



Currie Wood

Management Plan 2015-2020

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Currie Wood
Location:	Borthwick
Grid reference:	NT374593, OS 1:50,000 Sheet No. 66
Area:	21.35 hectares (52.76 acres)
Designations:	Conservation Area, Planted Ancient Woodland Site

2.0 SITE DESCRIPTION

2.1 Summary Description

Hidden gem. Close to Edinburgh. Set in the steep gorge of Middleton South Burn above Borthwick Castle. Circular footpath through fantastic walks with impressive views of the burn below. The site includes a large range of moss and plant species.

2.2 Extended Description

Currie Wood is located in Borthwick Glen, near the village of North Middleton, 3km south east of Gorebridge in Midlothian. The dominant aspect is northerly, with lesser areas of south, east, and west facing slopes. The site is situated within the steep-sided, sheltered valley of the Middleton South Burn which runs through the wood in a northerly direction for about 500m and then in a westerly direction for another 1000m. Parts of the wood are inaccessible with sheer cliffs and gradients over 40 degrees in some places.

The solid geology of the site consists of sandstone from the Tournaisian and Visean Carboniferous limestone series with impressive outcrops in the ravine of the burn. Underlying volcanic strata are exposed on the burn bed further up the glen. Fluvoglacial deposits overlie the bedrock on higher ground. This parent material gives rise predominantly to fertile brown earth forest soils with occasional humus iron podsols and gleys. Soils on the site are generally damp with wet flushes and small seasonal water flows are common on slopes of northerly aspect.

The MLURI climate map of Scotland classifies the area as fairly warm, moist lowland and foothill subject to moderate exposure and moderate winters.

Extending to 21.35 hectares, the site is composed of mixed broadleaved and coniferous high forest. The whole woodland area (except cpt 1c) is classified as Plantation on an Ancient Woodland Site (PAWS) and part of the site also falls within the Borthwick & Crichton Conservation Area for Midlothian Council Planning Department.

The wood has a diverse structure, and although semi-natural elements are present, it has been significantly modified by the planting of non-native species. There are native trees (birch, oak, rowan, hazel, ash, alder, wild cherry, wych elm) of various ages, most notably mature and old coppiced oaks (last coppiced c.1955). There are also plantings of mature and semi-mature beech and sycamore. In addition, there are significant areas of non-native conifers (Norway & Sitka spruce, grand fir, Douglas fir, larch) planted in the 1960's. The conifers are still very dense in places and have shaded out the ground flora. Overall, conifers occupy around 40% of the canopy. Native species compatible with the natural woodland types occupy about 43% of the canopy. The understorey consists of mixed broadleaf regeneration, including ash, sycamore, and beech, and suppressed or regenerating conifers. Sapling trees are abundant in many areas but established natural regeneration is patchy. The rabbit population on the site may also be restricting natural regeneration in some areas. Hare and Roe deer also occur in the wood and occasional browsing and fraying is evident.

The ground flora consists mainly of areas of woodrush, wood sorrel, blaeberry, broad-buckler fern and mosses, as well as bare ground under dense shade. The ground flora suggests a mosaic of NVC (National Vegetation Classification) classes of W7 (damp alder/ash), W9 (dry ash/hazel/rowan), W11 (grassy oak/birch oak) and W17 (mossy oak/birch). There is abundant deadwood following thinning-to-waste of conifers in 2000, 2004, 2009 and ringbarking of conifers from 2009-2014. This was carried out as part of the PAWS restoration process.

A survey of ancient woodland features was carried out in 2005, 2010 and 2015. The key remnant ancient woodland features that are present and which have potential for protection & restoration are: (1) native ground flora suppressed (or absent) due to shading by dense conifer; (2) native trees & shrubs (both mature and young) suppressed by dense conifer; and (3) old walls and earthworks within the site.

The Middleton South Burn forms a central feature of the wood. To the east, small glades either side of the burn represent the only open ground on the site. In most areas, however, the margins of the burn are densely shaded by non-native conifers although recent thinning has done much to increase light levels. There are several rock outcrops along the course of the burn, mainly on the northern and eastern sides of the burn, which tend to have the steepest slopes.

There is no survey information on birds or invertebrates found in the wood. However, a survey in 1999 identified a total of 105 vascular plant species and 53 bryophyte species, many of which are indicators of ancient woodland. The more open areas of the wood were found to have richer flora, including some relatively uncommon species such as moschatel, greater pond-sedge, marsh hawksbeard, wood horsetail, wood cranesbill, and oak fern. The wood was evaluated as being of local and regional significance for conservation interest. The survey is not a full list of flora and other ancient woodland indicator species such as sanicle are present.

Within both the south and the west of the wood are areas of disturbed ground with humps and hollows that may be indicative of past human activity. There are also internal and external boundary drystone dykes and access tracks.

There are few records of the history of the wood prior to management by the Forestry Commission in the 1960's. The site is listed on the SNH Ancient Woodland Inventory as Long Established Woodland of Semi-Natural Origin. This indicates that it appears on the 1st Edition Ordnance Survey maps of 1860 but not as woodland on the Roy maps of 1750. A description of the woodland in the New Statistical Account for Midlothian from 1845 refers to 'some remarkable oak roots' being assumed to be the remains of a forest 'of great antiquity, which has frequently been cut down'. This suggests a long history of management as an oak wood at least as far back as the 18th century. The ground flora composition also suggests continuity of woodland cover over a very long period. The same document makes mention of a quarry on the site, and speculates that the stone for Borthwick Castle came from this source.

The site was acquired by the Woodland Trust in 1989. Since then works have included construction of a timber bridge some 900m from the woodland entrance as well as extensive path works to define a circular route. Subsequently boardwalk sections were constructed over wetter areas as use of the wood increased. A gradual programme of restoration through targeted thinning-to-waste of conifers commenced in 2000.

The woodland is accessed by the public at its west end where the track to Currie Mains crosses the burn. About two-thirds of the wood is accessible via a circular footpath of 2022m total, offering a choice of routes on the north side of the burn. The path passes through a variety of woodland types and affords good views into the ravine of the burn. The southern arm of the wood is not easily accessible.

The path is mainly un-surfaced but wetter areas have been crossed by sections of boardwalk with steps at intervals. However some sections are seasonally muddy even with improvements to drainage. Some of the route is steep and winding and requires a reasonable level of mobility. Access off the footpath network is difficult due to the steep and often wet nature of the ground. There is parking space for 3 or 4 cars at the entrance to the adjacent Scout Camp, by permission of Midlothian Council.

The path is used daily by a small number of mainly local users who highly value the peaceful secluded setting and regularly provide feedback to the Trust. It also receives very favourable comments from geocachers who visit the site looking for the geocaches hidden here. The site is classified as WT Access Category C - Low Usage (5-15 people using one entrance per day). The path route provides great variety with botanical, geological, and landscape interest. The wood lies adjacent to several rights of way and tracks that form a local network, although few of them pass through woodland.

Management access to and within the wood is restricted: There are no vehicular tracks within the wood, and the minor road is unsuitable for timber lorries.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

Currie Wood is located in Borthwick Glen, near the village of North Middleton, 3km south east of Gorebridge in Midlothian. The wood is situated within the steep-sided, sheltered valley of the Middleton South Burn. The wood has two entrances, which are adjacent to each other either side of a bridge which carries a private road across the burn to Currie Mains.

By car, from the A7 take the minor road through North Middleton, 2km (1.5 miles) south of Gorebridge. Follow the road through the villages of North Middleton and Borthwick, and after crossing the Gore Water take the first minor road on your right (2km, 1.5 miles). Take the 2nd turn on the right after 0.5km (0.3 miles) and parking for 3 cars is available at the entrance to the Scout Camp (subject to use by the Scouts).

The nearest access point by bus is to North Middleton, on the the regular service between Edinburgh and Galasheils. From North Middleton, the walk is along minor roads (no footway) as described above (2.5km, 1.5 miles). The nearest rail access is via Edinburgh, and then by bus and foot.

There is a circular path of 2km that passes through mixed woodland of broadleaves and conifers, and provides interesting views into the gorge of the Middleton South Burn and of the sandstone cliffs along its north side. The unsurfaced path is often narrow, sometimes steep and in the shady south side of the gorge becomes muddy in winter. There are several sets of steps and boardwalks carry the visitor over the worst of the wet areas. The burn is crossed by a footbridge. The southern leg of the wood has no formal paths and is not easily accessible.

The wood lies adjacent to several rights of way and tracks that form a local network between Borthwick and local farms, although none of them link directly into the woodland paths.

The nearest public toilets (with disabled access) are at Hunterfield Road (B704) Gorebridge.

3.2 Access / Walks

4.0 LONG TERM POLICY

WOODLAND RESTORATION

The long term vision is to gradually restore the natural diversity of this ancient woodland site as far as possible. Throughout the woodland there will be a healthy & diverse ground flora characteristic of native broadleaved woodland (NVC classes W7, W9, W11, & W17 as appropriate). The tree canopy will be almost entirely broadleaved, with a high proportion of native species, although the canopy may be punctuated with occasional mature non-native trees and there will be a high proportion of standing and fallen deadwood.

The objective will be to secure the ancient woodland components. To achieve this, will require a gradual increase in light levels where ground flora is suppressed by heavy shade. This will be achieved by gradually reducing shade and competition around native trees (especially mature oaks) to encourage growth and seed production. Along with light selective thinning as required, and ringbarking of heavy shade-casting species. Selective felling and thinning will focus initially on the conifers such as Sitka spruce, Norway spruce, Grand fir and Douglas fir. Thinning will take place initially on a 5-year cycle, with assessment carried out before each operation as to the timing, location and required intensity. Some large mature conifers may be retained to the end of their natural lifespan where occasional old retained trees can provide diversity & landscape interest. Timber and brash from thinning will be left in situ as deadwood habitat.

Natural regeneration is expected to continue to fill any gaps in the canopy and has been successfully establishing to date. However, rabbits, hare and deer may prevent future regeneration and options such as protection of regeneration, planting, and/or control will need to be considered as circumstances dictate.

PUBLIC ACCESS

The path network will be managed to provide quiet informal recreation. Improvements to the condition of paths in severely muddy areas will be made as needed. These will take the form of improvements in drainage and/or additional boardwalk or stone pitched sections. It is not anticipated that public use will increase significantly above current levels.

The woodland restoration works have already made the woodland walk lighter, more diverse and floristically interesting. The steep eastern area of the woodland will not be developed for formal public access due to the steep terrain, but also to provide a less-disturbed refuge for wildlife.

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 Planted Ancient Woodland Site

Description

The whole site (except 1c) is classified as a Plantation on an Ancient Woodland Site (PAWS). The wood has a diverse structure, and although semi-natural elements are present, it has been significantly modified by the planting of non-native species. Native woodland of oak/birch, and ash/elm types is clearly identifiable and notable old oak coppice stools are present throughout the site. There are also plantings of mature and semi-mature beech and sycamore. In addition, there are significant areas of non-native conifers (Norway and Sitka spruce, grand fir, Douglas fir, larch, Scot's pine) planted in the 1960's. The latter are very dense in places and have in many areas eliminated the ground flora. The ground flora consists mainly of areas dominated by woodrush, wood sorrel, heather and blaeberry, broad-buckler fern and mosses, wet flushes of grasses, rushes and sedges as well as bare ground in dense shade. The ground flora suggests a mosaic of NVC classes of W7 (damp alder/ash), W9 (dry ash/hazel/rowan), W11 (grassy oak/birch oak) and W17 (mossy oak/birch) depending on conditions. Although cpt 1c is not PAWS it forms a valuable area for ground flora expansion and will be treated using the same management principles.

A PAWS survey (as per WT PAWS Practice Guide) was carried out in 2005, 2010 & 2015. This identified:

- Woodland specialist ground flora in critical condition under dense conifers, threatened under scattered conifers and dense beech and secure under native broadleaves.
- Frequent mature native trees in most areas, many threatened by shading from plantation conifers
- Occasional young native trees & shrubs threatened by suppression from the faster growing plantation conifers
- Abundant standing and fallen deadwood following thinning-to-waste and ringbarking of conifers in 2004 & 2009
- Drystone dykes (internal & boundary) and evidence of earthworks, in secure condition.

Significance

Currie Wood is a Plantation on an Ancient Woodland Site (PAWS) and is listed in the SNH Ancient Woodland Inventory. It lies within a local group of isolated ancient woodland blocks and contains remnant ancient woodland features which are capable of protection and restoration. This meets the Trusts corporate objectives of protecting ancient woodlands and improving woodland biodiversity. The Woodland Trust Scotland is committed to restoring all non-native conifer PAWS type woodland to Restored AWS (RAWS) in its ownership and to ensure the continuing survival, and where possible, enhancement of the ancient woodland components.

Opportunities & Constraints

Opportunities

To protect and restore remnant ancient woodland features and continue to move the ancient woodland features from threatened to secure through a programme of targeted and phased operations designed to conserve and enhance the remnant ancient woodland features and extend existing hotspots of flora. Where the remnant features are secure, operations can be targeted at long-term improvements to gradually transform the woodland to one that is predominantly of native species.

Constraints

Access for timber extraction is restricted or absent throughout the wood.
Browsing by rabbits, hare and deer may limit natural regeneration, and the terrain makes control difficult.

Factors Causing Change

Browsing damage may limit the success of natural regeneration and have an impact on ground flora composition.

Decline of old broadleaved trees will limit seed production, but halo thinning may help to reverse this.

Stressed oaks are prone to windblow - therefore halo thinning will be gradual.

Continued growth of conifers increases shade, but large number of trees now ringbarked should gradually improve light levels as trees die during this plan period.

Long term Objective (50 years+)

To increase, enhance and perpetuate the ancient woodland composition by gradually restoring the ancient woodland characteristics of the woodland. The tree composition will be predominantly native species and the ground flora typical of the NVC types found on site. The tree canopy will be almost entirely broadleaved, with a high proportion of native species. The objective, to establish a secure, healthy & diverse ground flora characteristic of broadleaved native woodland (NVC W7, W9, W11, & W17 as appropriate). The canopy may be punctuated with occasional mature non-native trees and there will be frequent standing and fallen deadwood.

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

These targets make reference to the WT PAWS assessment method.

(i) The ground flora will gradually move from the critical and threatened category to the secure category. To be achieved by increasing light levels by targeted, light, selective thinning-to-waste or ringbarking of conifers shown as critical and threatened on the PAWS assessment map.

(ii) To retain all mature native trees at current density (frequent) and ensure the growth & development of those currently shaded by plantation species by moving gradually from threatened to secure category. Also remove threat of plantation species shading young native species currently suppressed in the understorey. To be achieved by halo thinning and ringbarking of conifers around native trees.

(iii) Ensure no decrease in security of ground flora from shading by brash from operations in (i) & (ii). Achieved by spreading brash thinly, and avoiding leaving timber stacked on patches of healthy flora.

(iv) Maintain or increase existing level of deadwood habitat (abundant). Achieved by further thinning and ringbarking (i) & (ii).

(v) Ensure walls and earthworks remain undisturbed.

(vi) Monitor impact of herbivore damage on natural regeneration and consider protection or control methods as required.

(vii) Revise PAWS assessment every five years to ensure the retention of ancient woodland specialist species, precursor trees, deadwood, and other remnant ancient woodland features remain intact, and where possible are enhanced during the restoration process.

5.2 Informal Public Access

Description

The woodland is accessed by the public at its west end where the track to Currie Mains crosses the Middleton burn. About two-thirds of the wood is accessible via a circular footpath of 2022m total, offering a choice of routes on the north side of the burn. The path passes through a variety of woodland types and affords good views into the ravine of the burn. The southern arm of the wood is not easily accessible. The path is mainly un-surfaced but wetter areas have been crossed by sections of boardwalk with steps at intervals. However some sections are seasonally muddy. Some of the route is steep and winding and requires a reasonable level of mobility. Access off the footpath network is difficult due to the steep and often wet nature of the ground. There is parking space for 3 or 4 cars at the entrance to the adjacent Scout Camp, by permission of Midlothian Council. The path is now linked with the Borthwick-Crichton ROW with a Scotways sign marking the route.

Significance

The path is used daily by a small number of mainly local users who highly value the peaceful secluded setting and regularly provide feedback to the Trust. The site is classified as WT Access Category C - Low Usage (5-15 people using one entrance per day). The path route provides great variety with botanical, geological, and landscape interest. The wood lies adjacent to several rights of way and tracks that form a local network, although few of them pass through woodland. Its management supports the Trust's corporate objective of increasing people's understanding & enjoyment of woodlands.

Opportunities & Constraints

Opportunities

Potential link into the Borthwick-Crichton ROW.

Constraints

Steep wet ground.

Factors Causing Change

Paths are now waymarked, but not mapped, and this may increase usage.

Paths are in better condition due to improvements during past plan period and this may increase usage.

Long term Objective (50 years+)

Provide a well-drained route for mainly local users, free from encroaching vegetation and obstructions. Routes will pass through a variety of woodland types, and will link into external paths where practical.

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

Ensure access is managed to WT Access Category C standard. Managed paths will be kept free of obstructions and encroaching vegetation.

Improve condition of path in severely muddy areas by improvements in drainage.

Maintain and upgrade boardwalks built in 2006, and stone pitched sections laid in 2010.

Ensure access features are in good condition via annual inspection and remedial work as needed.

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	3.81	Mixed conifers	1963	PAWS restoration	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	Conservation Area, Planted Ancient Woodland Site
<p>Mixed high forest with a variable species mix throughout, from pure conifer to pure broadleaf groups and intimate mixtures. Conifers occupy c.50% of the canopy with a high proportion of Douglas and Grand fir casting shade over the areas they dominate. Stands of grand fir and Norway spruce occupy much of the western end of the subcompartment. Within these areas are a number of mature oaks, in many cases suppressed by the dominant conifers. Thinning work in 2004 and 2008-2014 has helped to improve light conditions while maintaining woodland cover. There are also areas of silver birch with rowan, hazel and hawthorn. Individuals and groups of grand fir and Norway spruce are common on the lower valley slopes and on the flatter benches along the valley floor. Scots pine, Douglas fir and larch are found in mixture with older broadleaves on upper slopes. Beech is also present as a few mature individuals and widespread saplings. Regeneration in the understorey is patchy and includes young trees and recent seedings of firs and broadleaves. The ground flora varies from acid loving heather & blaeberry dominated areas, woodrush and buckler fern areas, to bare ground, depending on shading conditions. There is abundant deadwood from thinning to waste and standing deadwood from ringbarked conifers.</p>							
1b	1.38	other oak spp	1900	PAWS restoration	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	Conservation Area, Planted Ancient Woodland Site

Former oak coppice, unmanaged for many years, with regenerated mixed broadleaves, including ash and birch, with some sycamore, beech, hazel and rowan. Conifers, mainly larch but with a small proportion of spruce, are mainly confined to the edge of the boundary with cpt 1c and to the area between the path and the burn. There is an understorey of mainly birch saplings, but no recent regeneration. The ground flora is typical of the W11d oak/downy birch woodland type, with large patches of greater woodrush on damper slopes, as well as wavy-hair grass. There is frequent conifer deadwood.

1c	1.18	Hybrid larch	1963	PAWS restoration	Management factors (eg grazing etc), No/poor vehicular access within the site	Informal Public Access	Conservation Area
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Plantation of pure larch, planted in 1963. A 1 in 4 thinning of the canopy was carried out in 2004, with some additional felling in 2009. This has resulted in abundant deadwood and light conditions have improved. The ground flora includes abundant wood sorrel, foxglove, dog's violet, and wood avens.

1d	3.61	Mixed conifers	1900	PAWS restoration	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	Conservation Area, Planted Ancient Woodland Site
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Mixed high forest varying in structure from pure conifer to groups of broadleaves and intimate mixtures. Conifers occupy 40% of the canopy. Common species include oak, larch, Norway spruce, silver birch, ash, sycamore and Douglas fir. There are quite frequent broadleaf saplings, mainly ash. The ground flora is characterised largely by wood sorrel, broad-buckler fern, woodrush and mosses. Much of the area occupied by dense-shading conifers is very steep with rocky outcrops and is therefore difficult to access for management purposes. Two steep gullies, both previously used as middens by the adjacent farm, run from the boundary fence in the south-east to the burn.

2a	11.41	Mixed broadleaves	1960	PAWS restoration	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Informal Public Access	Conservation Area, Planted Ancient Woodland Site
<p>Mixed high forest with varied structure ranging from pure groups of conifers and broadleaves to intimate mixtures of both. Conifers (Norway & Sitka spruce, larch, Douglas fir & occasional Scots pine) comprise 35% of the canopy, with non-native broadleaves (sycamore and beech) accounting for a further 25% of the area. Native species make up the remaining 40% of the area and include silver birch, oak, ash, alder and rowan. Many of the mature broadleaves, mainly oak, have been heavily shaded by conifers - with recent halo thinning and ring-barking to improve light levels. The generally sparse understorey is composed of conifers, elder, birch, sycamore, wych elm, ash, and hawthorn. Most regeneration is at sapling stage, particularly in the western section. The ground flora varies depending on shading, from bare patches under dense conifers to a rich flora of bugle, opposite-leaved golden saxifrage, wood sorrel, primrose, and rushes and sedges in wetter gullies. The shallow and unstable soils mean that windblow of conifers and broadleaves is a regular occurrence and can occasionally block the path. Landslides have also occurred leading to re-routing/reconstruction of the path.</p>							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1a	Thin	3.81	1	5
2020	1b	Thin	1.38	4	5
2020	1c	Thin	1.18	30	35.4000015258789
2020	1d	Thin	3.61	1	5
2020	2a	Thin	11.42	0	5

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.