



WOODLAND
TRUST SCOTLAND

Moncreiffe Hill

Management Plan

2020-2025

MANAGEMENT PLAN - CONTENTS PAGE

ITEM

Introduction

Plan review and updating

Woodland Management Approach

Summary

1.0 Site details

2.0 Site description

3.0 Public access information – Getting There

4.0 Long term policy

5.0 Key Features

5.1 Connecting People with woods & trees

5.2 Archaeological Feature

5.3 Planted Ancient Woodland Site

5.4 Secondary Woodland

Appendix 1: Compartment descriptions

Appendix 2: Harvesting operations (20 years)

Glossary

MAPS

Management

Proposed Way Marker Routes

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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 license 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:	Moncreiffe Hill
Location:	Perth
Grid reference:	NO138197, OS 1:50,000 Sheet No. 58
Area:	132.03 hectares (326.25 acres)
Designations:	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site, Scheduled Ancient Monument

2.0 SITE DESCRIPTION

Location

Moncreiffe Hill lies between Perth and Bridge of Earn, and to the east of the M90. It lies on an escarpment and is extremely prominent in the landscape, especially from the south.

Physical Description

Moncreiffe Hill is an igneous escarpment, largely composed of andesite lava, which outcrops as cliffs along the steeper southern edge of the ridge. The northern dip slopes are relatively gently sloping. Soils tend to be richer and deeper on the lower slopes, with thin acidic soils on the upper slopes. Erosion of the base rock has produced areas of more basic soils. A small water course runs from the Tarsappie Hill northwards to drains on adjacent farmland.

Woodland Description

This mixed woodland is classified as Long Established Woodland of Plantation Origin on the Ancient Woodland Inventory, apart from the field extension to the north side of the hill, which was planted in 2011. The wood has surviving ancient woodland components and evidence (ground flora, veteran trees and some map evidence) which suggests it may be Planted Ancient Woodland, at least in some parts.

It contains a wide range of species: Douglas fir / ash / sycamore mainly on the lower slopes; larch on the mid-slopes; Scots pine on the upper slopes; with Sitka spruce / Norway spruce and recently planted or regenerated broadleaves occupying flatter benches on the North West plateau. The contrast in colour and the natural shape of stands adds greatly to the landscape value of the site, as do the adjacent policy

woodlands of Moncreiffe Estate on the lowermost slopes.

Ground flora varies with tree species, canopy cover, altitude, and geology. Bramble and ferns predominate on lower slopes below the broadleaves and Douglas Fir, with grasses dominating below larch. On higher areas below the pine, bracken is frequent. Flora is typical of an ancient woodland present includes wood sorrel, dogs mercury, wood anemone, and wild strawberry.

Invasive non-native plants present are Himalayan Balsam and a couple of rhododendron bushes mainly on the southern slopes.

Non-woodland habitats

There are some important habitats of interest for botanical and invertebrate biodiversity, including south facing crags and associated scree slopes below them, as well as other scattered areas with thin soils over rock that support short acid grassland and patches of heathland. Tracks edges within the wood also provide some interest.

Whilst the cliffs are not of the same extent and quality as the nearby Kinnoull Hill SSSI, they do contain a large number of locally rare species, many dependent on open, dry or disturbed ground. Some of these are more southern species near their northern limit and others are more often found in coastal locations. Their presence is due to the calcareous geology of the bedrock and also the warm southerly aspect.

Locally rare species include: crow garlic (*Allium vineale*); hairy violet (*Viola hirta*); scarlet pimpernel (*Anagallis arvensis*); common century (*Centurium erythraea*) [found above the car park]; Helleborus foetidus (an introduction, found above the western turning area); hairy and spring vetches (*Vicia hirsuta* and *V. lathyroides*); and corn salad (*Valeriana locusta*).

There are also two small ponds: one along the upper track in sub-compartment 4t and the other in sub-compartment 3w, which is seasonal.

Wildlife

Roe deer, red and grey squirrels, along with other smaller mammals are present within the wood. The range of birds seen are those common in woodlands in this area, including buzzards, woodpeckers and raven.

There is a colony of yellow meadow ants, thought to be one of the most northerly colonies.

Historical Interest

The wood contains two hill forts which are recognised as being of national importance and are designated as Scheduled Ancient Monuments under the Ancient Monuments and Archaeological Areas Act 1979. Hill forts generally comprise a series of ramparts enclosing an area of high ground, sometimes with internal features, with interpreted functions ranging from domestic to defensive and ceremonial. Although it is not known whether they are contemporary or consecutive, these two forts are built in commanding positions, and therefore their visual relationship to each other and the wider landscape is clearly an important characteristic; they should be viewed not in isolation but in association with other forts in the area as well.

Moncreiffe Hill Fort sits on a small plateau with cliffs and a steep slope to the south. Moredun Top Fort is situated on the highest part of the wood with steep southern and western edges and more shallow northern and eastern flanks. Only the northern annex is within the ownership of Woodland Trust Scotland; the bulk of the fort is in separate ownership.

In addition, there are three small quarries (probably post-medieval) which appear on 1920 and 1866 maps. Records also show that groups of cottages used to occupy parts of the northern slopes of Moredun Hill, including one in the woodland.

Site History

The wood was previously part of the Moncreiffe Estate and early records note scattered broadleaves,

bracken and gorse scrub on the hill. By 1842 the hill had been planted with a mixture of conifers and broadleaves and most of the path network laid down. Most of the present wood, particularly the conifer areas, was established in the mid 1950s when the then Forestry Commission (now Forestry and Land Scotland) owned the site. The wood was purchased by the Woodland Trust in 1988. In 2009 a field extension to the north was acquired and a new access created. In our ownership conifer thinning has been undertaken; approximately 34 hectares have been felled and replanted with native species; two car parks have been constructed, and new paths and tracks created.

Access description

The wood offers excellent public access with over 14km of paths of different grades within easy reach by car from Perth and Bridge of Earn. Visitors can enjoy panoramic views to all compass points from a number of viewpoints around the wood. There is good car parking facilities at the northern Tay entrance with room for 25 cars and a coach, and limited car parking at the side of the track near the southern Earn entrance with parking for up to 10 cars. There is also a management and pedestrian access route from Tarsappie but there are no parking facilities here. There are information boards at the entrances and a leaflet available on site.

There is reasonable vehicular access for management in the wood from the southern entrance along a hardcore track which runs along our southern boundary and around the plateau from the car park in the north. There is also vehicular management access (for harvesting) from the northern side but this goes across adjacent farmland at Tarsappie to the public road.

3.0 PUBLIC ACCESS INFORMATION – Getting There

By bus: There is a regular service between Perth and Bridge of Earn. The southern entrance to Moncreiffe Hill is just 1.6km (one mile) north of Bridge of Earn.

By train: The nearest station is Perth.

For up-to-date information on public transport, visit traveline.org.uk (0871 200 22 33).

By car:

To northern Tay car park: From Perth, head south on the A912 (Edinburgh Road). Then turn left onto the minor Rhynd Road, just before the M90 onramp junction. Continue for roughly 1.6km (one mile) to the car park on the right, where there is space for around 25 cars.

To southern Earn car park: From the A912 just north of Bridge of Earn, take the minor Rhynd Road that runs east near the bridge over the River Earn. Follow this for roughly 1.8km (one mile) and then turn up a track to the left, signposted for Moncreiffe Hill. The 10-space car park is about 750 metres (half a mile) along the track.

4.0 LONG TERM POLICY

Woodland

The long term vision is for Moncreiffe Hill to continue to be a woodland of diverse species and age composition, with a mixture of broadleaves and conifers, although with a much greater native component than at present.

A significant element of conifers, both native and non-native, will be retained as long as possible to maintain the diversity of colours and textures in the landscape. The conifers will be thinned gradually for long-term retention, which will also let more light in to encourage natural regeneration and more diverse woodland flora. Non-native regeneration will be accepted as part of this mixed woodland, unless it becomes dominant. Broadleaved areas will be left to develop naturally, with tree shelters and fencing removed from planted areas once established. Any significant windblown areas will be cleared and either replanted or allowed to naturally regenerate. Scattered windblown trees will be left for a deadwood habitat. Open areas will be left to develop naturally.

Restoration of the surviving ancient woodland components will be gradual, creating conditions in which they can recover.

Public Access

This stunning site will be promoted to attract more visitors, especially families, with interpretation maintained and improved to inspire everyone to enjoy and value woods, trees and the historic interest. Existing on-site access facilities and paths will be maintained and enhanced to suit demand, which is classed as Grade A - high usage.

Archaeological features

The two scheduled ancient monuments will be protected from any potential threats (e.g. root disturbance from trees and shrubs, rabbit burrowing, and erosion caused by high levels of access on steep slopes).

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 Connecting People with woods & trees

Description

An extensive path network over 14km long, with a choice of routes of varying lengths and impressive views, help to make this site a destination for both local dog walkers and visitors from further afield.

Many of the paths in this woodland are part of the Core Path Network, although the paths do not connect in with any other paths in the area. There is a choice of 5 way-marked routes, with the shortest green route being 1.9 miles taking about 50 minutes, and the longest red route being 5.2 miles, taking around 2 hours 15 minutes. There are other paths which are not way-marked.

Most of the paths are wide, stoned, forest tracks, with shorter steep sections and longer more level routes. There are 2 paths that have narrow sections with steep drops to one side (on the blue and western end of the red way-marked routes). There is a flight of around 100 steps on the yellow way-marked route, and a few steps going up to a viewpoint and bench (not on a way-marked route), both east of Moncreiffe Hill fort. Cyclists and horse riders also enjoy using this site and with most paths surfaced, there is minimal potential for damage.

The sculpture trail encourages families to visit, and the 2 scheduled hill forts provide interest, especially since the archaeological digs that Tay Landscape Project organised in 2015-19.

Facilities include: two car parks (Tay to the north with space for 25 cars, and Earn to the south with space for 10 cars); brown tourist signs at both car parks and on the road junctions with A912 and Rhynd Road; interpretation boards (3 at the entrances and a further 3 next to the 2 hill forts and replica fort); 2 flag banners near Tay and Earn entrances, leaflets in dispensers at all 3 entrances; 3 welcome ladder boards (at Tay and Earn access and car park), and welcome signs at all entrances; 5 way-marked routes; several benches and perch posts along the paths; and a sculpture trail along the green and white way-marked routes, including a replica fort structure; 4 finger posts at path junctions; 2 commemorative posts and other commemorative plaques; wheelie rubbish bins at both car parks (emptied by the Council); and a barrier at the Tay car park, that closes at dusk due to the potential for anti-social behavior. The barrier is opened again by 7am.

Fly tipping occurs occasionally at the Tay car park, which is removed promptly.

Moncreiffe Hill is a very popular place for dog walking, and many people are responsible dog owners. However, in some cases the lack of dog control and dog fouling is causing an issue. Dogs running up to or jumping up on people can cause alarm, especially if they are afraid of dogs. There have also been some incidents of dogs behaving badly around a horse and rider, causing distress. Dogs have been seen chasing deer in the wood, or have got into neighbouring fields to chase sheep.

Dog fouling is a health hazard and is unsightly, especially when poo is picked up but left on site in bags where

it will not decompose for years.

Two dog awareness days have been held, and signage has been erected, to try to educate some dog walkers. Under the Scottish Outdoor Access Code, dog walkers are responsible for their dog's behavior – keeping them under close control (able to respond to recall) or on a lead, and picking up after their dogs. We will work to manage the site for enjoyment of all visitors, and welcome responsible dog walkers.

There are 2 areas that have been deer fenced to establish young trees, with gates to allow pedestrian access. These deer fences will be removed once trees have grown tall enough for deer not to damage them (around 10 - 15 years).

There are currently 7 volunteers who help to keep an eye on the site, reporting any work needed, topping up the leaflet dispensers, putting up posters, shutting and opening the barrier at Tay car park, and undertaking minor repairs.

Public events are held by the Woodland Trust, and also by third parties (including orienteering, archaeological digs, hill race, scout groups, geocachers, and school field trips). One volunteer also gives guided walks on the hill forts. Dundee Conservation Volunteers help annually with controlling the invasive Himalayan balsam.

There are 11 (in 2020) geocaches hidden on site (maintained by others), which are a popular reason to visit Moncreiffe Hill.

Significance

The wood is important for access because of its proximity to populations of Bridge of Earn (around 2500 people) and Perth (around 48,000 people), its relatively large size, and its panoramic views. Perth and Bridge of Earn are both about 3 miles from the Tay car park, and the wood is within 20 minutes' drive time of 116,685 people.

The nearest Woodland Trust woods are Portmoak Moss and Kilmagad Woods at Scotlandwell (16 miles), and Kinclaven Bluebell Wood at Kinclaven (15 miles). The nearest woods owned by others are St Magdalenes Hill and Craigie Hill, Perth (1 mile), Kinnoull Hill and Deuchry Wood, Perth (4 miles), and Drummonie Wood, Kintillo (5 miles).

The Woodland Trust has classed this wood as access category A, and has over 40,000 annual visitors (from 2012 survey).

Opportunities & Constraints

Opportunities to encourage more visitors to the wood through promotion.

If ever there was an opportunity to buy an area of land on the Earn side near the road for a new bigger car park, this would allow more visitors and mean less maintenance to the Earn track would be required.

The way-marker posts need replacing, and this is a good opportunity to redesign the way-marked routes, and corresponding interpretation board, to follow the better quality tracks.

Constraints include steep slopes, limiting size of the car parks at busy times, steps, narrow paths with steep drops.

Factors Causing Change

Increased public usage, and with that, more anti-social behavior.

Long term Objective (50 years+)

Moncreiffe Hill will be continue to be a popular place to walk. Existing on-site access facilities, paths and

viewpoints will be maintained and enhanced to suit the existing demand, which is classed as Access Grade A – high usage. It is not currently anticipated that the existing path network will be extended unless there is significant change in demand or opportunities to link to other path networks in the area.

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

1. A popular place to walk.

Achieved by: continuing to inspire people to visit and make return visits - promoted on the WT website and through press releases and holding at least two public events during this plan period – dog awareness and hill forts archaeological guided walk (2 events by 2025).

2. Existing on-site access facilities, paths and viewpoints will be maintained and enhanced to be welcoming and to suit the existing demand.

Achieved by: Paths and current access facilities will be inspected and maintained, with any overhanging vegetation cut back (annually); the grass around the car parks and replica fort will be cut several times a year (2020-2025); the access track to Earn Car Park will continue to have potholes filled in (annually or as required); replace fencing and gates at all entrances (by 2022); remove the deer fence around the young planting next to Tay entrance (cpt 5a by 2023) ; the steps east of Moncreiffe Hill fort will have surfacing topped up and any loose treads replaced (in 2021); remove any fly-tipping promptly (ongoing); fell any dead or dying ash, suffering from ash dieback along edge of paths, roads, and houses, for public safety (as required - see woodland key feature for more information).

3. Redesign way-marked routes to follow better quality paths and provide less complex routes. In particular the red route near the motorway and the blue middle routes both have narrow sections with a steep drop on one side, and the yellow route has steps, so are not the best ones to promote.

Achieved by: creating 3 way-marked routes from the Tay car park (see map), and removing old posts. All other paths will still be available for walkers, but not way-marked. Also the 4 finger posts will be removed as not very helpful, to reduce signage clutter (by 2023).

4. Changing the interpretation on site to reflect current demand, and updating the information to show changed way-marked routes.

Achieved by: Renewing the interpretation boards at Tay and Earn car parks (but not at the Tarsappie entrance as few people use this entrance) by 2023. The information on the interpretation boards will be available in a digital format on our website, available for people to download. The leaflet will not be replaced when it runs out, as less people pick up leaflets on site than previously.

5. Promote the sculpture trails to encourage younger visitors.

Achieved by: Add a further sculptures to the green and white way-marked routes in partnership with Duncan Jordanstone College of Art and Design by their students annually (2020 -2025); and investigate other ways of highlighting the sculptures on the trail (by 2021), with promotion by 2025.

6. Encouraging more dog owners to be responsible.

Achieved by: holding a dog awareness day to chat to dog owners (by 2022); erecting signage to remind dog walkers to be responsible (as required); investigate installing a dog exercise area next to the Tay car park, to encourage dog owners to pick up and dispose of dog poo, before their walk (feasibility study by 2021, and installation by 2022 if thought going to be successful).

5.2 Archaeological Feature

Description

There are two iron aged forts which are scheduled ancient monuments - Moncreiffe Hill Fort with a trig point, and Moredun Top Fort annex (with main fort area out with Trust ownership). Moncreiffe Hill Fort (SAM 9438 Moncreiffe Hill, fort 800m NW of Moncreiffe House) sits on a small plateau with cliffs and a steep slope to the south. The ramparts are well preserved on the east edge with a clearly defined entrance, but are largely denuded elsewhere, although the break of slope at the edge of the plateau can be assumed to define the edge of the fort. Moredun Top Fort (SAM 9440 Moredun Top, fort) is situated on the highest part of Moncreiffe Hill with steep southern and western edges and more shallow northern and eastern flanks. The line of several ramparts can be traced around the outcrop, with indications that an annex is situated on a terrace on the northern flank. Only this annex is within the ownership of Woodland Trust Scotland.

Significance

Both hill forts sites are Scheduled Ancient Monuments. There are several other forts within the wider area - thought to be a strategic location between Rivers Tay and Earn.

Opportunities & Constraints

Scheduled Ancient Monuments are protected and there are forestry constraints - no new planting within 20m of scheduled ancient monument boundary, no machinery inside scheduled areas, and control of any regeneration or coppicing. Tay Landscape Project organized some archaeological digs and improved interpretation between 2015 and 2019. There may be other opportunities to carry out further digs with other organisations in the future. There is also the potential to open up a direct visual link between the two hill forts, by heavily thinning or felling parts of compartments between them in the future. No work without consent from Historical Environment Scotland (which currently includes controlling any regenerating vegetation).

Factors Causing Change

Scrub encroachment and tree regeneration / coppicing on monuments.
Potential for rabbit burrowing and erosion from access on steep slopes.

Long term Objective (50 years+)

Protect the two scheduled ancient monuments from any potential threats (e.g. root disturbance from trees and shrubs, rabbit burrowing, and erosion caused by high levels of access on steep slopes) to maintain in current condition.

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

Protect both the ancient monuments (within Trust ownership) from potential threats (as per advice from Historic Scotland).
Achieved by: controlling any regeneration and coppicing from ancient monuments, where it is safe to do so, (Compartments 3j and part of 1e, 2020 – 2025); and monitoring every 5 years for root disturbance, rabbit burrowing and erosion caused by high levels of access on steep slopes. (Compartments 3j & part of 1e in 2025).

5.3 Planted Ancient Woodland Site

Description

Moncreiffe Hill is classed as a Long Established Woodland of Plantation Origin on the Ancient Woodland Inventory (it is not apparent on the Roy maps of 1750 but is shown on the first edition OS maps of around 1860) with scattered remnants of ancient woodland ecological communities, such as surviving veteran trees and ground flora typical of ancient woodland.

The woodland contains a wide range of species: Douglas fir, ash and sycamore mainly on the lower slopes; larch on the mid-slopes; Scots pine on the upper slopes; with Sitka spruce, Norway spruce and recently planted or regenerated broadleaves occupying flatter benches on the North West plateau. The age structure of the woodland is unbalanced with more than 50% of the wood consisting of mixed conifers planted in 1955/56, although recent restocking with native broadleaves has started to spread the age range. There are a few notable older trees, most notably Douglas firs (PI860) and individual oaks clinging onto cliff tops.

Although not officially listed as Ancient Woodland, the whole woodland (excluding the extension cpt 5) has been classified as a Planted Ancient Woodland Site (PAWS) by the Woodland Trust. The woodland has been surveyed and separated into 6 different PAWS zones to prioritize work. These zones are: densely shading conifers (Douglas fir, spruce, Grand fir) with low light levels; densely shading conifers currently with good light levels; lightly shading conifers (larch and pine); young planted or regenerating areas; densely shading sycamore; and other broadleaved areas. The priority is to reduce the threat of shading by thinning areas with low light levels to ensure no loss of ground flora, no threat to surviving veteran trees and to allow native regeneration.

The ash trees at Moncreiffe Hill are being badly affected by ash dieback disease (*Hymenoscyphus fraxineus*) with varying degrees of dieback, with some trees showing more than 50% dieback (in 2020). Ash trees make up around 10 – 15% of the species composition, mostly scattered around the site but with a few in bigger blocks.

There is lots of deadwood, mainly from previous thinning and felling operations, but also from fallen and standing dead trees.

There is little native regeneration, except inside the deer fence in cpt 1f. There is also a little non-native regeneration on the sides of the tracks.

Invasive non-native plants are encroaching from south of our boundary, namely Himalayan Balsam and few small rhododendron bushes. There are extensive rhododendron bushes to the south behind Moncreiffe House.

Deer are an important part of the UK's wildlife, and grazing by deer can play a significant role in maintaining and enhancing the biodiversity of semi-natural habitats. However, deer numbers have increased dramatically in recent decades, and have risen to levels where they can threaten habitats. In particular, over-grazing and browsing in ancient woodland is linked to declines in characteristic plant species, woodland bird species, and invertebrate abundance and diversity, and also prevents adequate regeneration of trees.

Moncreiffe Hill is part of a UK wide trial to demonstrate a 'best practice' approach to wildlife management on a number of properties on the Woodland Trust estate, with two primary aims: one which seeks to improve the health of the woodland and the other to demonstrate a clear process to use as an example

across the Trust.

In 2019, a baseline population assessment and an herbivore impact assessment were carried out to assess the impact of deer at Moncreiffe Hill. The baseline population assessment, using thermal imagery, showed roe deer presence across the woodland which indicated a high deer population (up to 40 roe deer) and a high deer population living in the surrounding landscape.

The herbivore impact assessment looked at the impacts on saplings, seedlings and preferential browsed plants, and was recorded as high-very high on all plots.

Significance

The woodland is on the Ancient Woodland Inventory as Long Established Plantation Origin, which suggests there is the possibility of a relatively high biodiversity potential. There are other secondary woodlands adjacent to this wood, both coniferous and broadleaved within a surrounding agricultural setting, which provides a habitat network for movement of species.

Opportunities & Constraints

Opportunities are to remove the threat (shade) to Ancient Woodland components, securing all veteran trees and hotspots of plants typical of ancient woodland; to gradually convert the non-native conifer plantation to native woodland; and to increase the biodiversity value.

Constraints are the steep slopes, further wind blow of conifers, deer browsing, and invasion of rhododendron and Himalayan balsam.

Factors Causing Change

Wind blow, Deer damage, Invasive rhododendron, Invasive Himalayan balsam, chalara (ash die back disease) and potential for phytophthora ramorum (larch disease).

Long term Objective (50 years+)

Moncreiffe Hill will continue to be a woodland of diverse species and age composition, with a mixture of broadleaves and conifers, although with a much greater native component than at present through gradual conversion, giving greater biodiversity levels. A significant element of conifers, both native and non-native, will be retained as long as possible to maintain the diversity of colours and textures in the landscape.

The surviving ancient woodland components will be secured and enhanced.

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

1. Ancient woodland components being restored by reducing threats.

Achieved by: light selective thin to reduce shade (cpts 1f (west), 2e (south) (2.2ha by 2025), and reviewing the PAWS assessment to check progress (in 2025). The year before thinning, the other sub-compartments will be checked in case they have since become shaded – and any that are will also be thinned.

2. Reduce the safety hazard from ash dead and dying ash trees (affected by ash dieback disease).

Achieved by: Felling all ash trees with more than 25% dieback, within falling distance of paths, roads and houses. (2021 and when required). All other dying ash trees will be retained as dead wood.

3. Reducing densely shading, non-native regeneration competing with native trees.

Achieved by: Felling regenerating non-native trees when more than occasional - Western Red Cedar and Western Hemlock trees on track edges in cpt 3q and 4o, and inside deer fenced regenerating area cpt 1f by 2025.

4. Young planted areas will be maintained until established

Achieved by: supplementary planting if required for full stocking and control of any non-native regeneration if it becomes dominant in cpt 1f (part), and 2e (part) (5.9ha by 2025); remove tree shelters in cpt 4e (1.4ha by 2021). In the next plan period, remove the deer fence around cpt 1f and tree shelters from cpt 2e (part) (2025+).

5. To reduce the herbivore impact of Roe deer at Moncreiffe Hill and take part in the UK wide Deer Management Trial.

Achieved by: provide a clearer understanding of the deer population at Moncreiffe utilizing thermal imagery as a baseline dataset (annually); carry out herbivore impact assessments to monitor change in vegetation (annually); reduce deer numbers to the point where additional protection methods are not required for planted stock and regeneration is able to establish (annually); produce an annual summary and final report analyzing the data and process at Moncreiffe Hill to feed into the UK wide trial (2020 – 2023).

6. Improve biodiversity and resilience of the woodland

Achieved by: control of 4 individual rhododendron bushes near southern boundary by spraying annually with glyphosate until dead, and annual monitoring along southern boundary for any further regeneration; control of invasive Himalayan balsam by pulling (mainly in cpt 4s, but also in cpts 4r,t,u, and recently (2019) in cpt 3q), and also on the neighbour's ground to create a buffer to stop it spreading onto our land annually, and monitoring the whole site annually.

5.4 Secondary Woodland

Description

An area of new native woodland, planted in 2011 in the field extension to the north. Trees were planted inside a deer fence with vole guards for protection. The lower slopes were ploughed and seeded with wild flowers to add interest for visitors and increase biodiversity for wildlife. Trees were mostly planted by school children and the local community. Some fruit trees have also been planted.

Ash trees are suffering from ash dieback disease (*Hymenoscyphus fraxineus*) with most trees showing over 50% dieback (in 2020). Ash trees make up around 20% of the species composition mostly scattered around the site. This will add diversity by providing additional scattered open space and deadwood.

There are extensive open areas – the area to the south has been left for views to the Hill fort, and the area to the north has been left as an overflow car park for events.

Significance

Planting new areas of woodland is part of a national target to increase woodland

Opportunities & Constraints

Factors Causing Change

Ash dieback

Long term Objective (50 years+)

To create an area of new native woodland as a diverse resource for people and wildlife.

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

Young plantation is fully established.

Achieved by: removing the deer fence and vole guards from around the trees when trees have established (cpt 5a/ 4.4ha by 2023).

APPENDIX I: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	1.67	Mixed broadleaves	1986	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Area of planted broadleaves (p1986) amongst natural birch regeneration of various ages on fertile soil with some mature trees in over storey. Site quite open with occasional glades/open ground. No regeneration. Rare deadwood.							
1b	0.84	Scots pine	1990	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Plantation of p90 Scots pine and birch on fertile ground. Broom invading gaps in the canopy. Grassy understorey with fern patches. No regeneration. Rare deadwood.							
1c	3.44	Mixed native broadleaves	1990	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Groups of p90 mixed broadleaves, predominantly ash and birch, on fertile brambly ground with glades. Pre 1902 quarry site by entrance. Grassy understorey with no regeneration. Rare deadwood.							
1d	3.67	Mixed native broadleaves	1991	High forest		Connecting People with woods & trees, Planted Ancient	Long Established Woodland of Plantation Origin, Planted Ancient

						Woodland Site	Woodland Site
<p>Groups of p1975 birch interplanted with p1991 oak on fertile ground with heavy gorse & broom growth, especially along ride and edges. Grassy understorey with fern clumps and no regeneration. Rare deadwood.</p>							
le	3.97	Mixed native broadleaves	1991	High forest	Archaeological features	Connecting People with woods & trees, Archaeological Feature, Planted Ancient Woodland Site	Planted Ancient Woodland Site, Scheduled Ancient Monument
<p>Plantation of p1988 birch and alder on higher ground with p1990 oak & ash on lower slopes. Scheduled Ancient Monument fort site on southern part, with trees removed in 2011. Grass and fern understorey with broom at north end. No regeneration. Rare deadwood.</p>							
lf	6.77	Sitka spruce	1977	Wood establishment		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Area of P1974 Sitka spruce and Grand fir with larch and birch which was felled in 2016 after extensive wind blow, apart from more stable area west of stream (which was thinned). Area was deer fenced and partly planted with mixed native broadleaves to supplement regeneration. Birch growing near stream, in wide rides and pockets. Abundant deadwood after felling. SE corner of larch felled and planted with hazel in 2010 to open up view from bench.</p> <p>Part of the compartment also has PAWs restoration as Management Regime.</p>							
2a	1.89	Norway spruce	1956	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Even aged stand comprising blocks of mature p1956 well thinned larch, Norway spruce, Sitka spruce, Scots pine and birch with recent wind blow affecting around 15% of the stand (at east end). Ground flora dominated by grasses with foxgloves. Occasional lying deadwood. No regeneration.</p>							

2b	1.28	Birch (downy/silver)	1970	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>P1970 silver birch with some P 1990 sycamore. Grass and fern understorey. No regeneration. Rare deadwood.</p>							
2c	7.25	Birch (downy/silver)	1993	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Restock site with larch, Scots pine and mixed broadleaves (p1988) with low survival rates but successful birch regeneration from scattered seed trees. Varied ground flora of grasses, ferns, mosses and bracken clumps. No regeneration. Occasional deadwood.</p>							
2d	4.31	Scots pine	1956	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Plantation of p1956 Scots pine on a knoll on the plateau with some areas of Sitka spruce, birch and larch. Birch regenerated in more open area on the southern side and a little Scots pine regeneration. Wind blow starting to occur in some wetter spots in the northern part. Ground flora dominated by grasses. Occasional deadwood. Site of pre 1905 reed-thatched cottages present near track on SW side.</p>							
2e	3.03	Hybrid larch	1977	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Plantation crop of P1977 larch, Sitka and Norway spruce on moderate slopes with much wind blow. Northern strip felled in 2016 as a result of wind blow and replanted with native shrubs in tubes. Discreet</p>							

areas of larch on west side. Strip of and Sitka spruce on south and east sides. No regeneration. Occasional deadwood.

2f	3.74	Mixed broadleaves	1996	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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An area of mixed native broadleaves (oak, rowan and woody shrubs) and Scots pine planted in 1996. Over much of the compartment there is grass understorey and rare regeneration of birch. Some wet areas with juncus and willowherb. Rare deadwood.

2g	0.89	Birch (downy/silver)	1989	Min-intervention		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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Open knoll with birch and alder on the eastern fringe. Knoll flattens at western side. Also broom and heather and grassy understorey. Some Scots pine and spruce regeneration. Rare deadwood. There is a bench with views to the north east and north west.

2h	4.26	Hybrid larch	1955	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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P1955 Scots pine and larch plantation with pine generally on knolls. Some minor wind blow and some areas of open ground from previously cleared wind blow. Ground flora predominantly grassy. Rare regeneration (near path). Occasional deadwood.

3a	0.52	Sycamore	1950	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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P1950 sycamore with ash regeneration and a small area of planted mixed broadleaves. Couple of prominent

veteran Douglas firs. Ground flora bracken and a vigorous herb layer with foxgloves. Rare deadwood.							
3b	1.55	Douglas fir	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Stand of p1956 Douglas fir with occasional sycamore coppice regrowth. Ground flora dominated by brambles and ferns. Occasional lying deadwood.							
3c	0.57	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1956 larch and sycamore on steep slope. Well thinned mature high forest with sycamore stumps coppicing. Larch of variable form. Ground flora grass dominated. Occasional deadwood. No regeneration.							
3d	0.44	Douglas fir	1900	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Grove of mature Douglas fir and a few beech which pre-dates most of the trees at Moncreiffe (p1880 - 1900). Spectacular veteran trees well worthy of long term retention. Ground flora of holcus & ferns. Rare deadwood. No regeneration.							
3e	2.83	Sycamore	1940	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1950 sycamore plantation with occasional older sycamore present. Rack cut for thinning access now coppicing. Herb layer of bracken, fern, dogs mercury and grass with little natural regeneration (heavily grazed). Rare deadwood.							

3f	4.06	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>P1956 larch plantation on steep rocky slopes with sycamore. The exposed position has resulted in slow growth so still fairly stable. Occasional deadwood. No regeneration.</p>							
3g	1.73	Douglas fir	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Stand of 1956 Douglas fir, larch and mixed broadleaves (ash, sycamore and elm) on steep slope above road. There is a rich herb layer and good ash regeneration. Rare deadwood.</p>							
3h	0.32	Mixed native broadleaves	1991	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Small corner of p1990 mixed native broadleaves.</p>							
3i	1.73	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>P1956 larch plantation on very steep bank below crags, with pockets of Douglas fir and sycamore. No wind blow as yet. Occasional dogs mercury on top half. Deadwood rare.</p>							
3j	0.97	Open ground		Non-wood habitat	Archaeological features	Connecting People with woods & trees, Archaeological	Scheduled Ancient Monument

						Feature, Planted Ancient Woodland Site	
Open ground on hill top with trig point on site of scheduled hill fort. Panoramic views to south and west. Currently grassy except for some gorse on southern slopes which helps to restrict access to the crags below.							
3k	1.66	Hybrid larch	1955	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Plantation of p1955 Scots pine and hybrid larch of variable density on SW facing slope near top of hill. Some wind blow above cpt 3u. Ground flora comprises soft grasses and ferns. Frequent deadwood.							
3l	0.82	Hybrid larch	1940	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Narrow strip of p1940 larch & sycamore in a gully leading up from the crags to the plateau. Much self-thinning and dead wood. Small crowns. Ground flora mainly grasses.							
3m	1.10	Ash	1940	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1940 ash and sycamore woodland lying on very steep gravelly ground below crags. Bracken clumps. Stinking hellibore along path. Very rare deadwood.							
3n	0.44	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient	Long Established Woodland of Plantation Origin, Planted Ancient

						Woodland Site	Woodland Site
Plantation of p1956 larch on very steep slopes below the crags with blocks of sycamore. Rare deadwood.							
3o	2.51	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1956 larch plantation on steep upper slopes and edge of plateau with small area of Scots pine. No wind blow at present. Pre 1866 quarry site near track. Grassy understorey and no regeneration. Deadwood scattered.							
3q	1.44	Norway spruce	1956	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Stands of Norway spruce with open grassy glades of mature downy birch. Also small stands of p1956 western red cedar and sycamore. Few blown trees and occasional deadwood. No regeneration.							
3r	1.28	Scots pine	1956	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Strip of Scots pine along the crest of the ridge and on knolls. No wind blow as yet. Grassy understorey and no regeneration. Rare deadwood.							
3s	2.36	Sycamore	1940	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Ash and sycamore on steep ground and a bench below the crags. Ground flora dominated by grasses, with							

occasional broom and gorse and rare stinking hellebore. No regeneration evident. Couple of walnut trees. Rare deadwood.

3u	0.53	Mixed native broadleaves	2003	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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P2003 mixed broadleaves along the top of the crag. Previously p1955 Sitka spruce. Occasional deadwood.

3v	1.59	Hybrid larch	1955	PAWS restoration		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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Stand of p1955 larch with Scots pine, sycamore, ash and birch. Herb layer of grass and bracken with foxglove, brambles, honeysuckle, and wood sage. Rare regeneration. Some minor wind blow and snap evident (<5%).

3w	0.81	Ash	1950	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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Widely spaced stand of p1950 ash and sycamore with an open glade with seasonal pond. Occasional larch and birch regeneration. Herb layer grass, wood sage, thistles, nettles, and scattered gorse. Occasional deadwood.

3x	2.90	Mixed broadleaves	1995	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
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Restock site with p1993 birch, oak, ash, alder and rowan. Row of larch on west side. Open ground comprised mostly of grass and bracken glades with occasional gorse. Rare deadwood.

4a	0.39	Douglas fir	1955	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Stand of p1955 Douglas fir on steep slopes. Rare deadwood. No regeneration.							
4b	4.12	Ash	1940	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1955 ash with some sycamore on lower slopes. Approx. 30 degree slope lower down but flatter benches higher up. Tree size reduces with altitude. Steep slope above car park has dog rose, hazel, and lots of brambles. Ash and sycamore regeneration plus some elm along path. Occasional deadwood.							
4c	1.52	Ash	1940	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1955 ash of reasonable form. The southern end of the compartment has been heavily thinned to leave sycamore stumps which are now coppicing. Ash and broom regeneration along the path and broom and gorse. Oak regeneration heavily browsed. Rare standing deadwood. Herb layer includes wood sage, raspberry and figwort.							
4d	3.23	Scots pine	1956	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Fairly slow growing p1956 Scots pine plantation which has been variably thinned in the past to leave open glades of bracken with ferns and brambles. Underplanted in 2003 with native broadleaves & Scots pine. Rocky knolls and peaty hollows. Rare deadwood. No regeneration.							
4e	1.41	Mixed native	2011	PAWS		Connecting	Long Established

		broadleaves		restoration		People with woods & trees, Planted Ancient Woodland Site	Woodland of Plantation Origin, Planted Ancient Woodland Site
Mixed broadleaves planted in 2011 after clearfelling stand of p1956 Sitka spruce with wind blow. Also an area of Scots pine, ash and birch on rocky knolls. Wet open Juncus dominated glades which are slowly being recolonised by downy birch. Heather and Scots pine regeneration near the bench. Fern understorey. Occasional deadwood from felling arisings.							
4f	1.72	Japanese larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1956 larch plantation with cut sycamore coppicing vigorously. Ash and sycamore at west end. Ground flora dominated by grass and fern at west end. One mature beech tree.							
4g	1.08	Mixed native broadleaves	1991	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1991 plantation of native broadleaves - mostly ash, oak and gean. Plus some sycamore. Herb layer figwort, foxglove, wood avens, and lots of nettles. No regeneration. Rare lying deadwood.							
4h	2.05	Mixed native broadleaves	2003	High forest		Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P2003 planting of native broadleaves and Scots pine in tubes. Previously Scots pine plantation with wind blow and snap. Grassy herb layer with no natural regeneration.							
4i	1.22	Sitka spruce	1956	PAWS restoration		Connecting People with woods &	Long Established Woodland of Plantation

						trees, Planted Ancient Woodland Site	Origin, Planted Ancient Woodland Site
P1956 Sitka spruce on slopes, with strip of Scots pine on northern edge. Frequent wind blow. Occasional deadwood and no regeneration.							
4j	0.88	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1956 larch plantation with sycamore coppice from previous thinning and minor mixed broadleaved component. Few windblown trees. Occasional lying deadwood. Regeneration (mostly ash) is heavily browsed. Herb flora dominated by dogs mercury.							
4l	0.92	Douglas fir	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Plantation of p1956 Douglas fir, sycamore and larch on a fertile, moderate slope. Heavily-thinned in groups with sycamore coppice in the understorey. No wind blow as yet. Occasional deadwood. No regeneration. Private water supply used to be taken from burn to east, through sub-compartment in a black overground pipe, and underground below track.							
4n	1.41	Sycamore	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Mixed age plantation of p1940 sycamore and occasional p1956 hybrid larch with sycamore regeneration on moderate slopes. Occasional lying deadwood. No regeneration.							
4o	1.45	Sycamore	1940	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted	Long Established Woodland of Plantation Origin, Planted

						Ancient Woodland Site	Ancient Woodland Site
Stand of p1940 mature sycamore, ash, Douglas fir and a small block of western hemlock at eastern end. Also occasional larch. Rare deadwood. No regeneration.							
4q	0.80	Birch (downy/silver)	1920	Non-wood habitat		Connecting People with woods & trees, Planted Ancient Woodland Site	
Access track leading from minor public road to wood. Few trees and shrubs growing along edge. Hawthorn, birch, willow, sycamore and broom growing along track, with grasses.							
4r	9.65	Hybrid larch	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
Large belt of p1956 larch running across the hill below Scots pine. 80% of cpt well thinned and fairly stable. Around 20% unthinned on steeper slopes. Some sycamore and ash. Good herb layer but little natural regeneration. Lots of foxgloves along the path and some gorse. Rare deadwood.							
4s	3.18	Douglas fir	1956	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
P1956 Douglas fir plantation. Vigorous herb layer of bramble and foxgloves along path but little natural regeneration. Occasional deadwood. Two big old beech trees. Himalayan balsam present along boundary and in neighbouring land to south. Private water supply tank just north of track (no longer used), with underground blue pipe crossing to south of track.							
4t	6.95	Scots pine	1956	PAWS restoration		Connecting People with woods & trees, Planted	Long Established Woodland of Plantation Origin, Planted

						Ancient Woodland Site	Ancient Woodland Site
<p>PI956 Scots pine plantation with past heavy thinning leaving clumps between large racks. Some wind blow / snap. Occasional larch and 5 - 10% mixed broadleaves. Heather, gorse and foxgloves along the path. Several older oak and other species along top of outcrops.</p>							
4u	2.93	Sycamore	1950	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Sycamore (p1940) with occasional clumps of Douglas fir and ash regeneration. Rare regeneration.</p>							
4v	1.42	Mixed broadleaves	1990	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc.	Connecting People with woods & trees, Planted Ancient Woodland Site	Long Established Woodland of Plantation Origin, Planted Ancient Woodland Site
<p>Matrix of sycamore (p1940) and larch (p1956) with clumps of Douglas fir and mixed broadleaves (p1990). Occasional deadwood and no regeneration.</p>							
5a	4.40	Mixed native broadleaves	2011	Wood establishment	null	Connecting People with woods & trees, Secondary Woodland	
<p>Improved pasture field planted with mixed broadleaves in 2011 in a deer fence. Most of area deep ploughed for wild flower meadow, and rest inversion mounded.</p>							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2023	1f	Thin	1.10	68	75
2023	2e	Thin	1.10	73	80
2032	1f	Thin	1.10	73	80
2032	2a	Thin	1.90	53	100
2032	2c	Thin	7.20	49	350
2032	2d	Thin	4.30	70	300
2032	2e	Thin	1.10	73	80
2032	2h	Thin	4.20	48	200
2032	3b	Thin	1.50	67	100
2032	3d	Thin	0.44	68	30
2032	3g	Thin	1.70	76	130
2032	3i	Thin	2.20	59	130
2032	3q	Thin	1.40	29	40
2032	4a	Thin	0.30	33	10
2032	4i	Thin	1.00	90	90
2032	4l	Thin	0.90	78	70
2032	4n	Thin	0.70	57	40
2032	4o	Thin	0.10	50	5
2032	4s	Thin	3.10	58	180

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.

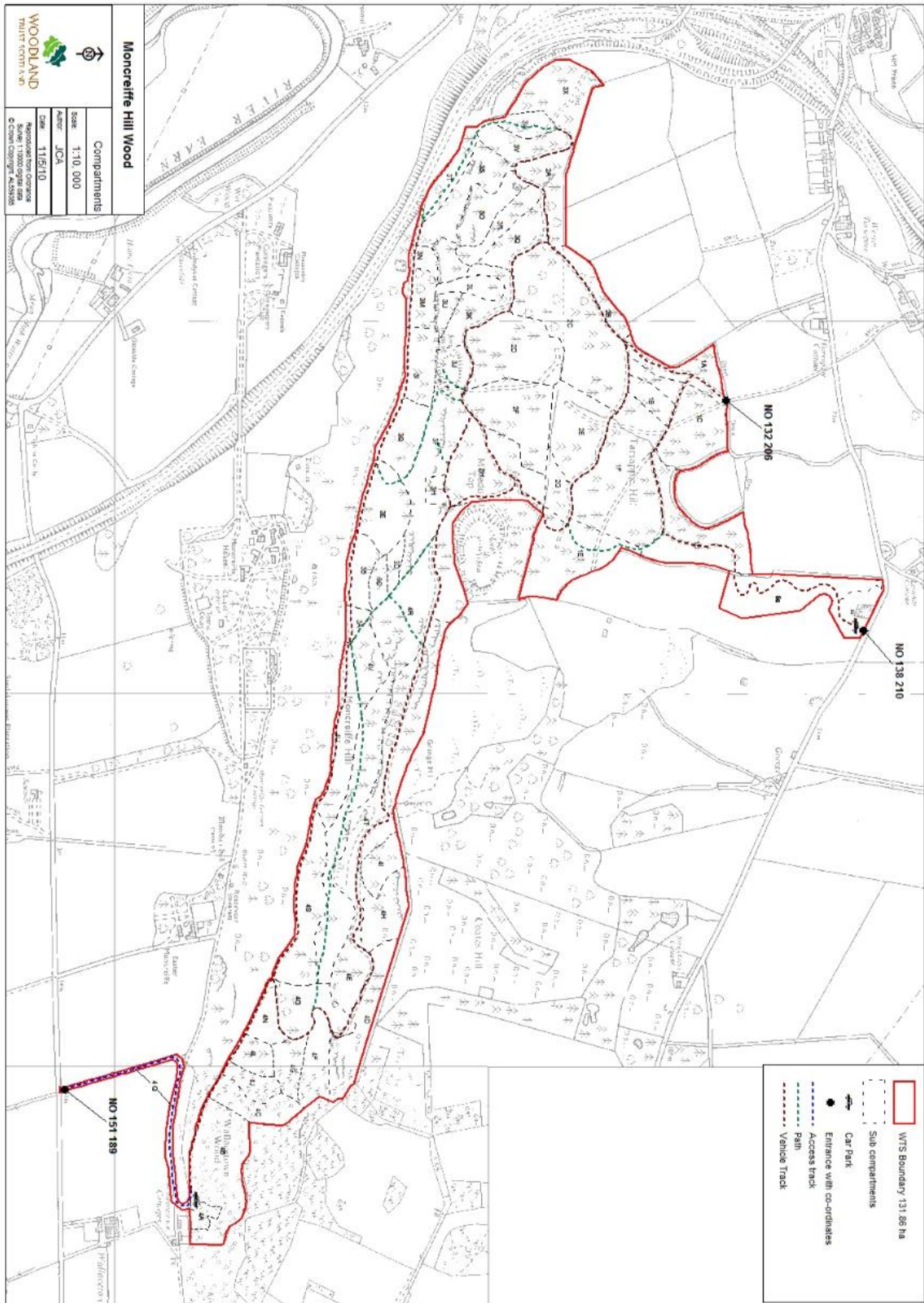
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MAPS

MANAGEMENT MAP



PROPOSED WAY MARKER ROUTES

