



Currie Wood

Management Plan 2020-2025

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

Currie Wood is a hidden gem situated close to Edinburgh set in the steep gorge of Middleton South Burn above Borthwick Castle. The site is over 21 hectares of mixed broadleaved and coniferous high forest with the majority being classified as Plantation on an Ancient Woodland Site (PAWS). The circular footpath travels 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 MLURI climate map of Scotland classifies the area as fairly warm, moist lowland and foothill subject to moderate exposure and moderate winters.

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.

Extending to 21.35 hectares, the site is composed of mixed broadleaved and coniferous high forest. The whole woodland area (except compartment 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. Currie wood is bordered by extensive farmland to the south and north of the site reflecting the typical open, rural landscape found locally.

A survey of ancient woodland features is carried out on a 5 year cycle previously completed in 2005, 2010, 2015 and 2020. 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 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 oaks which have grown as multi-stemmed following previous felling or coppicing (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. The under-storey 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 brown hare and Roe deer populations could impact on the success of natural regeneration on the site. However, at present, browsing and fraying is evident but only occasional and not currently (2020) considered a threat.

Considering the dense canopy, abundance of non-native conifers and restricted vehicle access, a gradual program of restoration through targeted thinning-to-recycle of conifers commenced in 2000. This restoration strategy included ring-barking for standing deadwood in 2004 and 2009. This resulted in an abundance of deadwood remaining onsite as an essential habitat, particularly in inaccessible areas.

The ground flora consists mainly of areas of woodrush, wood sorrel, blaeberry, broad-buckler fern, heather 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).

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. There are several rock outcrops along the course of the burn, mainly on the northern and eastern sides, which tend to have the steepest slopes.

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. Additional flora species out with the 105 listed are known to be present on site including ancient woodland indicator species such as sanicle. The wood was evaluated as being of local and regional significance for conservation interest.

The site is also inhabited by badger, fox, roe deer and brown hare. Herons and buzzards are known for passing through and a significant resident rook population has also been reported. Additionally, according to the NBN atlas there have been 9 different types of slug (including the leopard and the tree slug) and 9 different types of snail (including the white-lipped and Garlic snail) recorded on site (2003 & 2007). There is currently (2020) no survey information on birds or other invertebrates found in the wood.

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 (LEPO) (2a). 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. 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. These linear gullies could possibly be part of old extraction routes for coppice, timber and quarry produce-which could date back to when or before Borthwick Castle was built in 1430. There are also internal and external boundary drystone dykes and access tracks.

The site was acquired by the Woodland Trust in 1989. Since then extensive path works have defined the circular route (over 2km) that covers approximately two-thirds of the wood. These works have included construction of a timber bridge some 900m from the woodland entrance as well as multiple sections over wetter sections of path south of the burn. However, some sections are seasonally muddy even with improvements to drainage. Access off the footpath network is difficult due to the steep and often wet nature of the ground. The south eastern arm of the wood, in particular, is not easily accessible and subsequently no footpaths have been installed in this area.

Due to the steep terrain, 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.

The site is classified as WT Access Category C - Low Usage (5-15 people using one entrance per day). 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 path route provides great variety with botanical, geological, and landscape interest. The wood also lies adjacent to several rights of way and tracks that form a local network, although few of them pass through woodland. There is no car park on site but there is space for 3 or 4 cars at the entrance to the adjacent Borthwick Campsite, by permission of Midlothian Council.

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 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 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 train station is located at Gorebridge (located 2.6 miles away).

3.2 Access / Walks

The woodland is accessed by the public at its west end where the unclassified public road (U87) to Currie Mains crosses the burn.

There is a circular path of 2km that passes through a variety of woodland types, with 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 path is mainly un-surfaced but wetter areas have been crossed by sections of boardwalk with steps at intervals. The unsurfaced path is often narrow, sometimes steep and in the shady south side of the gorge becomes muddy in winter. Due to the steep and winding nature of some of the route a reasonable level of mobility is required. The burn is crossed by a footbridge. The south eastern 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 (3miles away approximately a 12 minute drive).

The steep terrain makes access unsuitable for any management or emergency vehicles to move internally across the majority of the site.

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. Additionally, some large mature conifers may be retained to the end of their natural lifespan providing biodiversity and landscape interest. Timber and brash from thinning will be left in situ as deadwood habitat.

The objective will be to secure the ancient woodland components. Achieving 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, halo-thinning around relic native trees will also be utilized. Selective thinning will focus initially on the conifers such as Sitka spruce, Norway spruce, Grand fir and Douglas fir. These species will be thinned-to-recycle leaving essential deadwood on site where practical and appropriate. 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.

Natural regeneration is expected to continue to fill any gaps in the canopy and has been successfully establishing to date. If the hare and deer populations are considered to be preventing future regeneration and options such as protection of regeneration, planting, and/or control will need to be considered as circumstances dictate. Any measures introduced must be practical considering the site terrain.

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). Although compartment 1c is not PAWS it forms a valuable area for ground flora expansion and will be treated using the same management principles.

The wood has a diverse structure, as native woodland of oak/birch, and ash/elm types is clearly identifiable and notable old oak coppice stools are present throughout the site. Where deciduous trees are thriving on site there is a mix of species including hazel, holly, rowan and common alder. There are also plantings of mature and semi-mature beech and sycamore. Although semi-natural elements are present, it has been significantly modified by the planting of non-native species. There are significant areas of non-native conifers (Norway and Sitka spruce, grand fir, Douglas fir, larch) as well as 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.

Open ground at Currie is currently concentrated around the Middleton South burn that cuts through the center of the woodland and totals approximately 1.1ha equivalent to just over 5% of the total site.

A PAWS survey (as per WT PAWS Practice Guide) is carried out on a 5-year cycle in line with the management plan review. This assessment allows for the analysis of the site's current condition and informs future management practices in response to the findings. The PAWS assessment conducted has been carried out at Currie in 2005, 2010, 2015 & 2020. The most recent assessment identified:

- Woodland specialist ground flora in critical condition under dense conifers, threatened under scattered conifers and dense beech and secure under native broadleaves.
- Occasional mature native trees in most areas, many now critically impacted 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-recycle and ringbarking of conifers in 2004 & 2009
- Drystone dykes (internal & boundary) and evidence of earthworks with the latter now threatened by the unauthorized construction of a mountain bike track in compartment 1a during the 2020 Covid19 lockdown.

Following the assessment (2020) the woodland has been divided into 6 zones- The condition of each zone has been determined as secure, threatened or critical and allocated with specific management strategies. These approaches are designed to protect and support the present ancient woodland features within these zones and promote restoration suitable for its current composition.

Zone 1 is located in compartment 1a north of the Middleton South Burn. This area is particularly suffering from high conifer densities that are suppressing the growth of relic veteran oaks and other mature and developing native trees. Furthermore, the ground flora and archaeological earthworks in this area has been significantly impacted by the constructed of the unauthorized mountain bike track. Consequently, this area is currently considered to be in critical condition.

Zone 2 covers the riparian area of land approximately 20m either side of the burn and rocky-outcrops above. The habitat here benefits from flora varieties due in part to damp soils. However, this is currently affected by significant shade due to high densities of non-native conifers (particularly Douglas fir) in some areas. The shading cast here is less dominant than in zone 1 but continues to impact on relic broadleaves and regeneration of native species. This area is considered to be in threatened condition.

Zone 3 covers the remaining area of compartment 1a, most of compartment 1b as well as the whole of compartment 1d. This zone actually has a high diversity of native broadleaves with some age complexity and minimal presence of non-native conifers. Regeneration is occurring slowly over this zone as more trees develop towards the age of generating seed. Although some coarse vegetation is present (woodrush, bramble and bracken) it remains infrequent and is not undermining the diverse woodland specialist flora are spread across this area. This zone is considered to be in secure condition in its current state.

Zone 4 covers the whole of compartment 1c which is dominated by Larch and ferns. Additionally a small section of 1b is covered within this zone due to dominance by woodrush and impact of Ash Die Back on the dominant broadleaf species here. In this zone the threat is actually over exposure to light that has allowed for a monopoly of coarse vegetation impacting on ground flora diversity as well as native tree regeneration. This area is considered to be in threatened condition.

Zone 5 covers the eastern area of compartment 2a and suffers from heavy shading from a mature stand of predominately Sitka spruce and areas of dense beech restricting natural regeneration and ground flora. The terrain includes very steep slopes and the beech border on the south boundary

ride-side with the agricultural field. This area is considered to be in critical condition as native trees and flora are particularly absent through the majority of this zone. This zone is considered to be critical at this stage.

Zone 6 stretches across the majority of compartment 2a which includes damp ground and gentler north facing slopes. Overall, there is a more diverse and open canopy that allows for richer vegetation here than the majority of the site. However, the presence of conifers is impacting on regeneration of native species here. This area is considered to be in threatened condition.

See supporting PAWS map on page 19 for illustrated areas of the zones and proposed strategy. The zones have then been prioritized depending on their current condition and corresponding need for intervention has been detailed in the short-term management objectives where appropriate.

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 Ancient Woodland Site (RAWS) in its ownership and to ensure the continuing survival, and where possible, enhancement of the ancient woodland components. Currie wood is generally well sheltered, hence there is a real opportunity to carry out attentive adjustments to light levels under very favourable PAWS restoration conditions which are not often available elsewhere on many PAWS sites in Scotland due to exposure & waterlogged soils.

Currie Wood also serves as an important wildlife refuge as it is mostly surrounded by fields and the woodland also provides an essential corridor for wildlife to travel to other forested parts of the local area. Furthermore, the site supports Local Biodiversity Action Plan (LBAP) & Forest Habitat Network initiatives in the region.

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 program 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.

The percentage of open space on site could expand beyond the current (2020) 5% due to the thinning works informed by the PAWS assessment.

Constraints:

Access for timber extraction is restricted or absent throughout the wood. Low impact timber extraction methods will be considered. Such as horse logging to minimize risk of compaction damage and limit damage to forest soils and ancient woodland specialist plant communities.

Browsing by hare and deer may limit natural regeneration, and the terrain makes control difficult as fencing may not be suitable in some areas and poaching on site may be impractical.

Factors Causing Change

Although current levels are low, 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 strategy for targeted thinning should gradually improve light levels as the woodland is restructured during this plan period.

Ash Die Back (ADB) is now widespread across Scotland and is currently affecting ash on site which could naturally open up areas of the canopy.

Phytophthora ramorum has been recorded in West Lothian and if this disease were to spread to Midlothian and Currie this would require clear felling of Larch in the woodland. This would be particularly significant for compartment 1c where this is the dominant species.

Bike trail created without permission during covid19 lock down disturbed soils and compacted ground creating more paths and impacting ground flora in these areas.

Previously ring barked trees now require attention- the process has failed as the ring barked area has healed but created a weak point lower in the tree structure therefore those next to paths require removal.

Future thinning works and safety felling will result in a significant increase of deadwood onsite. Care

must be taken to ensure areas of sensitive habitats/flora are not damaged or shaded during or following these works.

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 objective, to establish a secure, healthy & diverse ground flora characteristic of broadleaved native woodland (NVC W7, W9, W11, & W17 as appropriate). The tree canopy will be almost entirely broadleaved, with a high proportion of native species.

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 Woodland Trust PAWS assessment method.

- 1) Preserve and restore woodland specialist flora focusing on threatened areas:
 - a) Zone 2- assess in spring/early summer to accurately capture floral diversity in the riparian zone and identify hotspots as well as specific areas in need of thinning (2021)
 - b) Zone 1- Avoid over exposure or scorching through a gradual increase light levels by targeted, light, selective thinning-to-recycle of conifers (2021-2022)
 - i) Ensure no decrease in security of ground flora from shading by brash from operations- spread brash thinly, and avoiding leaving timber stacked on patches of healthy flora
 - c) Zone 4 – consider removal of woodrush in trail plots to allow for natural flora response and possible diversity (2023)
- 2) Retain frequent density of deadwood on site
 - a) further thinning will result in additional deadwood for the site (2021-2025)
 - b) in areas with abundant or dominant deadwood and further thinning required consider horse logging as a possible extraction method to avoid excessive ground coverage (2021-2025)
- 3) Support and encourage the growth & development of relic native trees
 - a) Halo thinning of conifers around native trees- particular focus on relic individuals
 - i) Zone 1- currently critical zone. Subject to a selective thin of non-native conifers surrounding veteran trees up to a maximum 35% of these individuals (2021-2022)
 - ii) Zone 2 and 6- currently threatened zone. Subject to selective thin of Douglas firs shading native species with up to a maximum of 35% total thin of these individuals

- (2022-2023)
- b) Zone 5- currently critical zone. Subject to up to total 35% targeted thin for the conifers throughout the zone focused on Sitka spruce, Douglas fir and dense beech shaded areas (2021-2022)
 - i) Brash conifers up to chest height throughout this zone prior to thinning works to allow for appropriate access (2021)
- c) Percentage thins to include the removal of ring barked trees across the site:
 - i) Prioritise those by paths for health and safety (2020-2021)
 - ii) by relic/native species (2021-2023)
 - iii) watercourses and remaining conifer dominant areas (2022-2025)
- 4) Enable native tree regeneration
 - a) Remove non-native saplings with volunteers where appropriate/safe to do so (2021-2025)
 - b) Consider enrichment planting in zone 4 (the majority of which is not ancient woodland) currently suffering from minimal diversity dominated by woodrush, ferns, larch and declining ash (2023-2025)
- 5) Protect archaeological features
 - a) dismantle unauthorised mountain bike track including jumps in compartment 1a (2020)
 - b) check for signs of continued mountain bike use by staff, Estate Maintenance Contractor (EMC) and volunteers (2020-2025)
 - c) arranged for further dismantling of any other unauthorised structures (as required)
- 6) 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 (2025)
 - a) Consider if works over the planning period have enabled any of the critical zones (1 and 5) or the threatened zones (2, 4 and 6) to be reclassified as recovering, declining or showing no change
 - b) Critically assess if zone 3 remains secure or requires intervention

5.2 Connecting People with woods & trees

Description

Currie Wood is located in Borthwick Glen (population estimated at just under 3,000), near the village of North Middleton, 3km south east of Gorebridge (population of approx. 6,500) in Midlothian. The closest school is Moorfoot Primary located less than 2 miles from the site and it takes under 5 minutes to walk from the woodland to the Borthwick Castle. There is no car park on site but there is space for 3 at the entrance to the adjacent Borthwick Campsite, by permission of Midlothian Council.

Although it is a low-use site, Currie Wood is a treasured place used by the local community as a peaceful walking destination. Typically, users are in pairs or walking the dog and previously the site has been used for geocaching. Due to the narrow paths it is not suitable for large groups or pushchairs. The path route provides great variety with botanical, geological, and landscape interest.

Entrance to the site is accessed by the public at its west end where the unclassified public road (U87) to Currie Mains crosses the Middleton burn. There are two entrances here approximately 10m apart which allow visitors to start the circular route either from the north or south side of the Middleton South Burn, crossing via a timber footbridge at the mid-point of the walk. The 2022m of footpath covers about two-thirds of the wood passing through a variety of woodland types and affords good views into the ravine of the burn. The majority of the northern side of the path is steep and winding and requires a reasonable level of mobility. There are no footpaths passing through the southern arm of the wood as the steep and rough terrain is not easily accessible.

The wood lies adjacent to several rights of way and tracks that form a local network, although few of them pass through woodland. The path is now linked with the Borthwick-Crichton Right Of Way (ROW) with a Scotways sign marking the route. Crichton circular walk from Vogrie via Crichton, Borthwick and Gorebridge is an 8 mile circular route that include compartment 1a of Currie Wood.

The internal footpaths of Currie Wood are mainly un-surfaced and previous works have involved the installation of numerous sections of boardwalk built in 2006, and stone pitched sections laid in 2010. However, some sections remain seasonally muddy. Large sections of the footpath to the north of the burn include edging which now needs replacing. The site has previously benefitted from volunteer groups conducting path upgrades such as these, and there is opportunity to develop this further with the creation of a local Woodland Working Group.

Cyclists and mountain bikers have been known to use the site with more intense use by the latter recently as an unauthorized mountain bike track was developed in early 2020. Previously there have also been issues with fires on site (2017). There is currently one Volunteer Woodland Warden that covers the site, conducting regular patrols and providing reports of any issues in the area.

As Currie wood is located immediately south of the Borthwick Scout Campsite it allows for direct use by this group and their activities. There is an opportunity to directly link up with this group for annual sessions about responsible use of the woods and potential practical volunteer work.

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

Upgrade entrance signage to bring it in line with other central Scotland sites and current branding

Engaged local community showing support and interest in contributing ideas and time through volunteering- Opportunity for Woodland Working Group (WWG) to be set up and run regularly to help maintain the site.

Engage with local Scout group through annual contact to foster a sense of ownership and responsibility between local people and this woodland.

Create a new volunteer Warden post focused on ecological recording - providing better understanding of the wildlife present in the wood year-round and help to inform management practices.

Constraints

Steep wet ground and narrow paths makes this site unsuitable for those with poor mobility or prams

Minimal parking near site, lack of emergency vehicle access and narrow paths limits potential for events

Limited access to get machinery or material on site impacts on ability and cost for footpath and infrastructure work

Factors Causing Change

Increased use by mountain bikes has caused various desire-lines to appear making path routes confusing for visitors as well as unsafe in areas if walkers and cyclists are using the same narrow areas.

A lot of the built infrastructure was installed at the same time and will require repairs and renewals within this management plan.

Some areas of the path are poorly drained throughout the year encouraging visitors to travel through the undergrowth to avoid muddy areas. This is causing paths to widen and is impacting on surrounding vegetation.

Long term Objective (50 years+)

There will be a safe, welcoming and well-maintained access to allow local people and visitors to enjoy the variety of woodland types, and will link into external paths where practical.

Improvements to the condition of paths in severely muddy areas will be made as needed to provide a well-drained route for mainly local users.

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.

The paths will be free from encroaching vegetation and obstructions appreciated by the local community for its rich natural surroundings and tranquil setting.

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

During this plan period, the short term objective is to continue to provide public access at Currie wood which is safe and welcoming. This will be achieved by:

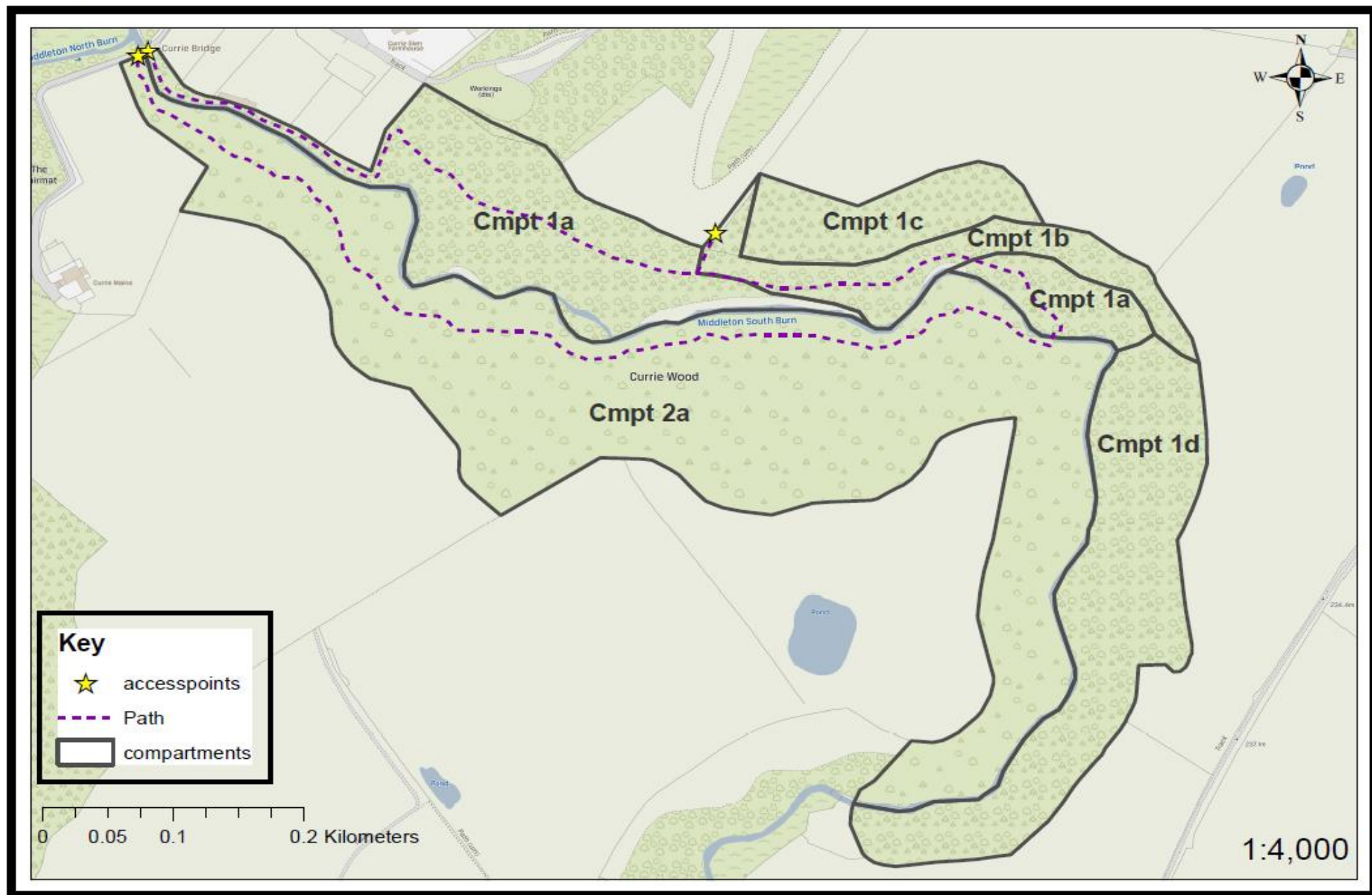
- 1) Managing access to Woodland Trust Access Category C standard:
 - a) Incorporate Currie within Estate Maintenance Contract (EMC) remit for maintenance works including:
 - i) Burn clearance to remove rubbish and large items of debris to prevent flooding (as required)
 - ii) Annual vegetation cut backs from path to allow for access (2021-2025)
 - a) Strim/scrape vegetation from boardwalk twice a year (2021-2025)
 - iii) Dismantle any unauthorized bike track to ensure visitor safety and monitor the site for any new tracks (as required)
- 2) Footpath repairs

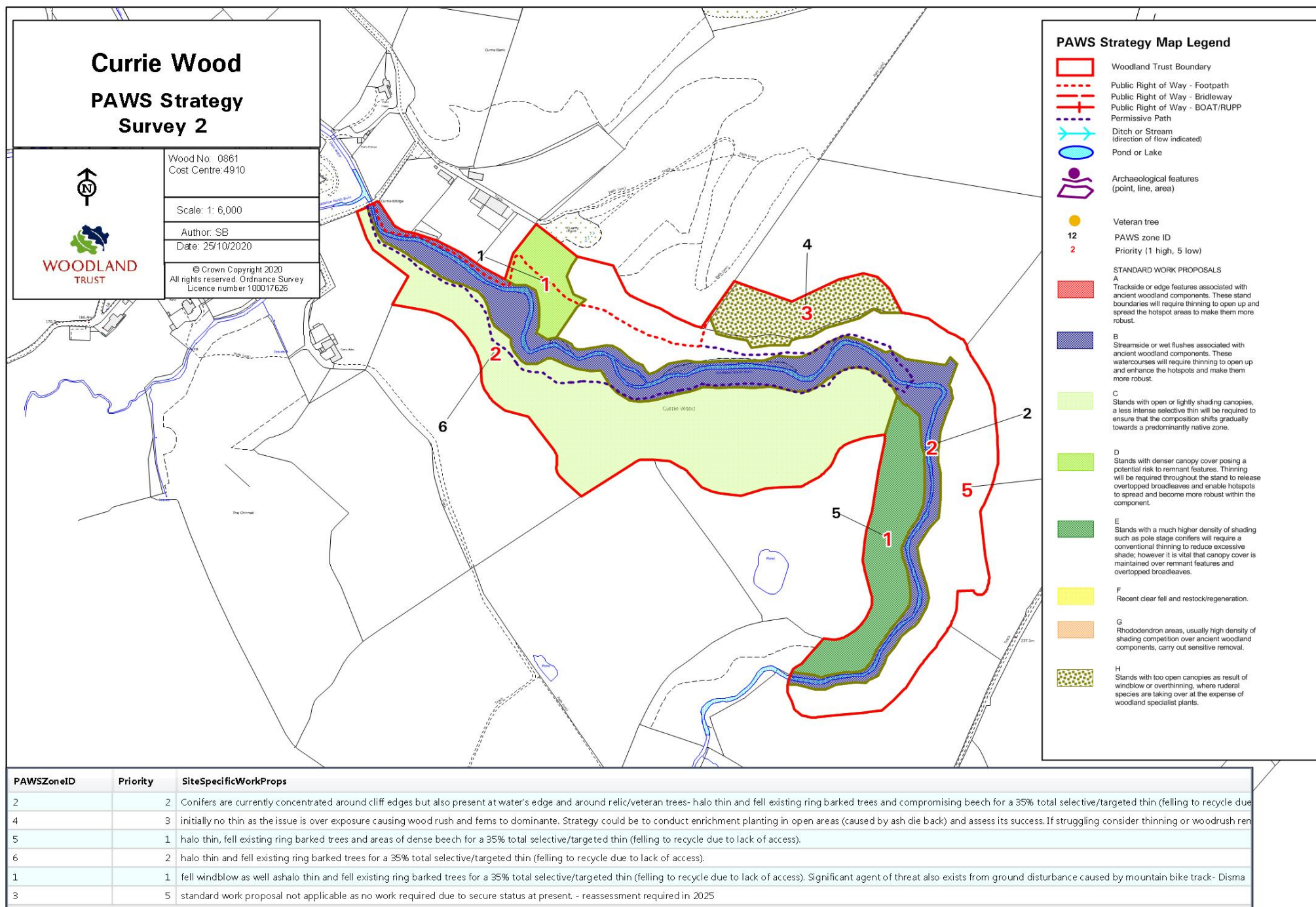
- a) Footpath audit required to fully assess paths and to inform strategy for repair works required (2020/2021)
 - b) Improve condition of path in severely muddy areas by improvements in drainage (2022-2025)
 - c) Replace edging and steps as required with volunteers (2022-2025)
- 3) Renewal of built structures
- a) Replace fencing and welcome signage at the two entrances to the west of the site (2021)
 - b) Renew way markers across the site (2021-2022)
 - c) Replace footbridge (2021-2022)
 - d) Maintain and repair boardwalks (as required)
- 4) Developing community engagement and volunteering opportunities by:
- a) Engagement with scout group annually (2021-2025)
 - b) Create a woodland working group to harness local engagement and help to maintain the paths and maintenance (2021-2025)
 - c) Recruit Woodland Warden focused on ecological recording for the site (2021)

Currie Wood Compartment Map

The Woodland Trust is a registered charity
in England and Wales no. 294344 and in
Scotland no. SC038885.

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APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year				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

Split into two sections with the majority located at the west of the site and a smaller section located to the east of 1b. Overall the sub-compartment is 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 sub-compartment. 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 seedlings 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. The majority of rocky outcrops are located within this compartment.

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
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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 compartment 1c and to the area between the path and the burn. There is an understorey of mainly birch saplings, but no recent regeneration. Ash dieback (Chalara) is evident within this compartment allowing the canopy to gradually open overtime. 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, Sensitive habitats/species on or adjacent to site	Informal Public Access	Conservation Area
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Located on the northern boundary of the site, this is a 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 good levels of deadwood and light conditions have improved. The ground flora includes abundant wood sorrel, foxglove, dog's violet, wood avens and ferns. This is the only compartment that does not include the Middleton South burn. There are also no managed footpaths in this compartment.

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. Mature native species are found throughout this compartment particularly focused along the field boundary. 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. There are no footpaths in this compartment due to the steep terrain.

2a	11.41	Mixed broadleaves	1960	PAWS restoration	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site, Very steep	Informal Public Access	Conservation Area, Planted Ancient Woodland Site
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					slope/cliff/quarry/mine shafts/sink holes etc, Sensitive habitats/species on or adjacent to 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 halo thinning and ring-barking to improve light levels (2009). 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. To the south of the compartment there is a dominance of sycamore and ash (approximately 40 years as of 2020). Sycamore becoming dominant in this area and potential need for thinning to be considered in the long-term to allow for regeneration as well as diversity. 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. The wet ground in this compartment has resulted in a number of boardwalk sections being installed on the southern part of the circular path and drainage remains a problem here. 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.
2021	1a	Thin	3.81	20.997	80
2021	2a	Thin	11.31	7.073	80
2022	1d	Thin	3.58	5.540	20
2022	1a	Thin	3.81	5.249	20
2022	2a	Thin	11.31	3.503	40
2022	1b	Thin	1.38	2.174	3
2023	2a	Thin	11.31	1.768	20
2025	1a	Thin	3.81	10.390	40
2025	2a	Thin	11.31	3.503	40
2030	1a	Thin	3.81	5.249	20
2030	2a	Thin	11.31	1.768	20
2035	1a	Thin	3.81	5.249	20
2035	2a	Thin	11.31	1.768	20
2040	1a	Thin	3.81	5.249	20
2040	2a	Thin	11.31	1.768	20

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.

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