



COED CADW
WOODLAND
TRUST

Coed Llechwedd

Management Plan 2018-2023

MANAGEMENT PLAN - CONTENTS PAGE

ITEM	Page No.
Introduction	
Plan review and updating	
Woodland Management Approach	
Summary	
1.0 Site details	
2.0 Site description	
2.1 Summary Description	
2.2 Extended Description	
3.0 Public access information	
3.1 Getting there	
3.2 Access / Walks	
4.0 Long term policy	
5.0 Key Features	
5.1 Ancient Semi Natural Woodland	
5.2 Mixed Habitat Mosaic	
5.3 Species or community	
5.4 Informal Public Access	
6.0 Work Programme	
Appendix 1: Compartment descriptions	
Appendix 2: Harvesting operations (20 years)	
Glossary	
MAPS	
Access	
Conservation Features	
Management	

THE WOODLAND TRUST

INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations. Please either consult The Woodland Trust website www.woodlandtrust.org.uk or contact the Woodland Trust (wopsmail@woodlandtrust.org.uk) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland. Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website www.woodlandtrust.org.uk. Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
- 10 Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site - their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

1.0 SITE DETAILS

Site name:	Coed Llechwedd
Location:	Harlech
Grid reference:	SH592318, OS 1:50,000 Sheet No. 124
Area:	26.39 hectares (65.21 acres)
Designations:	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation

2.0 SITE DESCRIPTION

2.1 Summary Description

The ancient woodland and grassland habitats of Coed Llechwedd support lesser horseshoe bats and many breeding birds. In spring, this mixed ash and oak woodland is filled with woodland wildflowers in bloom. It can be accessed on foot from Harlech as part of a longer walk taking in the historic landscape of the hillsides above.

2.2 Extended Description

Coed Llechwedd comprises part of an extensive area of woodland and 'ffridd' occupying a prominent, steep, north-westerly facing slope. It is part of a complex of often ancient oak and ash woodlands flanking the coastal plains to the north-east of Harlech, on often boulder-strewn and craggy terrain.

The lower slopes and northern part of the site support semi-natural woodland, likely to be ancient in origin. On higher ground, mature woodland grades into a mosaic of bracken, grassland, scrub, scattered trees and open/patchy woodland. To the east, where the craggy nature of the terrain eases, is an enclosed field supporting unimproved acidic grassland and bracken with locally abundant scrub.

The mature woodland is notably varied, rather more so than many of the other woods within the Meirionnydd Oakwoods and Bat Sites SAC, of which Coed Llechwedd is a part. The lower slopes tend to be base-rich, supporting vegetation typical of upland ashwoods: the canopy is dominated by ash with frequent sycamore and wild cherry, the shrub layer is well developed comprising mainly hazel, wych elm and young ash and sycamore and the field layer supports abundant bramble, ancient woodland flora and ferns (particularly soft shield-fern).

The upper slopes tend to be somewhat more acidic, supporting a greater proportion of sessile oak, birch and rowan with a field layer in which bramble, bracken, honeysuckle, broad buckler-fern and wood sorrel are prominent, although ash remains a component of the canopy throughout.

Throughout there are wet basic flushes in which alder, grey willow, meadowsweet, opposite-leaved golden-saxifrage, lady-fern, tufted hair-grass and remote sedge flourish.

Public access is limited to a bridleway at the south-west of the site and a public footpath which extends from the bridleway up the southern slopes to a viewpoint and out to the open hillside. Public access away from these paths is discouraged by the steep and bouldery terrain, leaving the woods relatively undisturbed: ideal for breeding birds such as herons.

Key features at the site are:

Ancient Semi-natural woodlands: semi-natural/broadleaved woodland (much of it ancient in origin) mainly dominated by site-native species (sessile oak, ash, wild cherry and silver birch) but with a significant cover of sycamore. This habitat supports a number of notable invertebrates, breeding birds including herons, and lichen and bryophyte species typical of Atlantic woodlands.

Compartments 1a and 1b are designated a SSSI for their woodland habitat and importance to invertebrates such as tree snails and breeding birds including the lesser spotted woodpecker.

Mixed Habitat Mosaic: a mix of ffridd and developing woodland - of value as open woodland/habitat mosaic which contrasts with the mature woodland on the lower slopes and as an area of expanding upland mixed ashwood and upland oakwood habitats;

Species or Community: lesser horseshoe bat roosts (hibernacula) occupy old mine levels on the lower slopes of the site;

Informal public access - the site is of local amenity value due to its proximity to Harlech, although access is restricted due to the challenging terrain.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

The wood can be reached via public footpaths from Harlech, to the western tip of the wood, or directly from the B4573 along the bridleway. A public footpath also now links this bridleway with the open hillside above.

Harlech is the nearest town. When heading north along the B4573 (top road) the woodland entrance is found on the right hand side 400 metres after passing the Harlech sign, across the road from the National Trust Coed Llechwedd entrance.

There is no parking next to the woodland and the nearest Public Car Park is next to the Castle in Harlech. It is advisable to walk to the woodland along the Public footpath signposted from the town centre and not along the B road.

The nearest bus stop is in upper Harlech, at Cefn Coed Car Park, approximately a mile from the site. It is found on route number 38 (Barmouth - Harlech - Maentwrog - Blaeanau Ffestiniog). The town also has a railway station, in lower Harlech, a mile from the woodland and serviced by Arriva Trains Wales (Cambrian Coast Timetable)

<http://www.harlech.com/>

<http://www.secretsnowdonia.co.uk/>

3.2 Access / Walks

There are three public entrances allowing access from the public rights of way network. A bridleway rises from the B4573 public road, cutting through a small portion of the site before exiting via a bridleway gate on the southern boundary, on a path that eventually leads to the upper part of Harlech. A public footpath climbs from this bridleway, being very steep with numerous steps. Once you reach the top, the path evens out and there are fine views of the coastline. There is a stile as the path departs the woodland area. The path then leaves Trust land via a small pedestrian gate at the very top of the property.

The rights of way mapped to the eastern end of the site have long been practically impassible beyond the Trust boundary and were not extant on the ground at the time of the Trust's acquisition.

4.0 LONG TERM POLICY

Coed Llechwedd will retain much of its current character, being ancient semi-natural woodland with a good diversity of locally native tree and shrub species, including oak, cherry and naturalised sycamore and a varied age structure with many old trees. The current rich ground and epiphytic flora, including ancient woodland vascular plants and Atlantic lichens and bryophytes, will be retained. Temporary open space will continue to allow for frequent natural regeneration. There will be some slow advance in canopy area at the woodland edge, however, the southern/ eastern part of the site will remain a mosaic of bracken, scrub, glades and unimproved acidic grassland, providing a gradual transition between woodland and open ground habitats, maintained in part by light grazing.

Minimum intervention is considered the most appropriate approach to woodland management, partly due to difficult access but also due to the wildlife benefits of low disturbance regimes and the genetic diversity advantages of allowing natural processes of regeneration. The lack of public access to much of the site provides opportunities to retain a large number of mature, veteran and senescent trees and allows species such as heron to breed undisturbed. Felling and tree surgery will be limited to that required for road and path safety: for road safety reasons, the road edge will be managed as coppice with standards. This approach should also provide habitat continuity for resident bat populations. Hibernacula sites will be protected from unauthorised access and disturbance.

The amenity and landscape value of the site will be maintained. The current path network and spectacular viewpoints will be maintained in good condition, providing walking access via the wood from Harlech onto higher ground above. Opportunities to reopen old rights of way will be considered if facilitated by work on adjacent land.

5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

5.1 Ancient Semi Natural Woodland

Description

While only a small area of the woodland is confirmed as ASNW, the characteristics of the 'secondary' woodland areas share much in common with the ancient areas of the site and much of the wood is likely to be of long-standing origin. The woodland is particularly diverse in terms of age, structure and species composition. It includes both ash and oak dominated communities (in an intimate mosaic) with frequent flushing on the steep slopes. Ash dominated stands also include sycamore (up to 20% cover), wild cherry and sessile oak with a well developed shrub layer comprising abundant hazel, wych elm, hawthorn and regeneration of the canopy species, particularly ash and sycamore. The field layer in these stands is generally species-rich with abundant bramble, ivy, cleavers, common nettle, herb Robert, enchanter's nightshade and prolific ferns (particularly soft shield-fern), with many ancient woodland vascular plant species such as bluebell, ramsons, dog's mercury, wood sorrel, *Ranunculus* spp. and opposite-leaved golden saxifrage being widespread. The oak dominated stands also include frequent sycamore, silver birch and ash with a shrub layer of frequent hazel and holly.

Wet flushes throughout (and especially at the base of the slope) support locally frequent alder and grey willow with meadowsweet, opposite-leaved golden-saxifrage, lady-fern, tufted hair-grass and remote sedge (patches of W7b/c). Glades and open areas dominated by bramble and bracken are relatively frequent (especially to the north) where some notably large mature and veteran trees/shrubs also occur, including some large hazels.

Deadwood is frequent throughout, with the canopy opened by regular windthrow of mature trees.

Significance

The woodland comprises two UK Biodiversity Action Plan (BAP) and European priority woodland habitats (upland mixed ashwoods and upland oakwood) and is designated SSSI and SAC. The woodland habitat is also likely to be of value to a number of fauna groups/species including invertebrates (the SSSI citation references a number of tree snails, fungus gnats and a crane fly); woodland birds (including migrants such as pied flycatcher, wood warbler and redstart, rare breeders such as lesser spotted woodpecker and a small heronry); and bats (lesser horseshoe roosts present).

A lichen survey in 2014 also suggested that the site contained some interesting examples of the group, including self-sustaining communities of *Lobaria pulmonaria*, *Sticta limbata* and *S. sylvatica*, on mature trees on the higher slopes. The woodland is also highly prominent in the landscape. The woodland contains a significant volume of large diameter deadwood.

Opportunities & Constraints

The terrain is particularly steep and bouldery, with frequent flushes, resulting in difficult management access and severely limiting possible management options such as grazing throughout much of the site.

The woodland occupies a prominent and visible position along a main road into Harlech. The visual impact of works nonetheless should be weighed against safety considerations: the road boundary will require regular safety interventions due to its position and incident history.

Bat roosts (hibernaculae) are present in mine levels within the woodland habitat and a significant maternity roost of Lesser horseshoe bats is present nearby.

Factors Causing Change

The woodland is not currently formally grazed, with abundant natural regeneration (primarily of ash and sycamore). However, boundaries to grazed land are somewhat porous and this informal grazing may impact on the abundance or otherwise of coarse vegetation such as bramble. The informal browsing that occurs in cpt 1b at present seems to be maintaining a more open mosaic at the woodland boundary, which might be difficult to replicate through a formal grazing system.

Japanese knotweed and *Rhododendron ponticum* have been recorded in the past but control appears to have been successful. Invasive species may return and spread with detrimental impact on the habitat if not kept in check.

Tree species composition is likely to be significantly affected as ash dieback spreads through the site. This could reduce opportunities for *Lobarion* community lichens that favour milder bark substrates. It is also likely, along with tree safety interventions and increasingly frequent storm events, to speed the process of canopy gap creation. Sycamore may become more abundant for a time, as may bramble and bracken, locally, in response to sudden increases in light levels.

Long term Objective (50 years+)

The woodland character will remain that of semi-natural upland ash and oak woodland, dominated by a diversity of predominantly site-native tree and shrub species, although with some overall compositional change likely in the wake of ash dieback. The canopy will be of mixed age structure including a high proportion of mature to over-mature individuals and the frequent formation of temporary canopy gaps allowing for frequent natural regeneration and recruitment. The field layer will be diverse, reflecting the presence of both W8 and W10 NVC communities and with species-rich flushes. The quantity of deadwood, particularly standing deadwood, will increase naturally over time. Invasive non-native species will be eradicated if they spread to the site. There will be a slow expansion of woodland cover at the site, particularly at the woodland edge in compartment 1b. The roadside edge will be managed as coppice with standards to reduce the tree safety risk, although the majority of the woodland will experience low levels of intervention or disturbance.

Short term management Objectives for the plan period (5 years)

The woodland will continue to exhibit frequent natural regeneration of site-native species and frequent standing and fallen deadwood will be present. Mature trees will be retained wherever safe to do so. Glades and scrubby areas will remain a feature, while windblow will drive the formation of new temporary canopy gaps throughout. Invasive species will be rare or absent. Impacts such as tree disease will be monitored at least every five years. There will be no significant reduction in the abundance and diversity of ancient woodland specialist flora. Human disturbance in the bulk of the woodland will be minimal.

Management intervention will be restricted to essential safety works, with regular thinning/ coppicing/ cutting and occasional rock stabilisation works restricted to the road boundary zone as part of a precautionary safety regime.

5.2 Mixed Habitat Mosaic

Description

The upper slopes (to the south of the site) support a mosaic of more open habitats. On the highest ground, compartment 2a comprises largely acid grassland, some of it species rich with harebell and thyme, with scattered scrub, Western gorse and bracken: this field is formally grazed under licence. There are also many notable large anthills in this field.

Between the open ground and the mature woodland is a mosaic of grassland, flushes, scattered shrubs and trees, dense scrub and bramble and patches of woodland, forming a graduated edge between woodland and open habitat. With no formal grazing, scrub and woodland have advanced rapidly, especially sycamore, sessile oak, silver birch, ash, rowan, hawthorn, grey willow and blackthorn. However, there is a degree of sheep trespass as the boundary to the upper hillside is relatively porous, and browsing impacts are evident on much of the scrub, suggesting that this advance is more or less in check or at least occurring at a very slow pace.

Significance

The habitat mosaics present are likely to be of value to a number of bird species, such as whitethroat and bullfinch, present at the site, while some such as blackcap and chiffchaff are likely to utilise densely regenerating scrub areas. Development of further areas of native broadleaved woodland will contribute towards upland mixed ashwoods and upland oakwood HAP targets. Some of these more open treed landscapes also support more light-demanding lichens such as *Lobaria pulmonaria*. Edge habitats tend to be notably biodiverse.

Opportunities & Constraints

There are opportunities to slightly expand the area of priority native woodland habitats by allowing natural succession to the woodland margin: natural regeneration is abundant and will be sufficient for the woodland to gradually develop within the bracken and grassland habitats, though the dense bracken may slow the process down in some areas.

These should be balanced against opportunities to retain areas of non-woodland or transitional habitat, which will complement the woodland at the site and may be of value to a range of flora and fauna species, particularly birds.

The terrain is particularly steep and bouldery, with frequent flushes, resulting in difficult access for management.

On-going grazing is reliant on access from the surrounding land and a good relationship with neighbouring graziers. The terrain presents challenges with regard to re-fencing and stockproofing boundaries (which are currently rather porous) and hence controlling the stocking density and seasonality of grazing.

Factors Causing Change

The level and availability of livestock grazing is the main control on the speed of natural succession to woodland. In Cpt 1b a lack of formal grazing has allowed development of scrub and woodland of mixed age and species. In Cpt 2, grazing is currently maintaining an unimproved acidic grassland habitat of some species interest. The current situation is dependent on the continuation of the current longstanding grazing arrangement.

Bracken is abundant and may be increasing in density: sheep grazing is unlikely to constrain bracken growth.

The landscape context for this 'ffridd' habitat could be altered by macro trends in stocking density in the wider countryside, driven by changes in the agricultural sector.

Long term Objective (50 years+)

While there may be some modest increase in secondary woodland area, this woodland will be varied in structure, and include glades, scrub and pockets of open habitat (bracken and acid grassland). Compartment 2a will be retained as permanent open ground, albeit characterised by widely spaced scrub and pockets of bracken, supporting species-rich flushes and a scattering of large anthills. The ffridd area will continue to support a range of characteristic species, especially breeding birds.

Short term management Objectives for the plan period (5 years)

Grazing management will continue in compartment 2a, maintaining and enhancing areas of acidic grassland.

Basal area/ canopy cover in compartment 1b will increase somewhat overall as the woodland edge advances and matures, although there will be considerable diversity, including scrub, bracken and open glades, within this area: the structure of the woodland edge will be monitored at least every five years.

5.3 Species or community

Description

Lesser horseshoe bats use at least two (probably more) of the mine levels on the lower woodland slopes as hibernacula. Surveyed numbers fluctuate between around a dozen up to over 50 individuals (2006). Some of the accessible adits have been grilled as both a safety precaution and also to protect bats from disturbance. There is also a significant maternity roost very close to the wood, according to information from the Snowdonia National Park (Nov 2012). Grilling of the most accessible/visible mine levels has reduced disturbance to the bats. The mine levels are probably linked through the site and there may be other entrances present. Bats are likely also to utilise the many mature trees throughout the wood as temporary feeding or day roosts.

Significance

Lesser horseshoe bat is a priority BAP species and a European protected species, as well as being a feature of the Special Area of Conservation of which Coed Llechwedd is a part.

Opportunities & Constraints

Tree safety works along the roadway are an ongoing necessity although the use of the woodland edge by bats for roosting, foraging and flight lines may be a consideration in planning the timing and extent of non-emergency works, especially given the presence of a nearby maternity roost, the occupants of which may use the wood for foraging.

Factors Causing Change

Degradation of the grilles/ unauthorised access to the adits by cavers/ curious individuals may disturb hibernating bats. Safety works on roadside trees may impact on the continuity of the canopy bridge over the adjacent road.

Mine structures may deteriorate over time with local collapses of adit roofs / timbers changing the available roost space/ humidity.

Long term Objective (50 years+)

Lesser horseshoe bats will continue to make use of the mine features on site as roosts, with public exclusion from the mines maintained. The wider woodland habitat will provide foraging opportunities for bat species. Where roadside trees can be safely retained in situ to form a canopy bridge across the road this should be done, however, given the incident history this may not always be compatible with road safety and maintaining the required carriageway clearance.

Short term management Objectives for the plan period (5 years)

Grilles will be maintained in good condition (any work restricted to the summer months to avoid disturbance) and public exclusion maintained. Bats will be considered in any planned tree safety works. Surveys, where these are undertaken by suitably licensed volunteers, will indicate continued occupation of the roosts.

5.4 Informal Public Access

Description

Coed Llechwedd is within walking distance of Harlech. A public bridleway and public footpath, which are maintained by the Trust, provide excellent views over Morfa Harlech and a link to the hillside beyond. Two benches are provided. The public are encouraged to park in Harlech and use public rights of way to reach the site. Rights of way existing over a short distance at the north-eastern end of the site do not at present continue beyond the Trust boundary and have historically therefore not been maintained. There is currently an information panel at the roadside entrance.

The wood offers spring wildflowers and wildlife watching opportunities as part of a longer walk through the historic landscape in the vicinity of Harlech. However, visitor numbers are likely to be very limited by the inaccessible nature of much of the site and the lack of nearby parking.

Significance

The site provides opportunities for walking within the National Park and with fine views. The wood forms part of the Meirionnydd Oakwoods and is located within a priority landscape partnership area (treescape) for the Trust.

Opportunities & Constraints

Access to the site is restricted due to the lack of parking and difficult terrain. Short sections of public footpath and bridleway to the north-east of the site are not currently actively maintained since they are obstructed on neighbouring land.

There have been woodland dedications (groves/ benches) placed at the site.

Factors Causing Change

The public footpath passes through open vegetation (bracken, bramble, grass) so requires regular mowing to keep it open and it is wet in places, requiring steps and boardwalk to render it easily passable, which will require long term maintenance. The view point is at the top of an area of developing woodland which may restrict the view in the medium to long term.

The state of footpaths leading to the site may impact on the ability of visitors to access the wood. However, if currently unavailable paths are opened up in future on adjacent land, they will need to be maintained through the Trust property and would provide some limited additional access to the site.

Long term Objective (50 years+)

The amenity and landscape value of the site will be maintained. The current path network and spectacular viewpoints will be maintained in good condition, providing walking access via the wood from Harlech onto higher ground above. Opportunities to reopen old rights of way will be considered if facilitated by work on adjacent land.

Short term management Objectives for the plan period (5 years)

Paths, steps, info panel and benches in the Harlech side of the site will be maintained to the appropriate estate management specification throughout the current plan period. The viewpoint from the upper footpath will remain open.

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	17.20	Ash	1930	High forest	Housing/infrastructure, structures & water features on or adjacent to site, Landscape factors, No/poor vehicular access to the site, Sensitive habitats/species on or adjacent to site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation
<p>This sub-compartment occupies the lower-mid slopes over the majority of the site plus woodland at the northern end of the Trust property (acquired more recently than the southern part). The sub-compartment supports the majority of the mature semi-natural woodland at the site.</p> <p>The woodland is particularly diverse including both ash and oak dominated communities with frequent flushing on the steep slopes (see key feature description: W8e NVC sub-community/ W10e NVC sub-community/ W7b/c NVC sub-communities). Glades and open areas dominated by bramble and bracken are frequent, particularly to the north where there are also a number of large mature and veteran trees and shrubs (eg: hazel). Bat roosts are present in at least two old mineral levels on the lower slopes. The sub-compartment is bound by the B5473 to the north-west, further semi-natural woodland (grazed) to the north and primarily open habitat (mosaics of bracken, grassland, scrub and woodland) to the south and south-east.).</p>							
1b	6.60	Sessile oak	1988	Min-intervention	Landscape factors, No/poor vehicular access to the site, Site structure, location, natural features & vegetation, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	National Park, Site of Special Scientific Interest, Special Area of Conservation

This sub-compartment occupies the southern end of the site and much of the upper slopes. A number of habitats occur in a mosaic including bracken, grassland, scattered shrubs and trees, dense scrub (including bramble) and patchy woodland (see key feature description). Although currently primarily open, scrub and woodland are rapidly invading, particularly at the woodland margin. Trees (oak, ash, cherry, birch and rowan) were planted within the southern area during the late 1980s and these are now providing a patchy canopy cover over much of this area. The sub-compartment is mainly bounded by mature semi-natural woodland on the lower slopes and walls/fences at the site boundary (with open grazed grassland/bracken on adjacent land). The only maintained path within the site runs through this sub-compartment and there are excellent views to the north and west.

2a	2.80	NULL	1990	Non-wood habitat	Management factors (eg grazing etc), No/poor vehicular access to the site	Informal Public Access	National Park
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This sub-compartment comprises the enclosed (walled/fenced) field to the east of the site. The majority of the field is dominated by bracken either in dense stands or with rather rank acidic grassland beneath. However, there are also areas of unimproved acidic grassland and flushes, especially on the thinner soils and rocky upper slopes which support species such as heather, bell heather, harebell, thyme and western gorse. There are many notable large anthills. Dense scrub (blackthorn), scattered scrub (hawthorn) and small areas of woodland are also present. Epiphytic lichens appear notably abundant on the mature shrubs present. Scattered boulders support abundant bryophytes and lichens. The field is currently lightly sheep-grazed. A public footpath crosses the open ground, exiting through the boundary wall to the north.

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2018	1a	Thin	3.00	25	75
2021	1a	Thin	3.00	25	75

GLOSSARY

Ancient Woodland

Ancient woods are defined as those where there has been continuous woodland cover since at least 1600 AD. In Scotland ancient woods are defined strictly as sites shown as semi-natural woodland on the 'Roy' maps (a military survey carried out in 1750 AD, which is the best source of historical map evidence) and as woodland all subsequent maps. However, they have been combined with long-established woods of semi-natural origin (originating from between 1750 and 1860) into a single category of Ancient Semi-Natural Woodland to take account of uncertainties in their identification. Ancient woods include Ancient Semi-Natural Woodland and plantations on Ancient Woodland Sites (see below). May support many species that are only found in ancient woodland.

Ancient Semi - Natural Woodland

Stands in ancient woods defined as those consisting predominantly of native trees and shrubs that have not obviously been planted, which have arisen from natural regeneration or coppice regrowth.

Ancient Woodland Site

Stands in ancient woods that have been converted to plantations, of coniferous, broadleaved or mixed species, usually for timber production, including plantations of native species planted so closely together that any semi-natural elements of the understorey have been suppressed.

Beating Up

Replacing any newly planted trees that have died in the first few years after planting.

Broadleaf

A tree having broad leaves (such as oak) rather than needles found on conifers (such as Scots pine).

Canopy

The uppermost layer of vegetation in a woodland, or the upper foliage and branches of an individual tree.

Clearfell

Felling of all trees within a defined area.

Compartment

Permanent management division of a woodland, usually defined on site by permanent features such as roads. See Sub-compartments.

Conifer

A tree having needles, rather than broadleaves, and typically bearing cones.

Continuous Cover forestry

A term used for managing woods to ensure that there are groups or individual trees of different ages scattered over the whole wood and that some mature tree cover is always maintained. Management is by repeated thinning and no large areas are ever completely felled all at once.

Coppice

Trees which are cut back to ground levels at regular intervals (3-25 years).

Exotic (non-native) Species

Species originating from other countries (or other parts of the UK) that have been introduced by humans, deliberately or accidentally.

Field Layer

Layer of small, non-woody herbaceous plants such as bluebells.

Group Fell

The felling of a small group of trees, often to promote natural regeneration or allow planting.

Long Term Retention

Discrete groups of trees (or in some cases single trees) that are retained significantly past their economic felling age. Operations may still be carried out within them and thinning is often necessary to maintain stability.

Minimum Intervention

Areas where no operations (such as thinning) will take place other than to protect public safety or possibly to control invasive exotic species.

Mixed Woodland

Woodland made up of broadleaved and coniferous trees.

National vegetation classification (NVC)

A classification scheme that allows an area of vegetation to be assigned to the standardised type that best matches the combination of plant species that it contains. All woodlands in the UK can be described as being one of 18 main woodland types (W1 - W18), which principally reflect soil and climatic conditions. For example, Upland Oakwoods are type W11, and normally occur on well drained infertile soils in the cooler and wetter north and west of Britain. Each main type can be subdivided into numerous subtypes. Most real woods contain more than one type or sub-type and inevitably some woods are intermediate in character and can't be properly described by any sub type.

Native Species

Species that arrived in Britain without human assistance.

Natural Regeneration

Naturally grown trees from seeds falling from mature trees. Also regeneration from coppicing and suckering.

Origin & Provenance

The provenance of a tree or seed is the place where seed was collected to grow the tree or plant. The origin is the geographical location within the natural range of a species from where seeds/tree originally derives. Thus an acorn collected from a Turkey oak in Edinburgh would have an Edinburgh provenance and a southern European origin.

Re-Stocking

Re-planting an area of woodland, after it has been felled.

Shrub Layer

Formed by woody plants 1-10m tall.

Silviculture

The growing and care of trees in woodlands.

Stand

Trees of one type or species, grouped together within a woodland.

Sub-Compartment

Temporary management division of a compartment, which may change between management plan periods.

Thinning

The felling of a proportion of individual trees within a given area. The remaining trees grow to fill in the space created.

Tubex or Grow or Tuley Tubes

Tubes placed over newly planted trees or natural regeneration that promote growth and provide protection from animals such as rabbits and deer.

Weeding

The control of vegetation immediately around newly planted trees or natural regeneration to promote tree growth until they become established. Either by hand cutting or with carefully selected weed killers such as glyphosate.

Windblow/Windthrow

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.