, 12		
Sand lizard		Unknown			
Smooth snake		Unknown			
Natterjack toad		Unknown			
Biodiversity – Priority Species					
Schedule 1 Birds	Osprey Honey buzzard Pied Flycatcher Wood Warbler Redstart Curlew Long-eared owl	Yes	5a, 5b, 9c, 11a 5b, 9c, 10a 2b, 3c, 4a, 11d, 13c 1b, 1c, 2b, 3c, 4a, 9d, 10c, 13a, 13c 1c, 3c, 13a, 13c, 14f 1c, 11d 11c	Other notable recorded bird species include: spotted flycatcher (3c), hawfinch (1c, 3c, 11d), Common redpoll (3c, 5a, 13a), Dipper (1c, 3c), Stock dove (1c, 3c, 11d), Tree pipit (1c, 3c, 11d, 13a, 13c, 13e), Reed bunting (1c, 11d)	
Mammals (red squirrel, water vole, pine marten etc)		Yes	Red squirrel – 11a, 14f Pine martens have been recorded at cpt 4 and LDNPA supports the ongoing South Cumbria Pine Marten Recovery Project through monitoring and data collection		
Reptiles (grass snake, adder, common lizard etc)		Yes	Adder – 1, 8b Grass snake – 1c		
Plants		Yes	Juniper – 1, 9-11, 13 Small-leaved lime – 1-4, 6-17 Oblong-leaved sundew – 1,5. Wood fescue – 4, 8-11. Intermediate bladderwort – 1. Toothwort – 2-3. Herb Paris – 12. Detailed bryophyte surveys (4,6) e.g. <i>Syzygiella autumnalis</i> , <i>Jubula hutchinsiae</i> , <i>Rhytidiadelphus subpinnatus</i> , <i>Scapania gracilis</i> .		
Fungi/lichens		Yes	Pine pinkgill, Wood Bolete – 13 Detailed lichen surveys (4,6) e.g. <i>Thelotrema lepadinum</i> , <i>Phyllopsora rosei</i> , <i>Hypotrachyna sinuosa</i> , <i>Scoliciosporum pruinosum</i> , <i>Parmeliella thriptophylla</i> , <i>Pachyphiale carneola</i> , <i>Arthothelium ruanum</i> , <i>Phaeographis dendritica</i> , <i>Arthonia</i>		

		<i>vinosa</i> . 8-11: <i>Sphaerophorus globosus</i> ; <i>Peltigera horizontalis</i> .
Invertebrates (butterflies, moths, beetles etc)	Yes	High Brown Fritillary – 1c. Small Pearl-bordered Fritillary – 1b, 1c, 13c, 13e. Duke of Burgundy – 13c, 13e. Speckled Yellow – 13e . Raft spider – 5a, 5b. These species are associated with a range of habitat features including woodland glades, coppice, ride edges, scrub mosaics, damp flushes, mire habitats and deadwood. Management prescriptions within this plan seek to maintain and enhance through structural diversification, coppice restoration, open space management and habitat restoration.
Amphibians (pool frog, common toad)	Yes	Palmate newt

Historic Environment				
Scheduled Monuments	Yes	4b	7	Stony Hazel Finery Forge (HER ref CU400)
Unscheduled Monuments	Yes	1-4, 6-17	3, 7, 11, 19, 23, 27, 31, 35, 39	Pitsteads, charcoal burner's huts, potash kilns, ruined buildings, trackways etc.
Registered Parks and Gardens	No			
Registered Battlefields	No			
World Heritage Sites (UNESCO)	Yes	All		The English Lake District
Boundaries and Veteran Trees	Yes	4, 7, 8-11, 12, 13, 14-17	12, 24, 28, 32, 36, 40	ATI: Ancient - 5 Veteran – 13
Listed Buildings	No			
Burial Grounds	No			

Landscape				
National Character Area : South Cumbria Low Fells				
National Park	Yes	All	All	Lake District National Park
National Landscapes (formerly AONBs)	No			
Other (please specify):	Yes	Landscape Character Assessment 2-3, 5, 7, 12 – Lowland Valley 1, 4, 6, 8-11, 13, 14-17, - Low Fell		
People				
CROW Access	Yes	1-4, 6-17	3, 7, 11, 19,	Section 16 dedicated

			23, 27, 31, 35, 39	
Public Rights of Way (any)	Yes	1, 2-3, 5, 6, 8-11, 12, 13, 14-17	3, 7, 11, 15, 19, 23, 27, 31, 35, 39	
Common land	No			
Other access provision	Yes	Promoted routes (e.g. greenwood trails – these are currently being reviewed)		
Public involvement	Yes	The woodlands provide significant opportunities for people to connect with nature through an extensive network of Public Rights of Way, open access land, promoted routes and permitted routes. These support a wide range of recreational activities including walking, wildlife watching, learning, volunteering and organised activities where compatible with woodland objectives		
Visitor information	Yes	All woods with PROWs/ permitted access have basic signage and interpretation at main entrances, and some waymarked routes		
Public recreation facilities	Yes	The woodlands are accessible via an extensive network of public footpaths, Public Rights of Way and informal permitted and promoted routes. High Dam provides a small pay and display car park with capacity for approximately 15–20 vehicles. Parking at all other sites is informal, limited in capacity and generally accessed from roadside locations		
Provision of learning opportunities	Yes	School visits, guided walks, training days		
Anti-social behaviour	Yes	Creation of unauthorised MTB trails, damage to trees, overnight camping without permission, littering, motorbikes, informal structures		
Other (please specify):	Yes/No			
Water				
Acid vulnerable catchments	No			
Watercourses	Yes	All		Becks, gills, seasonal streams, wet flushes
Lakes	No			
Ponds	Yes	14-17		
Other (please specify):	Yes	High Dam has two tarns, Low Dam (0.25ha) and High Dam (6ha). These are artificial tarns created to provide constant water to power to the bobbin mill at Stott Park.		

4.3 Habitat types

This section is to consider the habitat types within your woodland(s) that might impact/ inform your management decisions. Larger non-wooded areas within your woodland should be classified according to broad habitat type. Where relevant this information should also help inform your management decisions. Woodlands should be designed to achieve a diverse structure of habitat, species and ages of trees, appropriate to the scale and context of the woodland.

Feature	Within woodland(s)	Cpts	Map no	Notes
Woodland habitat types				
Ancient Semi-Natural Woodland	Yes	1-4, 6-17	4, 8, 12, 20, 24, 28, 32, 26, 40	282 hectares in total across the holding.
Planted Ancient Woodland Site (PAWS)	Yes	8c, 16, 17	28, 40	8c mapped as PAWS but no clear indicators. 13 meets PAWS criteria but not mapped.
Semi-natural features in PAWS	Yes	14, 15, 13a		
Lowland beech and yew woodland	No			
Lowland mixed deciduous woodland	No			
Upland mixed ash woods	No			
Upland oakwood	Yes	1-4, 6-17		
Wet woodland	Yes	1-15		
Wood-pasture and parkland	No			
Other (please specify):				
Non woodland habitat types				
Blanket bog	No			
Fenland	No			
Lowland calcareous grassland	No			
Lowland dry acid grassland	No			
Lowland heath land	No			
Lowland meadows	No			
Lowland raised bog	Yes	5a, 5b, 5c		
Rush pasture	No			
Reed bed	No			
Wood pasture	No			
Upland hay meadows	No			
Upland heath land	Yes	1, 10, 13		

Unimproved grassland	No			
Peat lands	No			
Wetland habitats	Yes	1, 5, 13		Basin mire
Other (please specify):	Coastal and floodplain grazing marsh – Border Moss (12e & 12f)			

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4.4 Structure

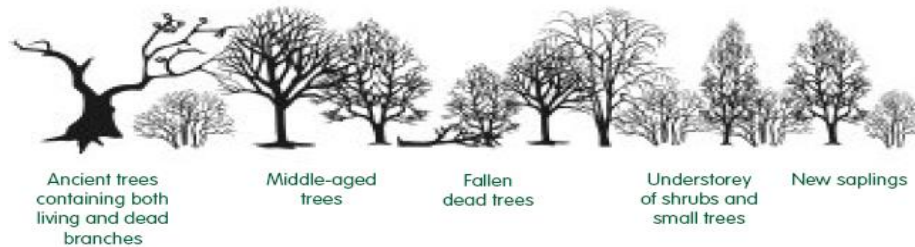
This section should provide a snapshot of the current structure of your woodland as a whole. A full inventory for your woodland(s) can be included in the separate Plan of operations spreadsheet. Ensuring woodland has a varied structure in terms of age, species, origin and open space will provide a range of benefits for the biodiversity of the woodland and its resilience. The diagrams below show an example of both uneven and even aged woodland.

Woodland type (broadleaf, conifer, coppice, intimate mix)	Percentage of mgt plan area	Age structure (even/uneven)	Notes (i.e. understory or natural regeneration present)
Broadleaf	76%	Uneven*	Understorey generally sparse; regeneration present but heavily browsed. Recruitment of native upland oakwood species is limited, with regeneration skewed towards browsing-tolerant species such as holly and beech.
Conifer	19%	Uneven*	Scattered conifers, locally denser within PAWS areas. Regeneration of juniper, Scots pine or yew rare, with regeneration largely restricted to non-native species such as Sitka spruce, western hemlock and larch.
Coppice	5%	Uneven*	Lapsed coppice (predominantly hazel & oak), overstood. Stools mature with limited recent management. Basal regeneration suppressed by browsing.

* Across the LDNPA estate, variation in species composition, age structure and management history between these woodland blocks contributes to overall structural diversity. This variation reflects a combination of recent planting and regeneration, mature stands, areas of lapsed and more recent coppice, standing and lying deadwood, and the presence of veteran and ancient trees. However, at the compartment level, much of the woodland remains predominantly even aged as a legacy of previous management. Understorey development and natural regeneration are variable and locally constrained by browsing pressure.

Management under this plan is directed towards increasing structural diversity through low-intensity interventions to maintain continuous canopy cover.

Uneven-aged woodland – many wildlife habitats because of high diversity



Even-aged woodland – tidy but of low diversity



Section 5: Woodland protection

Woodlands in England face a range of threats. This section allows you to consider the potential threats that could be facing your woodland(s). Use the simple risk assessment process below to consider any potential threats to woodland(s) and whether there is a need to take action to protect woodland(s).

Note: To add more tables, copy the table and paste below.

5.1 Risk matrix

The matrix below provides a system for scoring risk. It also indicates the advised level of action to take to help manage the threat.

Impact	High	Plan for action	Action	Action
	Medium	Monitor	Plan for action	Action
	Low	Monitor	Monitor	Plan for action
		Low	Medium	High
Likelihood of presence				

5.2 Plant health

Threat	Ash Dieback
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Action. Ash is present within most compartments but does not form a significant component of the canopy. Management will focus on regular monitoring and targeted felling to manage safety risks while retaining ash for biodiversity where possible. Ash adjacent to paths, roads and other defined targets is surveyed routinely, with summer assessments for dieback class and winter inspections for secondary infection and structural condition. Trees reaching Dieback Class 3 or 4, or dead, will be felled where adjacent to a defined target. Ash away from targets will be retained where risk is acceptable, recognising its value for biodiversity, including bats, invertebrates and specialist lichens present on site. Where felling is required, trees will be retained as standing deadwood (monoliths) where safe to do so; otherwise lying deadwood will be left on site. Management may be supported through CWD2 Woodland Improvement and, where appropriate, CWS5 Improve Woodland Resilience to promote species and structural diversity and reduce vulnerability to ash loss. Where future availability and provenance are appropriate, resistant ash stock may be considered for enrichment planting to retain the ecological function of ash within affected woodland communities.	

Threat	Phytophthora ramorum
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. At High Dam, and to a lesser extent Haverthwaite Heights, larch is visually prominent and contributes strongly to woodland character. Both sites have been managed historically for high-quality larch timber, with felling intended to be phased to maintain structure and avoid abrupt	

landscape change. The principal concern an SPHN could override this planned approach, resulting in rapid or large-scale felling and compromising long-term management objectives. No SPHN been served to date, as infection has not been formally confirmed; however, *P. ramorum* is present within the wider valley and the risk of introduction is recognised. Larch stands will be monitored regularly, with the Tree Health team notified immediately if symptoms are identified. Contingency plans for pre-emptive felling are in place should this become necessary. Control of rhododendron will continue as a priority, recognising its role as a sporulating host. Where management involves the restructuring of plantations on ancient woodland sites, this may be supported through CWD2 Woodland Improvement and CWS2 Manage and Restore PAWS.

Threat	Phytophthora austrocedri
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. <i>P. austrocedri</i> poses a significant risk to juniper, a nationally scarce and UK priority species, with notable populations present at Yewbarrow and Thwaite Head. The disease can lead to loss of vigour, progressive dieback and eventual mortality. The location of these sites, particularly where juniper occurs on wet, upland or poorly drained ground, increases vulnerability. Management will therefore focus on risk avoidance and biosecurity. Juniper populations will be monitored for signs of decline, and specialist advice sought if symptoms consistent with the disease are observed.	

Threat	Acute Oak Decline
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. Oak health will be monitored through routine tree safety inspections and wider woodland condition assessments. Symptoms consistent with AOD, including stem bleeding, crown thinning or rapid decline, will be reported via TreeAlert. Management will focus on maintaining tree vigour and woodland resilience, with particular emphasis on protecting soils and root systems through minimising compaction and ground disturbance. Where oak stands are dense or overcrowded, selective thinning may be undertaken to reduce competition and physiological stress, thereby lowering susceptibility to decline.	

5.3 Deer

Species	Red and Roe
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. Initial drone surveys and HIAs indicate high deer populations with high impact across much of the woodland estate. Browsing is the principal factor limiting understorey development and natural regeneration, resulting in a browse line, suppressed species and age diversity, and lack of tree recruitment. Continued pressure risks a long-term shift in woodland composition, with reduced coppice and broadleaf regeneration and increased dominance of less palatable species, such as beech, at the expense of upland oak woodland. Management will follow a structured and adaptive approach,	

supported through CWS2 Woodland Improvement and CWS1 Deer Control and Management. All woodlands except High Dam currently have stalking arrangements in place. A Deer Management Plan will be prepared for the whole holding, with advice sought from the FC Deer Officer, to set population and impact targets. A combination of lethal and non-lethal measures are used, including tree shelters, exclosures, deer fencing and targeted use of repellents such as Trico. Where appropriate, access infrastructure (e.g. through FY2 Woodland Infrastructure) should be considered to support effective deer management, including stalking, monitoring and carcass extraction. Impacts will be monitored through repeat HIAs and woodland condition checks, with management adapted as required.

5.4 Grey squirrels

Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. Grey squirrels are present across the woodlands, with evidence of bark stripping, damage to young trees and the presence of dreys. This poses a significant risk to native red squirrel populations and woodland structure, timber quality, regeneration success. Targeted control is currently undertaken at Yewbarrow and Haverthwaite Heights through a local Red Squirrel Group, although delivery elsewhere is constrained by public access and limited safe backstops. A Grey Squirrel Control Plan will be prepared for the holding (PA7), and delivery may be supported through CWD2 and CWS3, with associated capital items. This will be informed by further impact assessments to identify priority areas and damage hotspots, and aligned with the UK Squirrel Accord Action Plan. Where feasible, control will prioritise young and sensitive broadleaf stands. Improvements to woodland structure and species diversity may also be supported through CWS5 Improve Woodland Resilience, helping to reduce overall vulnerability to squirrel damage. Monitoring of pine marten activity will continue.	

5.5 Livestock and other mammals

Threat	Sheep
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. Sheep stock trespass presents a residual risk where the woodlands adjoin actively grazed agricultural land. Although typically intermittent, incursions can have high impacts through browsing of regeneration and ground flora, with ongoing pressure risking a decline in woodland condition. Management will focus on preventing stock ingress, with Rangers undertaking regular inspections of boundary walls and fencing, and repairs or replacement carried out as required. Impacts will be monitored through woodland condition checks, with additional protective measures considered where regeneration is vulnerable. Funding will be applied for through CWD2 and associated capital items, including boundary fencing (FG1) and wall repair (BN16).	

Threat	Rabbits / Hares
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium

Response (inc protection measures)

Plan for action. They are causing localised browsing damage to young trees and ground vegetation, particularly within newly established regeneration areas and restocking sites. Browsing pressure may limit successful establishment where protection is absent or ineffective. Management will focus on protecting vulnerable regeneration and new planting, primarily through the use of tree shelters and guards. These areas will be monitored for signs of damage, and protection adjusted or extended as necessary to ensure successful establishment. Funding will be applied for through CWD2 and associated capital items, including tree guards and shelters (TE6-8).

5.6 Water and soil

Threat	Soil compaction and rutting
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Plan for action. The woodlands are largely ancient semi-natural woodland, where soils are of high ecological value and may have limited resilience to disturbance. Many sites lack pre-existing access infrastructure, increasing the risk of soil compaction and rutting during operations if not carefully managed. Where justified, FY2 Woodland Infrastructure may be utilised to create carefully designed forestry tracks and extraction routes, enabling operational access to be concentrated along defined alignments and reducing the risk of repeated trafficking, soil compaction and rutting across the wider woodland. Both within and beyond these defined routes, impacts will be minimised through careful planning, timing and method selection, with operations avoided in unsuitable ground conditions, particularly when soils are wet. Preference will be given, where practicable, to hand felling or low-ground-pressure machinery. Any temporary access or extraction routes will be planned, with ground protection and post-operation reinstatement incorporated. Operational areas will be monitored for compaction, rutting or erosion, and practices adapted as necessary to protect long term soil function and woodland condition.	

Threat	Diffuse pollution
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Monitor. Diffuse pollution affects ancient woodland soils and ground flora which are adapted to low-nutrient conditions, as well as becks, ghylls and other watercourses within the woodland. Risk arises primarily from nutrient enrichment from surrounding land use, and more locally from herbicide use, infrastructure works and timber extraction through sediment mobilisation or runoff pathways. Operational works will be low intensity where possible, with low ground impact methods and equipment used where practicable. Use of pesticides will be minimised but applied where necessary in line with best practice. Risk Assessment Method Statements (RAMS) will be completed prior to works to identify pollution pathways and specify appropriate mitigation measures. CWD2 and water quality capital items may support the management of this threat.	

5.7 Environmental

Threat	Wind
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. Wind is recognised as a natural component of disturbance; however, repeated and severe wind events can pose a risk to woodland condition, including sudden canopy loss, soil disturbance, damage to veteran trees, and progressive instability where previously sheltered trees become newly exposed. Wind damage may also have secondary implications for access and public safety, particularly where they are open access with Public Rights of Way and permitted routes. An established storm response protocol is in place, including post-storm inspections following Met Office wind warnings and temporary closures where necessary to manage hazardous trees. Management using CWD2 will aim to maintain woodland resilience, recognising the increasing frequency and intensity of storm events associated with climate change, while allowing natural disturbance processes to contribute to structural diversity where safe to do so. Wind damage away from targets will generally be retained, recognising its significant biodiversity value as deadwood habitat and an ecological niche.	

Threat	Fire
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	
Action. These woodlands are not fire-adapted systems, and even low intensity fire can cause severe and long-lasting damage. Fire can cause the loss of long-established canopy structure and timber stock, destroy irreplaceable ancient woodland soils and the lichen, bryophyte and ground flora assemblages characteristic of these woods - with recovery times measured in decades or centuries. Ignition risk is increased by open access and Public Rights of Way, with higher visitor use during dry spring and summer periods, and limited scope for prevention or enforcement. Access constraints and terrain further increase the potential impact of any fire event. Management will therefore focus on fire prevention, preparedness and rapid response. A Fire Management Plan will be written, supported by WF1 Create a Wildfire Checklist, and potentially items such as CES6 and CUP18.	

Threat	Invasive Non Native Species
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Action. INNS are present across the woodlands, primarily as localised populations, and are impacting woodland condition where established. Himalayan balsam, rhododendron ponticum, cherry laurel and skunk cabbage pose a risk through competitive exclusion, suppression of native ground flora and regeneration, and alteration of woodland structure where dense growth occurs. Management will focus on targeted control and containment, prioritised by location, extent and site sensitivity. Control will use appropriate, site-specific methods, with attention to biosecurity and minimising disturbance. Treated areas will be monitored to assess effectiveness and inform follow-up action, with the aim of preventing spread and supporting recovery of native woodland	

communities. Application to Countryside Stewardship Higher Tier will support species management planning (PA7) and control work (e.g. CWD2, FG15, CSP12).

Threat	Beech
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Action. These woodlands are predominantly ancient semi-natural Atlantic oak woodland (principally NVC communities W11 and W17), of high conservation value and underpinning designations including SAC and SSSI at Yewbarrow. Beech is not a characteristic component of upland oakwood and, where it becomes dominant, can adversely affect woodland condition through dense canopy cover and heavy leaf litter, leading to suppressed ground flora and limited regeneration of light-demanding species such as oak, birch and hazel. Without intervention, continued beech expansion risks a gradual shift in woodland composition and loss of characteristic Atlantic oakwood features. Management will therefore focus on containing and reducing beech influence where it threatens woodland condition. Protective measures will include targeted removal of seed-bearing beech trees, early control of beech regeneration, and selective thinning or halo-thinning to improve light availability and favour characteristic species (CWD2, CWS8). Where appropriate and away from access routes and other defined targets, selected mature beech may be ring-barked to reduce seed input and create standing deadwood, recognising its biodiversity value while avoiding soil disturbance. Interventions will be site-specific and condition-led, with the aim of maintaining and restoring upland oakwood composition, not wholesale removal - recognising that retention of some beech may contribute to structural diversity and resilience under a changing climate.	

Threat	Holly dominance
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Plan for action. Holly is a native and valuable component of both the woodland understorey and, locally, the sub-canopy. It provides important winter food and shelter for birds and contributes positively to woodland structure and microclimate. However, in some compartments holly has become locally dominant, forming dense, evergreen thickets. This is closely associated with high deer browsing pressure, as holly is largely unpalatable while other regeneration is preferentially browsed (CWS1). As a result, holly persists and expands while regeneration of other species fails. Where holly becomes dominant, its dense shade suppresses ground flora and natural regeneration, reducing woodland diversity. In addition, holly growth around oak stems can limit light, airflow and humidity gradients on the bark, restricting the development of corticolous lichens, which are a key feature of Atlantic oakwood habitats. Management will focus on reducing excessive holly dominance while retaining holly as a component of the woodland. Measures will include targeted reduction of holly in affected areas, with the aim of restoring structural balance rather than removing holly wholesale – supported through CWD2 Woodland Improvement and, where appropriate, CWS8 Manage Native Woodland.	

5.8 Social

Threat	Visitor pressure associated with CROW access, Public Rights of Way and permitted routes
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Monitor. Public access is an important feature of these woodlands and supports the LDNPA statutory purpose of promoting opportunities for the understanding and enjoyment of the special qualities of the National Park. However, unmanaged or diffuse access can lead to localised impacts on woodland condition, particularly through off-path trampling, low level soil compaction, damage to ground flora, and the formation of informal desire lines. Open access also increases the risk of introducing and spreading invasive species and pathogens and can constrain woodland management through enhanced tree safety requirements and reduced flexibility in the timing and methods of operations, such as deer and squirrel control or ambitious veteranisation. Management will focus on maintaining access while minimising impacts, e.g. existing Public Rights of Way and permitted routes will be maintained, with waymarking improved where appropriate to discourage off-path movement and limit the development of desire lines. Woodland operations will be planned around access use, with tree safety managed on a risk-based and proportionate basis. Woodland condition adjacent to access points and routes will be monitored, with management adapted where impacts become evident. Under Countryside Stewardship Higher Tier, grants may be sought to support the management of public access in a way that protects the woodland (WS4, AC1).	

Threat	Organised recreational events and group activities
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Plan for action. Larger organised recreational events and group activities (e.g. orienteering and guided walks) occur infrequently but can involve the concentration of high numbers of participants over short time periods, resulting in localised but intense pressure on woodland condition, particularly through trampling and off-path movement. All organised events will be subject to prior agreement and early liaison, to ensure activities are compatible with woodland sensitivity. Event locations, routes and formats will be carefully reviewed and agreed in advance to avoid sensitive areas, including wet ground, steep slopes, bryophyte-rich habitats, areas of active regeneration, and seasonally sensitive features. Where possible, activities will be designed to use existing paths or other resilient ground, and unnecessary off-path movement will be minimised. Event organisers will be required to follow basic biosecurity good practice and repeated use of the same locations will be avoided where this could lead to cumulative or long-term damage. Woodland condition in areas used for organised activities will be reviewed post-event, with future arrangements adapted as necessary (potentially supported by WS4, AC1 and VED1 where appropriate).	

5.9 Economic

Threat	Operational Costs
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Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Action. Delivery of felling, thinning, coppicing, tree safety and INNS control is constrained by the absence of an in-house forestry team and consequent reliance on external contractors. Operational costs are elevated due to the characteristics of the woodland estate, including steep and unstable terrain, limited vehicular access, and the need for sensitive working within ancient woodland and, where applicable, SSSI designations. These factors necessitate labour intensive, low impact methods, resulting in higher costs per cubic metre than in lowland/ plantation contexts. Operational costs can also fluctuate due to external pressures such as fuel and oil price volatility, contractor availability and weather constraints. Where appropriate, the provision of access infrastructure (e.g. through FY2 Woodland Infrastructure) will be considered to improve operational efficiency and reduce long-term costs. Where costs cannot be met, thinning and structural management may be delayed or reduced, with potential implications for canopy structure, regeneration and long term woodland resilience. Management will therefore focus on prioritisation and targeting, directing limited resources towards interventions delivering the greatest ecological benefit. Where appropriate, partial cost recovery will be sought through the sale of timber, firewood and byproducts, while retaining material on site where required for biodiversity. Over time, internal capacity will be supported by strengthening a reliable volunteer network and the use of apprenticeships or traineeships, helping to reduce reliance on contractors and improve delivery.	

Threat	Funding constraints
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Plan for action. The delivery of selective thinning and structural management within the woodlands can be constrained by variable funding availability. In these woodlands, thinning is often low intensity and ecologically led, undertaken primarily to improve woodland structure and resilience rather than to maximise timber output. As a result, volumes removed are typically small and of variable quality, with a proportion intentionally retained on site as deadwood, and income from timber alone may not fully offset operational costs. Where funding constraints delay or limit intervention, some areas may become over-closed in canopy, reducing understorey development, regeneration potential and long-term structural diversity. Management will therefore prioritise interventions delivering the greatest ecological benefit and seek to balance timber income with external funding or partnership opportunities where required. Operations will be planned to be proportionate, cost-effective and low-impact, recognising that while partial cost recovery through timber extraction may be achievable in some locations, it should not determine the nature or timing of management.	

Threat	Timber prices
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
A plan for action. Timber income forms a variable and uncertain source of funding for woodland operations. Price volatility influences the ability to deliver larger-scale restoration and restructuring projects identified within this plan, including the forest-to-bog restoration at Rusland Moss, larch management at High Dam, and PAWS restoration at Haverthwaite Heights. Fluctuations in timber	

markets may affect the viability or timing of these works, with potential implications for woodland condition if interventions are delayed. Management will therefore monitor timber markets and plan operations flexibly to ensure that operational costs can be met without compromising ecological objectives. Timber income will be treated as enabling rather than determinative, and balanced with external funding, phased delivery or alternative approaches where required.

5.10 Climate change resilience

Threat	Uniform structure
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
Plan for action. Historic management has resulted in some even aged woodland structure, which reduces resilience to climate-related stress. Management will therefore focus on increasing structural and age diversity through selective thinning and small-scale gap creation to encourage continuous natural regeneration, development of multiple canopy layers, and improved recruitment of characteristic species (CWD2, CWS5). Halo thinning around veteran and near-veteran trees will support crown development and longevity. Standing and lying deadwood will be retained or increased to support ecological function and resilience.	

Threat	Provenance
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	
A plan for action. The provenance of trees used in enrichment planting, restocking or beating up can affect how well the woodland adapts to a changing climate. Management will continue to prioritise natural regeneration wherever possible, allowing locally adapted genotypes to establish naturally. Where planting is required to meet woodland condition or restoration objectives, planting stock will be sourced from reputable UK suppliers. Provenance choice will favour predominantly local or regional material, supplemented by a limited proportion from provenances adapted to slightly warmer climatic conditions (typically 2–3 degrees south of the woodland), in line with Forestry Commission and research-led guidance on climate adaptation. This approach aims to increase genetic diversity and spread climatic risk while maintaining woodland character.	

Threat	Lack of diversity
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	

A plan for action. The woodland canopy is strongly dominated by oak, while regeneration in some areas is increasingly dominated by beech, sycamore and holly, with limited establishment of other characteristic upland oakwood species. Reliance on a narrow range of species reduces resilience to climate-related stress and limits future management options. In line with UKFS principles, which seek to avoid excessive reliance on single species, management will aim to increase species diversity while retaining oak as the principal canopy species (CWS5 Improved Woodland Resilience). This will be achieved through selective thinning to create suitable conditions for a wider range of species and targeted enrichment planting where natural regeneration is insufficient. Enrichment planting will focus on characteristic upland oakwood species to diversify age and species structure and support long-term woodland resilience.

DRAFT

Section 6: Management strategy

This section requires a statement of intent, setting out how you intend to achieve your management objectives and manage important features identified within the previous sections of the plan. A detailed work programme by sub-compartment can be added to the Plan of Operations.

Management objective/feature	Management intention
OBJ1: Improve the ecological condition of the woodlands	• Management will adopt a continuous cover, low-impact silvicultural approach to promote the gradual development of an uneven-aged, structurally diverse woodland dominated by native species • Structural diversity will be enhanced through the creation and maintenance of woodland openings and application of selective thinning, respacing, coppicing and irregular ride and path edge management to enhance structural diversity and light variation • Veteran tree continuity will be supported through halo thinning around selected future and near-veteran trees to promote crown development, improve longevity and maintain associated microhabitats • Natural regeneration will be the primary mechanism for woodland recovery, supported where necessary by enrichment planting and targeted protection measures in areas subject to browsing pressure, to encourage the development of a diverse and well-distributed understorey • Non-native species that impact condition will be addressed through gradual removal e.g. non-native conifers and dense, heavily shading beech where these suppress native woodland composition and structural diversity • Invasive non-native species will be controlled on an ongoing basis, focusing on species such as Himalayan balsam, Rhododendron ponticum, Cherry laurel, Skunk cabbage and yellow loosestrife, to prevent further spread and ecological impact • Competitive vegetation will be managed selectively, including holly, bracken and bramble, where it inhibits regeneration or limits structural variation, while retaining its ecological value where appropriate • Deadwood resources will be maintained and enhanced, including retention of fallen timber, creation of standing deadwood where safe to do so, and the use of brash piles and habitat refugia where appropriate to provide additional habitat for invertebrates, reptiles and small mammals • Retain and develop a minimum woodland-scale target of approximately 20m³ deadwood per hectare, comprising both standing and fallen deadwood where safe and appropriate

	• Management will seek to maintain and enhance habitat conditions for priority species associated with the woodland estate. Measures including structural diversification, coppice restoration, retention and creation of deadwood, management of glades and woodland edges, restoration of wetland habitats and support for natural regeneration will benefit priority species. • Where appropriate, management will consider the ecological requirements of recorded priority species when designing and implementing site-based interventions
OBJ2: Support sustainable timber production that generates income to reinvest in woodland management, supports local contractors and craftspeople, and provides wood products internally for LDNPA projects.	• Where possible, woodland management will adopt a continuous cover forestry (CCF) approach, maintaining permanent woodland cover through selective, small-scale interventions that provide a regular and sustainable timber yield without compromising ecological condition • Timber production will be integrated with restoration objectives, with incremental thinning, selective felling and small-scale harvesting used to improve stand structure, favour desirable species and promote the development of high-quality stems over time • Selected stems will be identified and managed, where appropriate, through formative pruning and selective thinning to improve form, stability and timber quality, ensuring the ongoing production of usable material • The level and intensity of timber production will be constrained by environmental considerations, including soils, hydrology, biodiversity interest and landscape sensitivity, with interventions designed to remain low-impact and appropriate to site conditions • Timber products arising from management will be prioritised for local and internal use wherever feasible, supporting the Authority's projects through the supply of materials such as gates, fencing, interpretation boards, benches and boardwalk infrastructure – where achievable • Higher-quality timber and specialist species (e.g. yew and cherry) will, where appropriate, be made available to local contractors, craftspeople and small-scale processors, contributing to the local woodland economy • Where volumes exceed local demand, timber will be marketed through appropriate regional outlets, with income reinvested into woodland management, supporting the delivery of wider environmental and public benefits
OBJ3: Protect and enhance the Rusland valley's internationally rare temperate rainforest habitat, maintaining the conditions required to support its characteristic indicator species.	• Woodland management will be undertaken to maintain and enhance the environmental conditions required to support temperate rainforest communities, with particular emphasis on sustaining stable, humid microclimates, continuity of suitable substrates and low levels of ecological disturbance • Existing lichen and bryophyte records will be maintained and periodically reviewed, with management decisions informed by available survey data to ensure that operations avoid direct or indirect impacts on species of conservation importance, and respond to emerging knowledge where appropriate • Structural interventions (as outlined under Obj1) will be carefully moderated in scale and intensity to maintain a balance between light penetration and canopy continuity, ensuring that increased structural diversity does not compromise the humid, sheltered conditions required by oceanic species

	• Where applicable, woodland structure will be managed to support microclimatic stability, including the retention of adequate canopy cover, the avoidance of excessive opening and edge exposure, and the maintenance of varied but connected habitat conditions • Substrate continuity will be maintained and enhanced through the retention of standing and fallen deadwood, veteran and mature trees, and long-established structural features that support epiphytic communities • Selective management of holly and other coarse vegetation will be undertaken where it causes physical abrasion to stems, excessive shading of host trees, or limits air movement • Mature hazel stools that have not been recently coppiced will be retained where appropriate, recognising their value as important long-term substrates for specialist lichen assemblages and their contribution to habitat continuity • Trees affected by ash dieback will be retained where safe to do so, acknowledging their importance as host substrates for nationally scarce and rare lichen species, and to maintain continuity of habitat as species composition changes • Management interventions will adopt a precautionary approach, particularly where sensitive features are present or where species distributions are uncertain, with operations adapted to minimise risk to priority habitats. • LDNPA will continue to work in partnership with organisations including Plantlife, Rusland Horizons and the North West Rainforest Alliance to support monitoring, data sharing and the incorporation of evolving best practice into temperate rainforest management
OBJ4: Safeguard ancient woodland and veteran trees as irreplaceable assets through the prevention of damage and active management to ensure continuity.	• Ancient woodland features and veteran trees will be identified, mapped and treated as key constraints, with their presence informing the planning and delivery of all woodland operations to avoid direct and indirect damage • Woodland management and licenced activities will prioritise the protection of ancient woodland soils and long-established ecological features, with operations planned to minimise disturbance, compaction and erosion, and to maintain the integrity of root systems and below-ground communities • Harvesting and extraction activities will be carefully controlled in timing, intensity and routing, ensuring that ground conditions, root protection areas and sensitive features are respected at all times • The long-term management approach will seek to maintain and enhance the continuity of veteran trees and associated habitat features, recognising their irreplaceable ecological value and the extended timescales required for their development • Halo thinning will be undertaken around selected veteran, near-veteran and mature trees to reduce competition and improve light availability, including the selective removal of regenerating trees (e.g. beech) where they create excessive shading or inhibit crown development • Non-native conifers and other suppressive species will be gradually removed where they detract from ancient woodland characteristics, in order to restore appropriate structure, species composition and ecological function • Veteranisation techniques will be applied selectively within suitable stands to promote the development of veteran tree

	characteristics, helping to bridge gaps in age structure and support the long-term continuity of these features - Protected trees subject to Tree Preservation Orders will be managed in accordance with statutory requirements. No works are currently proposed to the Rusland Beeches; however, where any TPO-protected tree is removed in the future, appropriate replacement planting will be undertaken in accordance with the requirements of the Tree Preservation Order - Management will adopt a precautionary approach in areas of high sensitivity, with interventions adapted where necessary to avoid damage to veteran trees, root systems and associated habitats
OBJ5: Reduce the impacts of livestock, deer and grey squirrel populations through improved, impact-driven and collaborative management	- Reduce herbivore and grey squirrel impacts to levels that allow successful natural regeneration and long-term woodland resilience, recognising that grazing and browsing play an important role in shaping woodland structure, but must be kept at levels that do not restrict regeneration or the development of understorey diversity (5 deer per km²) - Deer management will be delivered through ongoing collaborative stalking arrangements, with the scale, timing and spatial focus adapted in response to observed impacts on woodland condition, rather than fixed population targets - Browsing and grazing pressure will be assessed using Herbivore Impact Assessments and site-based indicators, with results used to inform an adaptive management approach and prioritise areas requiring intervention - Livestock impacts will be managed through the maintenance of effective boundary infrastructure, with regular inspection and repair of fencing and gates to prevent ingress, and a rapid response where grazing pressure is identified as detrimental to woodland condition - Woodland structure and species composition will be managed to increase resilience to herbivore pressure by promoting irregular, multi-layered stands, diverse age structure and patchy regeneration, reducing vulnerability to browsing impacts - Where regeneration is at risk, targeted protection measures such as temporary fencing, tree shelters or deterrents will be used on a time-limited basis to enable establishment - All protection measures will be regularly reviewed and removed once no longer required, with materials reused or recycled where possible through recognised schemes - Existing exclosures will be inspected periodically to assess effectiveness and continued need, and removed where no longer contributing to management objectives or woodland condition - Grey squirrel impacts will be monitored through sightings, damage indicators and local intelligence, with control measures implemented where necessary to reduce bark stripping and protect tree health and timber quality, delivered in coordination with local control initiatives - Continue to support landscape-scale species recovery initiatives, including the South Cumbria Pine Marten Recovery Project. Monitoring infrastructure, including camera traps and scent stations, will be maintained and expanded where appropriate to support population monitoring, data collection and evaluation - Management will be delivered collaboratively at a landscape scale, working with neighbouring landowners, deer management groups, squirrel groups and relevant partnerships

	Records of herbivore activity, control effort and observed impacts will be maintained to support long-term evaluation and continuous improvement of management approaches
OBJ6: Build woodland resilience to climate change, associated climatic stressors, and pests and disease through adaptive management.	- Woodland management will aim to increase resilience to climate change and associated stressors by promoting structurally diverse, species-rich and uneven-aged woodland capable of adapting to changing environmental conditions and recovering from disturbance - Tree health will be monitored through regular inspections, with frequency increased following extreme weather events or where emerging threats are identified, and findings used to inform a responsive and adaptive management approach - Early signs of stress, including crown thinning and dieback will be used as indicators to guide timely intervention and adjustment of management practices - Species diversity will be increased over time, with a focus on site-appropriate species and a broad genetic base, using planting where necessary to complement natural regeneration - Provenance selection will seek to balance local adaptation with the introduction of wider genetic diversity to improve long-term resilience - CCF will be used to maintain canopy cover across the site, with interventions designed to avoid large openings and retain shelter, reducing exposure to drying, temperature extremes and wind - Woodland structure will be diversified through selective thinning and small-scale interventions, avoiding uniform stand conditions and promoting a varied age and species structure that reduces vulnerability to pests, diseases and climatic stress - Conditions favourable to pest and disease outbreaks will be reduced where practicable, including through improved airflow and stand structure, alongside early identification and appropriate response to affected trees where required - Fuel loads will be managed to reduce wildfire risk, particularly in vulnerable areas, through the control and redistribution of dry vegetation - Rides, glades and access routes will be maintained and managed to contribute to fire resilience and facilitate access for management and emergency response
OBJ7: Conserve features of cultural and industrial heritage and uphold attributes that define the Lake District's World Heritage status.	- Known historic and cultural features will be identified, mapped and treated as key constraints, with their presence informing the design and delivery of all woodland operations to prevent direct or indirect damage - The location of heritage features will influence access routes, extraction methods and the scale and positioning of interventions, ensuring that woodland operations are adapted to avoid disturbance - Where features are at risk from vegetation encroachment, targeted management (including bracken and scrub control) will be undertaken to maintain their visibility, condition and long-term preservation - Management will seek to retain and reflect the historic character of the woodland and wider cultural landscape, including the maintenance of features and structures that contribute to the Lake District National Park's World Heritage Site designation - Woodland management will, where appropriate, support and reinstate traditional woodland practices that contribute to cultural heritage, including coppicing, use of local timber and the

	continuation of skills associated with historic woodland management, like charcoal production, swill basket making and bark peeling • Traditional built features associated with the historic landscape, including dry stone walls, will be maintained and restored where appropriate to support heritage conservation, landscape character and practical land management • Opportunities will be taken to improve public understanding of the woodlands' archaeological, cultural and industrial heritage through interpretation, engagement and partnership working, e.g. interpretation of features such as pitsteads, coppice systems and other historic woodland features - developed in collaboration with the LDNPA Historic Environment Team where appropriate • A precautionary approach will be adopted where feature condition or location is uncertain, with operations modified as necessary to avoid potential damage
OBJ8: Deliver benefits for people alongside nature recovery by supporting safe access, quiet enjoyment and opportunities for recreation, learning and community engagement.	• Public access will be maintained in line with statutory access rights through the active management of paths, infrastructure and woodland operations, ensuring access remains safe, functional and compatible with woodland management • Paths, gates and signage will be regularly inspected and maintained through LDNPA systems to ensure routes remain open, safe and usable • Woodland operations will be planned and delivered to maintain safe and functional public access wherever possible, with temporary diversions or closures used where necessary and clearly communicated • The alignment and condition of paths will be considered throughout, and any damage to path surfaces, drainage features or access infrastructure arising from operations will be repaired and reinstated on completion of works • Tree safety will be managed along paths, boundaries and high-use areas using a risk-based approach, balancing public safety and biodiversity where appropriate • Recreational use will be supported where it remains low impact, with activities managed where necessary to prevent damage to habitats, soils and heritage features • Volunteer activity will be supported through regular work parties, contributing to practical woodland management, skills development and site stewardship • The local community will be kept informed of woodland management activities and opportunities to get involved, encouraging understanding, responsible use and support for ongoing work • Opportunities for learning and interpretation will be supported to help people understand the history, archaeology and management of the woodlands and their contribution to the cultural landscape of the Lake District
OBJ9: Monitor woodland condition and management outcomes, adapting management practices as required to achieve long term objectives.	• Woodland condition will be monitored regularly to assess progress against management objectives, using a range of site-based indicators to evaluate changes in structure, species composition and regeneration • Monitoring results will be used to inform a continuous cycle of review and adaptation, with management approaches adjusted where objectives are not being met or where new risks and opportunities are identified

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| | <ul style="list-style-type: none">• E.g. Herbivore and grey squirrel impacts will be assessed using impact-based indicators, with findings used to adjust control efforts and protection measures to support successful regeneration and woodland condition• Records of management activity, observed outcomes and site condition will be maintained to support long-term evaluation and inform future decision-making |
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Section 7: Stakeholder engagement

There can be a requirement on both the Forestry Commission and the owner to undertake consultation/engagement. Refer to [Operations Note 35](#) for further information. Use this section to identify people or organisations with an interest in your woodland and record any engagement you have carried out, relative to activities identified within the plan.

Work proposal	Individual/ organisation	Date contacted	Date feedback received	Response	Action

Section 8: Monitoring

Indicators of progress/success should be defined for each management objective and then checked at regular intervals. Other management activities could also be considered within this monitoring section. The data collected will help to evaluate progress.

Management objective/activities	Indicator of progress/success	Method of assessment	Frequency of assessment	Responsibility	Assessment results
OBJ1: Improve the ecological condition of the woodlands	Positive trend in structural diversity; Uplift in Woodland Condition Assessment scores	Fixed point photography; Woodland Condition Assessments	Year 1 Year 9	Woodlands Officer; Volunteers	To be recorded following each assessment
OBJ2: Support sustainable timber production	Timber volumes aligned with approved prescriptions and UKFS requirements	Silvicultural intervention records; post-operation site inspections	Per operation; periodic review	Woodlands Officer	To be recorded following each operation
OBJ3: Protect and enhance temperate rainforest habitat	Conditions favouring lichen and bryophyte indicator populations enhanced; condition and extent improved for recorded populations	Rapid Rainforest Assessments (Plantlife); Lichen and bryophyte surveys	Every 5-10 years	Woodlands Officer; Partner Organisations; Volunteers	To be recorded following surveys
OBJ4: Safeguard ancient woodland / veteran trees	No loss of ancient woodland indicators; veteran trees retained and in favourable condition; buffers respected	Veteran tree surveys; Ancient Woodland Inventory cross checks; works supervision & post-works inspections	Baseline survey; pre- and post-operations; periodic review	Woodlands Officer	To be recorded following inspections
OBJ5: Manage herbivore impacts	Successful recruitment of trees through all regeneration stages (seedling to pole stage and beyond); No sheep ingress; boundaries, fencing and gates remain effective	Cull records; Herbivore Impact Assessments; enclosure plots; Rural Property Condition Surveys	HIAs - Year 1, 3 & 5. Property checks - as per routine and after severe storm events	Woodlands Officer; Deer Stalkers; Grey Squirrel Control Volunteers	To be recorded following each assessment
OBJ6: Build woodland resilience - monitor, manage and limit the	Early detection of symptoms; appropriate management responses implemented	Targeted Phytophthora risk assessments; tree health inspections of	Ongoing observation during routine	Woodlands Officer	To be recorded following assessments and



impacts of pests and diseases		host species; laboratory testing where required; statutory reporting via Tree Alert	site visits; targeted inspections in high-risk areas		used to inform biosecurity and adaptive management
OBJ6: Build woodland resilience – wildfire preparedness	Fire risk assessed and managed; woodland fire plan in place and reviewed; fire prevention measures maintained; effective response arrangements; limited damage and recovery following any incidents	Woodland Fire Plan; inspections of access routes, fire breaks and fuel loads; post-incident inspections and reviews	Periodic review (every 3–5 years); prior to high-risk seasons; following wildfire or drought incidents	Woodlands Officer	To be recorded following assessments or incidents and used to inform adaptive management
OBJ7: Conserve historic environment features and uphold World Heritage Status	Scheduled monuments and archaeological features protected; no damage from forestry operations; interpretation maintained	Historic Environment Records (HER) checks; walkover surveys; works supervision	Pre-operation; periodic review	Woodlands Officer; Historic Environment Team	To be recorded following inspections
OBJ8: Support safe access for recreation, learning and community engagement	Proportionate, risk-based assessment and management of trees adjacent to paths, roads and facilities	Tree safety surveys	As per tree safety policy schedule or following severe weather	Woodlands Officer; Ranger Team	Recorded through the LDNPA tree management system database
OBJ8: Support opportunities for recreation, learning and community engagement	Level and range of community and volunteer engagement maintained/ increased	Volunteer records; activity logs	Annually	Woodlands Officer; Ranger Team; Volunteer Team	Summarised annually
OBJ9: Monitor woodland condition and adaptive management	Evidence that management is adjusted in response to monitoring outcomes and changing conditions	Periodic reviews; adaptive decisions logs; review of monitoring data	Ongoing; formal review every 5–10 years	Woodlands Officer	To be recorded at review stage

Maps

The maps listed below are provided in a separate document (Annex 1). All maps are numbered and referenced throughout this Woodland Management Plan.

Map Number	Map
1	Rusland Valley LDNPA Land Ownership Map (Scope)
2-5	Thwaite Head – Sub Compartments, Constraints & Operations
6-9	Stony Hazel – Sub Compartments, Constraints & Operations
10-13	Glass Knott – Sub Compartments, Constraints & Operations
14-17	Rusland Moss – Sub Compartments, Constraints & Operations
18-21	Hall Brow – Sub Compartments, Constraints & Operations
22-25	Round Close – Sub Compartments, Constraints & Operations
26-29	Yewbarrow – Sub Compartments, Constraints & Operations
30-33	Border Moss – Sub Compartments, Constraints & Operations
34-37	High Dam and Bell Intake – Sub Compartments, Constraints & Operations
38-41	Haverthwaite Heights – Sub Compartments, Constraints & Operations

End of main document. Please refer to Annex 1 – Maps (separate document).

Annex 2. Plan of Operations

Non-felling licence related prescriptions

Table 1. Habitat Enhancement Works

Activity	Compartment	Notes
Enrichment planting	1c, 1d, 2b, 6a, 6b, 7a, 11a, 13a, 15c, 15e	Favouring locally appropriate native species where natural regeneration is absent / insufficient. Species may include sessile oak, downy birch, rowan, hazel, hawthorn, crab apple, alder, aspen, wild cherry, bird cherry, willow spp., wych elm, small-leaved lime and Scots pine where suited to local site conditions.
Beech Regeneration Pulling	2a, 2b, 3a, 3b, 6c, 7a, 8b, 8c, 8d, 9c, 9d, 10c, 11a, 12a, 12b, 13a, 13c, 15a, 15f, 16f, 16i	Selective removal of excessive beech regeneration where it is suppressing native ground flora and desirable tree and shrub regeneration.
Dense holly thickets to be managed	1c, 1f, 2b, 3a, 4a, 4b, 4c, 6c, 7a, 8b, 8c, 8d, 10a, 11a, 11b, 12c, 14c, 14e, 14f, 15f	Selective removal where they are suppressing ground flora, preventing regeneration, or being abrasive. Retain a proportion for habitat, structural diversity, winter cover and berry production.
Priority bracken management areas	1c, 2b, 4a, 6a, 6b, 8c, 8d, 10a, 13e	To be managed where it suppresses regeneration, ground flora recovery or establishment of planted trees. Control methods may include hand pulling, cutting and bruising/crushing.
Rhododendron Control	5a, 5b, 14f, 15a, 15c, 15e, 15f	Eradicated to improve woodland condition. Small stands may be cut and removed manually. Larger stands will require cut-stump herbicide treatment and follow-up treatments to prevent regrowth. Ongoing monitoring and repeat control will be undertaken as required.
Skunk Cabbage Control	5a, 5b	Controlled to prevent further spread within wet woodland habitats and reduce impacts on native vegetation. Control will be undertaken using by spraying herbicide.
Cherry Laurel Control	17d	Controlled through cutting and follow-up treatment of regrowth where necessary.

Himalayan Balsam Control	15b, 15e, 15d	Controlled to reduce spread via hand pulling before seed set, strimming or cutting, and repeat annual control.
Maintenance of tree protection	1b, 4c, 13f, 16b, 16i	Existing tree protection will be monitored and maintained as required. Damaged guards, stakes and ties will be repaired, replaced or removed when no longer required. Materials will be reused or recycled.
Place tree tubes / protection over seedlings and saplings to promote establishment	2b, 2c, 4c, 6b, 6c, 8b, 11d Trico trial area – 6b	Protection types will be selected according to site conditions and grazing pressure. Guards will be removed once trees are sufficiently established and above browsing height.
Investigate coppice management licences	1f, 3b, 3c, 4c, 12a, 12c, 16h, 17a	Assess suitability of reintroducing coppice management within selected woodland compartments.

Table 2. Access, Infrastructure and Property Management

Activity	Compartment	Notes
Boundary maintenance	1c, 1d, 1e, 1f, 2b, 2c, 3b, 4a, 4c, 6b, 6c, 7a, 8b, 11a, 13b,	To be maintained as stock-proof through repair of fencing, walls, gates and other boundary infrastructure where required. Priority will be given, where appropriate, to the repair and reinstatement of traditional dry stone walls where these contribute to stock control, landscape character and heritage conservation. Boundary issues, including tree damage to fences and wall failures, are to be recorded through the LDNPA Property Asset Management System.
Property maintenance	Boardwalk condition – 5 and 12 Failed gates e.g. 6, 11a	Maintain visitor infrastructure in a safe and serviceable condition, including boardwalks, gates, bridges, steps and associated structures. Prioritise repairs where infrastructure presents safety risks or adversely affects access.
Deer enclosure maintenance	1d, 2a, 3a, 3b, 3c, 8a, 12a, 16b	Maintain to be in an effective condition through inspection and repair of fencing, gates and access

		points. Works may include removal of fallen trees, vegetation clearance from netting and repair of breaches. Inspection frequency to be agreed and documented.
Temporary deer enclosure to be removed	6a, 7a, 13b	Remove where regeneration objectives have been achieved, structures have become ineffective, or continued retention is adversely affecting woodland management objectives. Materials to be reused or recycled where practicable
Reinstate/ upgrade waymarkers	6b, 7c, 11c	Improve where unclear route definition is contributing to path braiding, desire lines or visitor confusion. Signage should be proportionate to the woodland setting and local access requirements
Interpretation board upgrade	1c, 2b, 4a, 5a, 11a, 12a, 13a	Review and update interpretation to improve visitor understanding of woodland management, heritage and conservation objectives. Major woodland operations should be used as opportunities to explain the rationale and benefits of management works
Create and erect signage on deer fencing / enclosure and gates.	2a, 3b and c, 8a, HH	Install to improve public awareness of deer management infrastructure and encourage gates to be closed
Manage vegetation encroachment around Historic Environment features	2b, 4a,	Remove or control vegetation where it threatens the condition, visibility or accessibility of historic environment features. Retain sufficient vegetation cover where required to avoid erosion or damage to archaeological remains
Manage vegetation encroachment on paths	4b (regeneration, windblown trees), 15c (bramble)	Manage encroaching vegetation, regeneration and windblow where necessary to maintain safe access and route definition whilst retaining woodland character and ecological value

Table 3. Monitoring, Survey and Planning

Activity	Compartment	Notes
Monitor and manage for tree safety	All	Continue undertaking tree safety inspections proportionate to risk and site usage. Implement necessary management actions where trees pose an unacceptable risk to public safety whilst retaining standing and fallen deadwood where appropriate
Record and assess condition of Juniper populations	1c, 1e, 9a, 10c, 11b, 11d	Monitor the extent, condition, age structure, reproductive status and overall health of juniper populations to inform future management and conservation actions
Plan for access / infrastructure improvements to enable safe extraction of timber	14, 15, 16, 17	Explore ways to improve access/ infrastructure to facilitate safe and sustainable woodland management, timber extraction and future restoration works
Lichen and bryophyte monitoring of known populations	4, 6	Continue monitoring known notable lichen and bryophyte populations through repeat surveys and fixed-point photography to assess condition, management outcomes and compliance with #SSF project requirements
Upgrade from footpath to bridleway to be discussed	1, 2-3	Explore opportunities, constraints and stakeholder requirements associated with the proposed upgrade of selected routes from footpath to bridleway status
Continue activity licence for bark peeling at Stony Hazel, investigate further compartments to manage	2a (current), further scope (2b, 2c, 3)	Maintain and review licensed bark peeling activities and assess opportunities for extending management to suitable adjacent compartments where compatible with woodland conservation objectives
Record and assess condition of small-leaved lime populations	2a, 3c, 4a, 4b, 4c, 6b, 7a, 14f	Monitor the extent, condition, regeneration, age structure and health of small-leaved lime populations

		to inform future conservation and restoration management
Arrange extraction of stacked timber	15b, 15c	Remove stacked timber where required to improve site condition and reduce obstruction of access routes

Felling Operations

N.B. This is a snapshot of the inventory and plan of operations spreadsheet to support consultation

Cpt	Sub Cpt	Gross area (ha)	Net area (ha)	Area to be felled (ha)	Type of felling	Species	Con - Est volume (m3)	Bdlv - Est volume (m3)	Description	Restock
1	a	1.10	0.99	0.99	T	OK, SYC, MB		30	Includes targeted felling of unsafe trees at roadside & selective thinning removing c.15% BA to improve structural diversity	N/A
1	b	4.84	4.36	4.36	T	OK, SYC, MB		95	Selective thinning c.15%, particularly targeting trees causing excessive shading or suppressing preferred upland oak species	N/A
1	c	24.26	11.92	11.92	T	SS, JL, BE	60	110	Targeted removal of non-native conifers and localised reduction in tree density to protect mire and juniper habitats and favour structural diversity	N/A
1	d	2.47	2.22	2.22	T	OK, BI, MB		80	Selective c.15–20% thinning to improve structural diversity, includes halo thinning around selected mature oaks (5–10 m radius) and creation of small, localised canopy openings (2–3 at 0.05 ha) to encourage natural regeneration	N/A
1	e	11.47	9.95	9.95	T	JL, SS, OK	60	150	Selective thinning to improve woodland condition and maintain appropriate species composition, including targeted removal of self-seeded non-native conifers affecting juniper populations	N/A
1	f	4.63	4.17	4.17	T	BE, OK, HAZ		75	Even aged stand requires selective thinning removing c.15–20% BA to diversify and improve condition, including creation of small temporary canopy openings (5 x 0.05 ha) and halo thinning around selected mature oak (c.5–10 m radius). Micro hazel coups to reinstate coppice	N/A
2	a	6.10	5.61	5.61	T	OK, MB		115	Selective thinning removing c.15–20% BA to improve age and structural diversify	N/A

2	b	11.48	10.56	10.56	T	BI, BE, SYC, OK		160	Selective thinning removing c.15–20% basal area (c.160 m ³) to improve woodland condition, including halo thinning around mature oak (5–10 m radius), targeted removal of beech and sycamore where suppressing oak and ground flora, and small temporary canopy openings for natural regeneration; creating buffer to scheduled monument	N/A
2	c	2.80	2.58	2.58	OS	BI, OK, SYC		90	Creation of 3 glades around 0.15ha (e.g. 30x50m across)	N/A
3	a	6.55	5.90	5.90	T	BE, MB		80	In 0.2ha area, respacing of dense young oak and birch, removing 40% stems to achieve 2-3m spacing. Low intensity thinning to improve structural diversity elsewhere across cpt, prioritise beech where casting deep shade, regenerating and impacting condition	N/A
3	b	5.28	4.77	1.00	FC	HAZ, MB		80	Hazel coppice to be brought back into active management through phased felling in two c.0.5 ha coupes, alongside localised respacing of dense young oak and birch (c.10 cm DBH; c.0.2 ha) to achieve approximately 2–3 m spacing, with associated low-intensity thinning across cpt	YES
3	c	6.07	5.47	1.20	FC	HAZ, JL, MB	15	72	Hazel coppice in c.0.4 ha coupes; includes targeted removal of scattered self-seeded larch to maintain native species composition and prevent encroachment	YES
4	a	6.83	6.15	6.15	T	OK, BI, BE, MB		180	Halo thinning around mature oaks and selective thinning to improve structural diversity, c.15%	N/A
4	b	2.77	2.49	2.49	T	OK, BI, BE, MB		75	Selective thinning to improve structural diversity, c.15	N/A
4	ci	3.78	3.40	3.40	T	HAZ, OK, MB		120	Selective thinning removing c.15% BA to improve structural diversity, inc halo thinning around selected mature trees, and reinstating hazel coppice in coupes	N/A
4	cii	0.58	0.53	0.53	FC	HAZ, MB		50	Reinstating hazel coppice cycles, requiring coupe enclosure management, and volumes account for roadside tree safety felling if necessary, also	YES
5	a	17.26	14.67	14.67	DF	SP, BI, MB	3000	350	Removal of all trees from lowland raised mire to restore priority open bog habitat required to improve SSSI condition	NO
5	b	6.50	0.20	0.20	DF	SP, BI	10	25	Removal of all trees from lowland raised mire to restore priority open bog habitat; previous management almost all tree encroachment on the mire dome, however some remain	NO
5	c	0.47	0.42	0.42	T	MB		6	No active management proposed; minimal intervention - accounting for occasional removal of trees for safety reasons and very low-intensity selective thinning where required	N/A

6	a	6.81	6.13	6.13	OS	OK, BI, MB		120	Creating of semi permanent openings to increase light availability and structural diversity e.g. 6 x 0.08ha - 25m x 30m. Volumes also account for selective thinning and halo thinning around selected mature oak trees (c.5-10m radius, 6-10 stems)	NO
6	b	15.96	13.57	13.57	T	BE, OK, BI, MB		120	Minimal intervention; low-intensity selective thinning, prioritising trees casting deep shading and impacting regeneration establishment	N/A
6	c	6.48	5.85	5.85	T	BE, OK, BI, MB		140	Selective thinning removing c.15% BA, with a focus on prioritising removal of beech where it is casting dense shade and suppressing growth	N/A
7	a	4.99	4.49	4.49	T	BE, OK, MB		70	Targeted removal of c.20 mature beech (average c.60cm dbh) where they are casting dense shade and changing composition. Volume estimates also account for low intensity thinning of primarily oak stems	N/A
8	a	4.49	4.24	4.24	T	BE, MB		70	Relatively minimal intervention; light thin c10% to regulate beech presence and reduce competition where structural diversity will be improved	N/A
8	b	8.73	7.86	7.86	T	OK, BE		90	Selective thinning including halo thinning, and particularly targeting densely stocked oak stand where respacing is required, as well as beech management	N/A
8	c	5.53	4.98	4.98	T	BE, MB		75	Selective thinning focusing on the removal of mature beech (c.60 cm dbh) where they are casting deep shade and suppressing the development of yew trees	N/A
8	d	2.57	2.27	2.27	T	BE, MB		30	Selective thinning focusing on the removal of mature beech where they are casting deep shade and suppressing the development of yew trees	N/A
8	e	0.53	0.53	0					No planned felling due to TPO constraints. If emergency tree safety work is required, separate consent will be sought	N/A
9	ai	1.16	0.23	0					No intervention	N/A
9	aII	8.70	5.10	0					No intervention unless actions identified from juniper condition assessments	N/A
9	b	5.74	5.68	5.68	T	OK, BE, MB		120	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments	N/A
9	c	7.83	7.70	7.70	T	OK, MB		150	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments	N/A
9	d	0.31	0.30	0					No planned felling due to TPO constraints. If emergency tree safety work is required, separate consent will be sought	N/A
10	a	8.14	7.33	7.33	T	OK, MB, MC	20	120	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments	N/A

10	b	7.38	6.64	6.64	T	YEW, BE, MB	30	90	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments - in particular light respacing of yews and halo thinning around oak, yew and Scots pine to support growth / crown development	N/A
10	c	3.89	3.50	3.50	T	JL, MB	65	25	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments - in particular targeting larch where it is adjacent to and casting shade on juniper	N/A
10	d	1.63	1.47	1.47	T	OK, MB		30	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments	N/A
11	a	2.28	2.05	2.05	T	OK, MB		60	Low-intensity C.15% selective thin to improve woodland condition, in line with SSSI condition assessments - e.g. halo thinning and increase light availability to favour regeneration / crown development	N/A
11	b	14.17	13.03	13.03	T	OK, BI	25	180	Selective thinning to diversify a closed, even aged canopy, including halo thinning of oak, small canopy openings for regeneration, and sensitive removal of competition around protected juniper	N/A
11	c	0.98	0.96	0.96	T	YEW	40		Respacing of densely stocked yew to improve vigour and increase light availability to ground flora	N/A
11	di	4.37	3.06	3.06	T	JL, MB	25	35	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments - in particular management of larch where competing with juniper	N/A
11	dii	2.54	2.00	2.00	T	JL, MB	20	25	Low-intensity selective thinning to improve woodland condition, in line with SSSI condition assessments - in particular management of larch where competing with juniper	N/A
12	a	5.59	4.75	2.00	FC	HAZ, OK, MB		90	Hazel coppicing (1.2ha coupe) on a rotational basis. Remainder of volume accounting for thinning of MB to increase light availability in otherwise dense canopy	YES
12	bi	1.38	1.27	1.27	T	OK, BI, MB		40	Light thinning to remove suppressed and poor form stems, promoting age/ structural diversity	N/A
12	bii	0.80	0.74	0.74	T	OK, BI, MB		30	Light thinning to remove suppressed and poor form stems, promoting age/ structural diversity	N/A
12	c	4.02	3.02						No felling proposed at present - should intervention become necessary, works will be brought forward under a separate felling licence	N/A
12	d	1.10	0.85	0.85	T	BE, OK, MB		50	Thinning will prioritise removing beech to improve structural diversity and species composition	N/A

12	e	3.39	1.20						No felling proposed at present - should intervention become necessary, works will be brought forward under a separate felling licence	N/A
12	f	2.45	1.10						No felling proposed at present - should intervention become necessary, works will be brought forward under a separate felling licence	N/A
13	a	10.90	9.30	9.30	T	OK, BI, EL, MB	30	120	Light-moderate selective thinning of oak and birch to reduce stand density and promote successful regeneration for greater age diversity. Creation of small, irregular sized glades and halo thinning. Conifer figures include the scattered larch (av 70cm dbh) across the cpt	N/A
13	b	1.83	1.50	1.50	T	EL, BI, OK, MB	90	40	Felling of larch (for extraction), and respacing of densely concentrated oak and birch in enclosure (8-15cm dbh) and additional MB thinning	N/A
13	c	3.61	2.75	2.75	RF	EL, MB	400	40	Felling of mixed age classes of larch (for extraction) - prioritise small diameter stems first to secure continuous canopy cover. Wet woodland	YES
13	d	9.93	3.93	3.93	RF	EL, MB	240	60	Felling of larch (for extraction), thinning of MB at same time. Target lakeshore / small diameter / tree safety larch first - will have significant impacts on aesthetic landscape value	YES
13	e	5.29	3.33	3.33	T	EL, MB	150	40	Felling of mixed age classes of larch (to waste), thinning of MB and scrub management at same time. Requires sensitivity related to previous butterfly conservation restoration works	N/A
13	fi	2.94	2.27	2.27	RF	EL, MB	180	60	Felling of larch (for extraction), thinning of MB at same time. Wet woodland	YES
14	a	3.82	3.63	3.63	T	SYC, OK, BI		80	Low intensity selective thinning to open closed canopy woodland to facilitate successful recruitment of natural regeneration. Maintain open ground	N/A
14	b	9.53	6.20	6.20	T	OK, BI		100	Low intensity selective thinning to increase open space and favour age diversity	N/A
14	c	7.42	7.05	7.05	T	SS, MB, HOL	30	120	Targeted thinning to control encroaching non-native conifer regeneration and dense holly, creating small canopy gaps and increasing light levels to support the establishment of regen	N/A
14	d	1.46	1.39	1.39	T	OK, BI		30	Selective felling / halo thinning to improve structural diversity	N/A
14	e	6.82	6.47	6.47	T	OK, BI, HOL		180	Selective thinning removing c15% BA to improve age and structural diversify; creation of small glades. Specific focus on holly management	N/A
14	f	4.20	3.99	3.99	T	OK, BI, HOL, MB		120	Targeted thinning to create small canopy gaps to increase light availability	N/A

14	g	3.46	2.30	2.30	OS	MB		30	Light-touch management - mainly maintaining the extent and condition of open habitat	N/A
15	a	1.36	1.29	1.29	T	SS, JL, WH, MB	45	25	Selectively targeting non-native conifers on ancient woodland	N/A
15	b	0.46	0.46	0.46	T	SS, JL, WH, MB	35	20	Remove non-native conifers once Himalayan Balsam has been addressed	N/A
15	c	1.75	0.95	0.95	T	SS, JL, WH, MB	70	20	Continue ancient woodland restoration by removing non-native conifers and thinning for structural diversity	N/A
15	d	8.69	7.82	7.82	T	SS, JL, MC, MB	160	40	Continue ancient woodland restoration by removing non-native conifers; respace oak and birch	N/A
15	e	0.32							No planned felling intervention	N/A
15	f	4.12	3.29	3.29	RF	SS, WH, MC	280		Regen felling of non-native conifers (trackside) to restore ancient woodland characteristics and subsequent restocking with native species	YES
16	a	1.34	1.34	1.34	T	SS, BI, MB	20	50	Previous PAWS restoration site. Manage non-native conifer regeneration and respace birch to release oak	N/A
16	b	2.60							Restock site after SPHN. No intervention	N/A
16	c	0.07	0.07	0.07					No planned felling intervention	N/A
16	d	0.96	0.93	0.93					No planned felling intervention	N/A
16	e	0.91	0.86	0.86	T	OK, BI, MB, MC		30	Low intensity thinning to increase structural diversity	N/A
16	f	0.79	0.79	0.79	T	OK, BI, MB		30	Low intensity thinning to increase structural diversity	N/A
16	g	0.39	0.35	0.35	T	SYC, BE		20	Low intensity thinning to increase structural diversity	N/A
16	h	2.44	2.39	2.39	T	OK, HAZ, MB		70	Low intensity thinning to diversify age structure including some hazel coppice to increase light availability	N/A
16	i	2.00	1.86	1.86	T	BE, SYC, OK		65	Selective thinning as part of an ongoing intervention cycle, targeting less favoured species and suppressed stems to enhance structural diversity, create favourable conditions for regeneration and form occasional small canopy gaps	N/A
17	a	2.02	2.02	2.02	FC	HAZ, JL, MB		70	Restoration management for hazel coppice, with remaining larch removal and low-intensity thinning to improve spacing and enhance structural diversity	N/A

17	b	1.33	1.29	1.29	T	JL, WH, MC	95		Variable-density thinning (c.20% BA) to diversify, increase light availability and promote native regeneration as part of ancient woodland restoration	N/A
17	c	1.31	1.29	1.29	T	BI, OK, MB		45	Low intensity thinning to diversify and open up the canopy, particularly to increase deadwood availability	N/A
17	d	1.38	1.18	1.18	T	JL, SS, MC	70		Progressive reduction of non-native conifers to favour transition to native woodland mix as part of ancient woodland restoration	N/A
17	ei	0.71	0.65	0.65					No planned felling intervention	N/A
17	eii	0.31	0.31	0.31					No planned felling intervention	N/A
17	f	0.94	0.94	0.94	T	JL, OK, MB	25	35	Selective respacing of broadleaves within the deer fence; larch management and ultimately to increase deadwood habitat which is lacking	N/A
17	g	0.96	0.92	0.92	T	SS, OK, SYC, MB	15	50	Low intensity thinning to diversify high forest structure, reduce non-native conifer composition and increase deadwood availability as part of ancient woodland restoration	N/A
17	h	0.45	0.45	0.45	T	OK, BI, MB		20	Low intensity thinning to increase structural diversity	N/A
17	i	0.07	0.06	0.06					No planned felling intervention	N/A