



Hartburn Glebe

Management Plan 2017-2022

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Hartburn Glebe
Location:	Hartburn
Grid reference:	NZ088863, OS 1:50,000 Sheet No. 81
Area:	3.43 hectares (8.48 acres)
Designations:	Ancient Semi Natural Woodland, Area of Landscape Value, Grotto in wood is a Grade II listed structure, Local Nature Site, Other, Planted Ancient Woodland Site

2.0 SITE DESCRIPTION

2.1 Summary Description

This wood sustains a rich variety of wildlife including red squirrels, badgers and otters and an abundance of wild garlic, woodrush and yellow pimpernel. Look out for the Grade II listed grotto, linked to the river by a tunnel for the use of bathers.

2.2 Extended Description

Hartburn Glebe is an area of rural woodland occupying the steep sides of the valley of Hartburn, near Morpeth, Northumberland. The woodland lies over millstone grit, which outcrops as precipitous cliffs in parts, curving along the side of the river Hart Burn. At the curve of the river is a deep pool known as the Baker's Chest, reputed to have been used to hide silver and valuables during Viking Raids. The village of Hartburn is about 15 miles due north of Hadrian's Wall and the woodland and burn bear testimony to the Roman presence. Earthworks of Roman origin have been investigated on site and a Roman causeway route, the Devil's Causeway, crosses the site. The archaeological history is further embellished with a wonderful Grade II listed Grotto, a natural cave adapted and fashioned for use by bathers, linked to the river's edge by a tunnel, which the more modest could use to slip into the water unobserved. There is also an elaborate Grade II sandstone bridge and numerous walkways all landscaped by the Reverend Doctor Sharpe, Vicar of Hartburn, in the late 18th century.

The 3.4ha wood is an ancient replanted site with numerous mature (P1900) and semi-mature oak, beech, lime, cherry and sycamore, replanted with conifer in the 1930's and again in the late 1950's. The wood has little under storey in places and the ground flora is characterised by common grasses, with ancient woodland indicator species of bluebells, wood anemones, primrose and wild garlic.

The wood is in an area designated of 'Great Landscape Value', additionally it plays host to a rich and varied wildlife including red squirrels and otters. It is in a rural area, surrounded predominantly by farmland.

Public access can be gained directly from the highway (B6343) and the woodland is well used by locals.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

Hartburn Glebe woodland is just over 11km west of Morpeth on the B6343 in the county of Northumberland.

There are two public entrances to the woodland, leading from the main highway through Hartburn (B6343). One to the west of the wood with a clasp gate and one to the south. These lead to circular walks through the wood that in places are steep, close to the cliff edge with severe drops to the river below; care should be taken along the steep slopes to the river Hartburn. There are steps on all the routes through the wood. Public footpath no.9 is the route following the western boundary to the field that crosses the stone bridge. The views of the river are quite spectacular and there is much archaeological interest in the woodland. There is sufficient room for one car to pull up close to the southern entrance, alternative parking must be sought within the village and can be difficult to find. Bolam Lake Country Park is approximately 4km to the south and has pay and display parking and toilet facilities. There is also a small shop and café in Scots Gap 4.6km west.

For visitors wishing to visit by public transport from Morpeth bus station the 340 to Harwood stops in Hartburn at St Andrew's Church in the middle of the village. This is an irregular service so please confirm your journey with Traveline on 0871 200 22 33 web site traveline.info/contact, or Morpeth Tourist Information Office on tel: 01670 500700 and the web site <http://www.morpethnet.ndo.co.uk/tio/index.htm>.

3.2 Access / Walks

4.0 LONG TERM POLICY

Prior to the Woodland Trusts ownership the local church and parsonages board managed Hartburn Glebe woodland. The character of the wood on acquisition resembled semi-natural woodland predominantly NVC W10 lowland mixed broadleaved woodland with bluebell/wild hyacinth with two mixed coniferous blocks, additionally flushes of alder/ash woodland, which add to the structural diversity of this woodland type. The woodland is designated of High Landscape Value and the archaeological features are particularly distinctive, with the Grotto and foot bridge carrying Grade II listings. The wood is almost certainly ancient, although there is no ancient woodland designation on the site as it probably was too small to be surveyed. Hartburn Glebe and the neighbouring areas provide valuable habitat for otters and red squirrels and a wealth of wildlife.

In line with the outcomes in the Trust's Action Plan 'Keeping Woodland Alive' it is the Trust's objective to enhance the typical characteristics of this woodland type within the landscape and to maintain and improve the biodiversity of the whole woodland, as well as increase people's awareness and enjoyment of this habitat through the management of three key features:

Open access will be retained at the wood in perpetuity and will be maintained at the current level.

Maintenance of the unique features of the listed Grotto and stone bridge, with conservation of Roman earthworks to ensure they remain undisturbed.

Hartburn is part a planted ancient woodland site (PAWS) and the long term intention is to restore the wood to a largely broadleaved habitat to address the threats to the semi-natural components (in particular the specialist woodland flora) posed by dense groups of conifers. A gradual thinning of the conifers will take place to remove the threat of their shade. Restoration will be complete when conifers occupy no more than 20% of the tree species mix within all the former blocks of planted conifers. Broadleaved trees will develop within the stands via natural means. After restoration some of the remaining conifers will grow to over-maturity to become large specimen trees, for example Douglas fir and Scots pines.

It is anticipated that these works will safeguard and enhance the existing environmental and historical value of the wood and maintain and enhance the level of public access in the woodland.

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 Informal Public Access

Description

There are two public entrances to the woodland, leading from the main highway through Hartburn (B6343), one to the west of the wood and one to the south. These lead to approx 1.2km of circular walks through the wood, that can be steep and in places and run close to the sheer cliff face down to the river Hart Burn. The views of the river are quite spectacular and there is great archaeological interest in the woodland. The footpaths in the north west of the woodland can be particularly wet. The footpath along the Burn through the east of the wood has been improved by the Woodland Trust, with boardwalks and surfacing. There are steps on all routes. There is sufficient room for two car to pull up close to the southern entrance, alternative parking must be sought within the village and can be difficult to find.

Significance

Prior to the Trust's ownership visitors were expected to seek permission for access to the woodlands from the local vicar but in practice local use was accepted and expected to continue under the Trusts management. Increasing enjoyment of woodland is one of the Trust key outcomes. Encouraging access to Hartburn Glebe is particularly important given the scarcity of ancient woodland open to the public in general and given the importance of its archaeological and historical appeal. It is also an important local resource to the surrounding villages and towns and an educational resource for visitors and organised groups. Public appreciation of ancient woodlands is good for the well being of those visiting the wood and ultimately, good for the wood itself through increased public understanding of the plight of ancient woodlands. It's rich in wildlife and yet once lost can never be recreated.

Opportunities & Constraints

Opportunities -It is well used by local people but it could be promoted more to those from the surrounding area. There is an opportunity to work with neighbouring landowners and the public rights of way team to improve through routes and link directly with routes to the Dragon's Den. There is an opportunity to inform the public of management practices through posters on site, moreover an interpretation board would be a welcome formal communication to visitors.

Constraints - The footpath network enables a good circular walk but isn't readily accessible for all users. Safety of the footpath network is of paramount importance and this is reviewed regularly. The footpaths through the wood do not directly connect to nearby public rights of way.

Factors Causing Change

Erosion and braiding of paths where wet areas or old boardwalk is in place.

Long term Objective (50 years+)

To enhance public access to Hartburn Glebe by improving the condition of the permissive path to allow a wider range of people to enjoy the wood. Where possible improvements will be made to improve the surface of paths working with the County Council footpaths division where appropriate on public rights of way. The Trust will continue to promote the woodland amongst people in the region and members nationally so long as the primary objective of 'no further loss of ancient woodland' (in terms of both quality and quantity) is compromised.

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

During this plan period the short term objective is to:

- Improve the current path,

This will include the following operational works:

1. Maintain approx 1,.2km of permissive and public footpaths on at least one occasion annually.
2. Renew/upgrade the sections of boardwalk and welcome signage to current access standards.

5.2 Archaeological Feature

Description

Earthworks of Roman origin have been investigated on site and a Roman causeway route from Corbridge to Tweedmouth, the Devil's Causeway, crosses the site. There is a man-made mound in the west of the woodland near the road, which is thought by some historians to have a traffic control function related to the Causeway. In the river just north of the bend, there is a triple row of rectangular postholes cut into the riverbed. This is the site of an ancient bridge, Roman or slightly later. The archaeological history is further embellished with a wonderful Grade II listed Grotto, a natural cave adapted and fashioned for use of bathers, linked to the river's edge by a tunnel, which the more modest could use to slip into the water unobserved. There is also an elaborate sandstone bridge (also Grade II listed) and numerous walkways all landscaped by the Reverend Doctor Sharpe, Vicar of Hartburn, in the late 18th century. This includes a structure in Cpt 1d known as the Half Moon Battery; a flat area near the Baker's Chest.

Significance

The history of the site is well documented locally and both the Grotto and stone arched footbridge have been designated as Grade II listed buildings by English Heritage. Visitors, historians and archaeologists are drawn to the woodland and the area to learn about the past from the relics found here. The woodland has been an important part of the local landscape and community at Hartburn for hundreds of years. In the Trusts documents 'Seeing the Wood for the Trees' the importance of cultural features is stated and is taken into account in the management of the woodland.

Opportunities & Constraints

Opportunities - The rich archaeological history of this woodland adds to its appeal. There is also the opportunity to use these features to promote further interest in the woodland.

Constraints - The features may constrain the normal woodland management practices and the establishment of some trees that may damage structures. The Grotto and bridge will require maintenance work, which will be the responsibility of the Woodland Trust.

Factors Causing Change

Root damage, Tree growth, Natural Decay, vandalism

Long term Objective (50 years+)

The features will remain in their present state and not be deteriorating.

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

During this plan period the short term objective is to:

- Protect the Grotto and tunnel from further damage,
- Ensure other historical features are not deteriorating.

This will include the following operational works

1. Complete the repair work on the Grotto and tunnel, this includes repointing of stonework in and around the Grotto, vegetation removal and re-fitting of the roof of the tunnel in 2018
2. The stone bridge has been fitted with markers to assess if the cracks are new or from previous movement. Work will be carried out if required following a period of observation. Likely to be 12 months with a decision made in 2019 as to remedial works.

5.3 Ancient Semi Natural Woodland

Description

The woodland is not designated as ancient on the NCC register probably because it is too small, but the ground flora has various ancient woodland indicators including dog's mercury, bluebells, wild garlic and other ancient woodland specialists. The woodland is very mixed in character, part ancient semi-natural, and partly planted ancient woodland. It is dominated by oak, beech, lime, cherry and ash with intricate stand types, including alder, sycamore, poplar, Scots pine, hazel, rowan and with blocks of conifers Norway spruce, Japanese larch, Corsican pine and Douglas fir. There is quite an uneven aged structure generally in the wood with mature trees of around 100+ years (P1900) and many woody shrubs present in the understorey, with the exception of Cpt 1c under the mature beech and oak where little understorey is present at all. There is much dead wood both standing and fallen. The woodland resembles that of a lowland mixed broadleaved woodland (NVC W10) with alder woodland in the wetter flushes to the northwest.

Significance

Hartburn Glebe forms an outstanding landscape feature in the dramatic countryside of the Hart Valley, a few miles north of Hadrian's Wall. The woodland contains some wonderful older trees and also has fantastic internal views along the Hart Burn. However many of the broadleaved trees were replanted in the 19th century on this ancient woodland site. There are many ancient woodland features found here, especially plant species, which are indicative of ancient woodland and provide a continuous habitat linked to other semi-natural habitats in the area for many native species. The woodland offers protection to the Roman earthworks and the rich history of this woodland.

Opportunities & Constraints

The wood is not registered as ancient woodland with Natural England, which leads to its status being underestimated. As a partly planted ancient woodland, and if left entirely alone, Hartburn Glebe could become suppressed by dominating conifers species, which would outcompete and suppress existing vegetation. There is an opportunity to reverse this, by removing the existing conifers and monitoring non-native conifer and where necessary controlled. A few of the non-native trees, which add to the wonderful diversity of species at Hartburn, will be retained. Equally larger, mature trees represent the future veterans and provide such diversity; particular the mature sycamore along the banks of the Burn have created large root systems, perfect otter habitat and some of the large seeded conifers are important for red squirrels, an animal declining rapidly in England. However most of the coniferous trees will eventually be ring barked or felled to waste, so that the majority of the woodland can be reverted back to semi-natural ancient characteristics. Protection of the archaeological features must be considered during any restoration work.

Factors Causing Change

Outflow from septic tank, Tipping of garden waste, rhododendron none native conifers and tree diseases.

Long term Objective (50 years+)

The long term aim is to restore the ancient woodland by reducing the threats of planted non-native conifers (retaining some as specimen trees) through selective felling / ring barking to promote the native broadleaves within the matrix and to improve the ground flora conditions. Where broadleaves are largely absent, phased thinning of conifers will open up the canopy to allow natural regeneration of broadleaves, which, it is intended, will eventually replace the conifers as the main canopy trees. It is anticipated that a scattered number of non native conifers within the canopy will be acceptable allowing enough dappled light for natural processes to occur.

It is hoped that these areas dominated by broadleaves will require little silvicultural or other management and will develop into a self-sustaining systems, shaped by natural processes alone. Standing and fallen deadwood will be retained where safe to do so.

Two ditches flowing into the Hartburn will be maintained as free flowing to prevent backing up and flooding.

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

During this plan period the short term objective is to:

- continue with the restoration programme in the conifer-dominated PAWS compartments,
- Promote the natural regeneration of native flora,

This will include the following operational works:

1. Thinning of conifer-dominated woodland.
2. Undertake PAWS re-surveys at 5 year intervals in compartment 1b and 1d to monitor results and plan future work, with focus on thinning areas not yet done sufficiently & halo thinning broadleaves. Fell rather than ringbark if possible as some dying ringbarked trees have caused safety issues in this well used site.
3. Remove all remaining rhododendron.
4. Continue to work with neighbours and agencies to reduce negative impacts on the woodland condition from septic waste outflow.
5. Continue liaise with neighbours to prevent further tipping occurring.
6. Continue to work with Red Alert and local volunteers to support red squirrel projects in the area.

6.0 WORK PROGRAMME

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

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	0.40	Beech	1900	Min-intervention	Archaeological features, Gullies/Deep Valleys/Uneven/Rocky ground, Housing/infrastructure, structures & water features on or adjacent to site, Mostly wet ground/exposed site, No/poor vehicular access within the site	Ancient Semi Natural Woodland, Archaeological Feature, Informal Public Access	Ancient Semi Natural Woodland, Local Nature Site

1a. The triangular compartment lies on the extreme west of Hartburn Glebe woodland. Along its northern edge (150m), it forms the external boundary of the woodland onto a fence field, known as Harpeth Field. The south western edge (140m) abuts the highway B6343, to the east is compartment 1b separated by the footpath (120m). The footpath along the east of the compartment is historically depicted as the true route of the Devil's Causeway, which ran from Corbridge to Berwick. The earthworks of this section can be clearly seen with ditches on both sides, to the west is a man-made mound, thought by some historians to have traffic control functions related to the causeway. There is a footbridge over the Trust boundary at the northern point that links to the public bridleway.

The canopy trees (P1900) are oak and beech with cherry, ash and some sycamore to the north and west. The understory includes elm, ash, hazel, hawthorn, beech and oak. The woodrush population is dense under the oaks with little under the big beeches.

1b	0.60	Wild cherry/glean	1950	High forest	Archaeological features, Gullies/Deep Valleys/Uneven/Rocky ground, Housing/infrastructure, structures & water features on or adjacent to site, Mostly wet ground/exposed site, No/poor vehicular access within the site	Ancient Semi Natural Woodland, Archaeological Feature, Informal Public Access	Local Nature Site, Planted Ancient Woodland Site
<p>1b. This compartment has its northern boundary (60m) being the river and the southern boundary (110m) the horse paddocks behind the house. To the east it borders with compartment 1c, where the two paths meet and the bank of the river rises to a sheer cliff. The land slopes less steeply than compartment 1c, from south to north to the river. Towards the river the ground is very wet. Footpaths run along all the compartment boundaries from the entrance off the highway. The footpath that goes along the southern boundary and into 1c is public footpath No.9. A septic tank is situated in the wood just north of this path. The outflow from the septic tank affects the ground flora below the tank. The species composition is mixed with canopy trees (P1950) of beech - abundant particularly to the east, cherry - abundant, spruce (some large specimens), ash and birch, with alder in wetter flushes and a large multi-stemmed sycamore along the river. Towards the south there are some oak; additionally rare larch and pine can be seen to the northwest of the compartment. The understorey consists of beech, ash, cherry, and hawthorn, elder, hazel, willow and guelder rose but is quite sparse to the middle of the compartment. The ground flora includes dog's mercury, wood rush, ferns with patches of nettle and bramble in disturbed areas.</p>							
1c	0.60	Beech	1900	Min-intervention	Archaeological features, Housing/infrastructure, structures & water features on or adjacent to site, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Archaeological Feature, Informal Public Access	Ancient Semi Natural Woodland, Local Nature Site, Other

1c. The compartment is very narrow between 15m-30m wide and approximately 160m long and has the cliff and river to the north and horse paddocks to the south and contains the Grade II listed Grotto (NZ 08836 86532) and two footpaths running east/west, one along the southern boundary and the other along the cliff top to the base of the Grotto.

It is distinct from the adjacent compartments by the maturity of the tree species (P1900), particularly the beech and oak. Both are dominant with sycamore and ash abundant along the riverside. The understorey is sparse beneath the large mature beech and oak, where it is grassy and dominant with woodrush, fern and a small patch of bracken to the west, with the occasional beech, sycamore, ash and rowan. On the steep side to the river, the understorey is very dense with frequent ash, beech, rowan, sycamore and hawthorn and cherry occasional. There is a small patch of rhododendron near the river. The land falls steeply down to the river from south to north, with the public footpath running along the southern boundary and the permissive path along the riverside. To the east of the compartment is a very unusual natural cave known as The Grotto (a Grade II listed building), adapted in the 18th Century into two chambers for the convenience of bathers. It is complete with a stone fireplace and a tunnel from the entrance, under the path, leading to the river.

1d	1.40	Norway spruce	1950	PAWS restoration	Archaeological features, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Archaeological Feature, Informal Public Access	Area of Landscape Value, Planted Ancient Woodland Site
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1d. The largest of the compartments is rectangular and has the eastern boundary (215m) formed by the bend in the river as it turns south. Its western boundary (170m) is formed by the fence of the paddocks and then gardens, finishing at the pedestrian entrance off the highway B6343. The southern boundary (70m) is the small watercourse that flows under the Grade II listed bridge (NZ 08815 86340). This compartment has a path on the eastern and western boundaries and another cutting across from the north eastern corner to approximately halfway along the western boundary where it joins the other path.

At the bend in the river, on the extreme northeast of the wood, under the cliffs on the far side is a deep natural pool known as the Baker's Chest or Cobbler's Hole. Near the Baker's Chest, to the west of the path is a flat area known as the Half Moon Battery; created in the late 18th century. The land slopes to the east, to the river. A footpath runs the full length of the compartment generally keeping close to the river. The public footpath from the entrance in Cpt 1e crosses an elaborate stone footbridge (18th C) and follows the western boundary. A sunken road, known as 'The Cut', slices the compartment from west to northeast, beyond which, Roman postholes relics of a bridge that crossed the river can still be seen through the Burn.

The canopy of this compartment (P1950) varies from north to south with conifers dominating the north of the compartment with increasing proportions of mixed broadleaves to the riverside and to the south. To the west of the Roman causeway includes Corsican pine, Japanese larch and Norway spruce with frequent birch, beech, sycamore and cherry. Between the Roman causeway and the riverside path to the north is Douglas fir, Norway spruce and larch with the occasional cherry and sycamore; to the south is poplar, Norway spruce, larch, cherry, sycamore, ash, beech - all frequent and mixed. Along the riverside are Norway spruce, Douglas fir (to the north), larch, cherry, beech, sycamore, ash, alder and lime. The understorey varies from frequent to the south and along the river to sparse under the dense conifers and includes cherry, ash, beech, sycamore, elm, hazel, holly, hawthorn, rowan and elder (rare). Naturally the ground flora is sparse under the conifers but to the south and along the edges includes ferns, bramble and woodrush. A small patch of rhododendron is found on the riverside at the north of the compartment.

1e	0.40	Beech	1900	Min-intervention	Archaeological features, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Archaeological Feature, Informal Public Access	Ancient Semi Natural Woodland, Local Nature Site
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1e. The small watercourse that forms the southern boundary of compartment 1d is the northern boundary of 1e. The eastern boundary continues along the river for another 100m then cuts back through the wood to the road, from there along the B6343 for 120m to form the western edge, back up to the pedestrian entrance. There are no paths within the body of this compartment and just the path that follows the northern boundary for 50m then crosses back over the small watercourse back into 1d.

To the north is a deep-sided ditch; to the west the main road through Hartburn and the whole compartment slopes steeply to the river along the eastern boundary. An entrance to the wood leads off the highway and down steps into the wood.

The canopy (P1900) is made up of common lime (frequent- particularly along the roadside), beech- abundant, oak- frequent, sycamore- frequent, cherry- frequent and ash abundant along the riverside. Also along the riverside forming large root systems into the bank stand two big sycamores. A single yew that has fallen over and yet continues to grow lies in the northeast corner. The understorey changes from abundant and multi age along the steep sided bank to the east and south, to fairly sparse in the northwest. Predominantly is made up of ash and frequent hazel, beech, sycamore, cherry and hawthorn - occasional. The ground species show wood rush, fern, and localised bracken to the east, honeysuckle, and dog's mercury. There is much fallen and standing deadwood.

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1b	Selective Fell	0.60	17	10
2020	1d	Selective Fell	1.40	36	50
2021	1d	Selective Fell	1.40	18	25

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.