WOODLAND
TRUST SCOTLAND

North Wood

Management Plan
2019-2024

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	North Wood
Location:	Livingston
Grid reference:	NT030702, OS 1:50,000 Sheet No. 65
Area:	35.23 hectares (87.06 acres)
Designations:	Area of Landscape Value

2.0 SITE DESCRIPTION

2.1 Summary Description

This varied woodland of broadleaves, conifers and open grassy areas is a tranquil retreat right on Livingston's doorstep. Immerse yourself in greenery, look out for roe deer and a variety of bird species, and enjoy the wildflowers in spring and summer. It also boasts Scotland's answer to the Hollywood sign – its name spelt out in large wooden letters created by local schoolchildren.

2.2 Extended Description

Situated in the north Livingston, North Wood lies between the A89 on its northern boundary and the M8 along its southern boundary. Altitude around the site varies between 135m above sea level in the east, to 180m a.s.l. in the south-west and the aspect generally faces north.

The geology of the area is sedimentary sandstones/ limestone's/ shale of the Carbonioferous-Dinatian period, and a fault line runs through the eastern corner of the wood. The soils are derived from a glacial till of carboniferous sedimentary sandstones and shale and are generally Rowanhill association brown forest soils with gleying, some gleys are non-calcareous or humic. Rowanhill association soils are characterised by slowly permeable clayey horizons at varying depths between 40 and 80cm. The MLURI climate map identifies the area as fairly warm moist lowland and foothill, being moderately exposed with moderate winters.

North wood contains around 33ha of woodland and an area of semi-improved grassland of

approximately 2ha. The site was previously owned and planted by the Livingston Development Corporation that managed the town's growth from 1962-1996, and prior to this woodland only existed at the extreme western end of the site as part of the shelterbelt system that extends into the Deans area of Livingston. This wood part of the wood was associated with the North Lodge of Dechmont House (since demolished) and estate. So the majority of North Wood has been planted since the 1960s. Throughout the wood, planting has been mainly of single species blocks, most of around 1-2 ha, with very few areas of mixed species. The main species include; Sitka and Norway spruce, Scots and lodgepole pine, sycamore, grey alder, sessile oak, ash, and beech. The overall mix of species contains approximately equal proportions of broadleaves and conifers, though this is changing as conifers are gradually replaced with native broadleaves. Some areas of conifer planting suffered badly from windblow and these were replanted in 2001 with a mix of native broadleaves and Scots pine. Although most of the stands lack both a shrub layer and under storey recent thinning has increased light levels reaching the woodland floor and this is encouraging some natural regeneration to appear, rowan and ash particularly. Deer and Hare are present but browsing levels are low due to disturbance and the busy roads that surround the woodland.

The ground flora is often dominated by brambles where light levels allow and this helps to protect new trees from browsing. Additional native ancient woodland species could be added as there is little chance of them arriving naturally.

There is very little open ground within the woodland apart from several rides and two cleared wayleaves beneath powerlines running through the wood.

A small redundant fire pond lies within the eastern part of the wood, with a narrow border of emergent vegetation. Other small areas hold water and much of the remaining open grassland is often very marshy.
An old quarry lies to the north of the water treatment plant, with trees above and below the quarry face. Other old features such as hedgebanks and drystane dykes can be found within the woodland to the west of the quarry.

The wood is of importance for local biodiversity due to its size and the variety of woodland habitats that are now present as different stages of the wood develop from open ground to scrub, pole stage and mature woodland. Thinning has been carried out throughout to promote stronger growing trees and improve diversity within the single species blocks. North Wood is also an important part of the boundary infrastructure of Livingston, the western woodland block providing separation and screening between Livingston and Dechmont village.

The car park area was closed in 2005 due to constant problems with fly tipping. As with any public open space in the urban area litter is a constant problem and this is cleared regularly around four times a year.
North Wood provides excellent public access for local residents, with approximately 4.9km of footpaths throughout the site, from eight main access points around the wood. The main paths have been surfaced and further improvements will be made as required. Due to the generally linear layout most of the paths are through routes with some small short circular routes using the grass rides and mown paths. The site also provides excellent public access for both short and longer routes when viewed as part of the Livingston Greenways network, with connections at both the east and west end leading to Livingston, Dechmont Law and Dechmont Village.

Entrances to the wood are all open and allow access by walkers, cyclists and horses. Illegal motorbike access will be monitored and barriers erected if necessary to prevent damage occurring to the internal path network. There is no Woodland Trust car park at the site; parking is limited to roadside lay-by parking along the A89.

Management access to the site can be obtained from a number of gates along the northern boundary off the A89. Internally routes have historically followed rides however during thinning operations in 2014 additional routes have been created for shorter loops. Phytophthora Ramorun was confirmed on the M8 slip road woodland block owned by Ameys roads. A plant health notice was served, meaning that the infected larch had to be felled by February 2018. Northwood was within the 2500m buffer zone but did not have to undertake any felling as no large was present in the buffer zone.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

By bus: The nearest bus stops are on the A89 at Wester Dechmont, next to the western end of the site, and Main Street, Dechmont, 300m from eastern end of the site.

By train: The closest stations are Livingston North and Uphall.

For further information about public transport, visit www.travelinescotland.com.

By car: Leave the M8 at Exit 3 and at the roundabout take the third exit onto the A899 towards Dechmont. At the next roundabout, turn left onto the A89. There is no on-site parking, but you can park in the neighbouring streets in Dechmont and off the A89 at both the western and eastern ends of the site.

3.2 Access / Walks

There are several entrances to the wood, with the main ones off the Loan and Peel paths at either end of the site. These lit tarmac routes lead to the A89 and over the motorway into the northern areas of Livingston. Most entrances have no barriers, although some from the A89 have stiles or narrow gaps.

The site has a path network of around 4.9km (3.5 miles), including surfaced trails and mown grass rides suitable for walkers, cyclists and horses. Paths are mainly linear, although there are some circular routes, particularly towards the eastern end. Some paths can be muddy at times and steep in places, especially towards the A89. Paths link directly onto the Greenway network in Livingston giving access to long distance routes.

There are several seats and two picnic tables, one in either section of woodland. A seating area is planned for the centre of the wood where there are good views towards the old Bangour hospital.

4.0 LONG TERM POLICY

The wood will be managed as a sustainable natural resource to safeguard its public amenity and biodiversity value and in line with the Woodland Trust's corporate objectives of improving and enhancing biodiversity, encouraging public access and enhancing people's enjoyment of woodlands.

The long term vision is to maintain and enhance the woodland areas using continuous cover silviculture where possible. The woodland will consist of predominantly mixed broadleaves of a mainly native character, with a proportion of Scots pine throughout. Where planting adjoins residential and commercial properties, shrubs and low stature species will be established to reduce conflict and safety issues with adjacent land use.
Non-native trees such as sycamore, beech and a proportion of conifers, and their natural regeneration, will be accepted although the intention will be to increase the proportion of native species in the overall mixture. Existing mature feature trees will be retained where safe to do so. Large scale felling intervention will be utilised where windblow or the potential for windblow makes this unavoidable, but elsewhere small scale thinning and group felling will be undertaken to diversify the canopy's age structure, to promote natural regeneration and to improve light levels for ground flora. Where natural regeneration is not establishing or the species diversity is poor then additional planting of native species will be undertaken. Where safe to do so, standing and fallen dead wood will be retained.

Livingston was developed with an extensive network of street lit, tarmac cycleways and footpaths, linking north to south and east to west. Many of the Trust's woods border these routes and this often negates the need to improve internal woodland paths beyond their beaten earth standard.

Several additional sections of footpath within Northwood are planned to be upgraded as recent wet weather has made these very boggy and difficult to cross. These will improve the linear route running the length of the site.

Due to the woods location within the central belt and close proximity to large populations, the intention is to use the woods to improve and raise awareness, through education, of the biodiversity, recreation and health benefits woodlands provide.

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

Access/Infrastructure/Events

North Wood is a well-used woodland on the northern edge of Livingston. Livingston has an urban population of 80,000 approx (2011 census). North Wood is a woodland creation site planted in the late 70's of conifer species and more recently has been planted with native woodland by corperate partners such as Nationwide and Premier Paper (2015-2016). There has been other community tree planting occurring 2014.
Northwood is split by the M8 from Dechmont Law which is one of the largest green spaces in Livingston.
There is a network of approximately 4.9km of internal paths running the length of the wood, roughly half of which are surfaced with either stone or red blaes material. All paths are mown and 3km of the paths can be very muddy in sections when wet. There are six entrances around the wood with ladder boards or large wooden 'welcome' signs. There are no information boards and routes are not way-marked.
There is no on-site car park, though parking is available just off the A89, allowing space for 3 cars without blocking the entrance for access. Parking for events can be available through request from West Lothian Council for approximately 15 cars on a tarmac surface. The paths, although generally linear in nature, link directly onto the Greenway network within Livingston giving access to long distance routes.
The woodland is used predominantly by dog walkers/cyclists. It is not known if horse riders use the wood. It is estimated that 20 people minimum use the wood daily. One volunteer warden patrols and carries out checks on site every 2 weeks.

Significance

Woodland of this size and composition is a rare feature in the urban landscape and therefore the site provides a chance to promote access to a safe, natural environment close to where people live. It forms an essential part of the local access network, providing varied and alternative routes to pavements, as well as linking to longer distance routes. It is a great opportunity to see the change from conifers to native broadleaves through felling and re-stocking within the site.
The local community value the trees as a noise and sight barrier to the M8. It is walked regularly by local dog walkers and commuters.
A reported sighting of a UFO in Dechmont law is of local cultural significance.

Opportunities & Constraints

Constraints

• Anti-sociable behaviour/lack of community engagement
• Linear nature of site constrains potential for circular routes within the site
• No formal car parking, which can cause problems with neighbours and visitors parking on the local roads
• The noise from the M8 and A89 can detract from the wood's tranquillity
• Main cycle route runs on a tarmac surface parallel to A89, thus promoting people to walk/cycle along this route rather than through the woodland
• Squirrel damage is having an impact to the look and feel of the young regeneration occurring on site

Opportunities

• To further develop access facilities within the site, responding reactively to user demand.
• To further promote and use the woodland as an educational resource.
• Upgrading paths and removing the gates and small access points to improve access for buddy/wheelchair-friendly use
• Tree planting opportunities with local community and partners
• Small scale events with community/local schools and community group involvement
• Opportunity to improve infrastructure within woodland by more benches/
• Promotion to TCV green gyms, Park Run and Paths for All to use the area
• Opportunity to have a practical volunteer group that could be self-led.

Factors Causing Change

Damage to signs, posts, benches and other site infrastructure.
Proposed new housing development at Bangour Village will increase use of the site, resulting in greater pressure on paths and more litter picks needed,
New cycleway running along the A89 may increase bike usage on site.
More development/ A89 road/M8 use/more pressure on road/ air quality
Phytophthora cambivora near by in block 42a

1) Senescing beech - The ongoing senescence of the large mature mainly beech trees which are such a feature in the West Lothian landscape and tend to be of a similar age. They are becoming increasingly vulnerable to storm damage and disease which is becoming a challenge to deal with in terms of tree safety and also maintenance of the treed landscape and is expected to become even worse in coming years.

2) Windblow - Most of the spruce and larch planted as part of LDC landscaping is reaching its terminal height at which it is vulnerable to windblow.

3) Chalara on ash. Ash is a frequent species and is well suited to the clay soils of West Lothian. Young trees already badly affected and some mature trees also. Removes one of the more suitable species for replanting.

4) Phytophthera ramorum. 2 SPNs already issued in the Livingston area and likely to spread.

5) Increased development - various schemes have / are being built and large new developments are currently being planned for north, SW and SE Livingston.

6) Squirrels, rabbits and roe deer are all present and likely to prevent trees developing into healthy, mature trees.

Long term Objective (50 years+)

There will be a well-maintained network of paths and rides with a variety of aspects - from narrow shaded paths to open, wide rides allowing safe access across the site.
The site should be well used, appreciated and respected by the local community. It should be known for its wildlife interest, varied landscape, history and habitats. The site should be accessible and safe with management of infrastructure and signage. It will also act as a sound barrier to the busy M8 and A89.
Increased volunteer use either by established volunteer group. New areas where people can enjoy the woodland by new picnic areas and well- maintained paths.

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

During this plan period, the short term objective is to continue to provide public access at Northwood which is safe and enjoyable. This will be achieved by:
•Developing volunteers for the site (more third party practical task days 2019/2020/2021) with a review at the end of the plan period.
• Recruiting a volunteer to carry out habitat and species monitoring
•Involving the local schools and community groups by engaging with the local community council (2018 & ongoing)
• New benches to replace those put in by the Livingston Development Cooperation (2018)
• Community day - to explore and educate the public regarding tree management and squirrel damage occurring on site(2020)
•Annual path and entrance management (June).
• Regular site safety inspections (tree safety, footbridges, steps, benches etc) (timing as per site risk assessment).

5.2 Secondary Woodland

Description

The woodland is a significant feature in the local landscape providing screening between the motorway and Livingston and Dechmont village. North wood comprises around 30ha of woodland, the majority of which was planted in the 1960s but with a more mature strip at the western end which probably dates back to the mid-19th century. Throughout the wood planting has been mainly in single species blocks of around 1-2ha with very few areas of intimately mixed species. The overall mix of species contains approximately equal proportions of broadleaves and conifers, though this is changing as conifers are gradually replaced with native broadleaves.

Significance

The wood is a significant feature of the local landscape and provides screening between the M8 motorway to the south and housing developments to the north. It forms the northern edge of Livingston, separating Dechmont village from the larger town. The woodland is important for local biodiversity and has potential for improvement.

Opportunities & Constraints

Opportunities - To further increase biodiversity through continued thinning operations to establish a mixed aged, windfirm and predominantly native broadleaved woodland.
Constraints – Wind throw and wayleaves.

Factors Causing Change

Tree disease: ash dieback
Deer, rabbits and squirrel damage.

Long term Objective (50 years+)

To create and maintain a diverse, mixed age and mixed species woodland habitat in perpetuity. Species composition will be mostly native though a proportion of conifers and non-native broadleaves will be accepted. Improvements to the canopy should help towards supporting a variety of ground flora communities.

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

• Areas under dense conifer canopy will continue to be thinned and selectively felled with native broadleaved species able to regenerate with the increased light to develop in their place in the following compartments, subject to obtaining a felling license:
2018- combine harvesting works and put out to tender for Livingston works for next 5 years

2019:
1i-1.2ha ash/sycamore selective thinning of 10% within compartment
1c-30m of hazel coppicing along path edge (possible community event if interest) to open up visibility of path network

2020: clear windblow and remove lodgepole pine/larch from compartments 1k 0.3ha/1m 0.1ha

2021: clear fell windblow and remove sitka spruce/Norway spruce and larch in compartments 1r 0.93ha/1s 1.06ha

• Assess natural tree regeneration and browsing in compartment 1p 2018 and assess if tree planting is necessary.

• Rhododendron removal in compartments 1t (1.3ha) by cutting and treating stumps with herbicide (2019) and then annual assessment and follow-up treatment 2020-2023
• Inspect the 2015 planting which happened in 1a/ 1b/1c/1f/1l/1n annually and if occurrence of browsing threatens successful establishment then 1.2m tree tubes should be considered.

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By

APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	1.17	Mixed native broadleaves	1970	Wood establishment	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Stand of previously thinned mature Sitka spruce with occasional Norway spruce that borders main roads to the north, east and south with woodland to the west. Understorey of very sparse elder and woody shrubs on the edges . Ground flora is very poor with a few sparse ferns. No significant deadwood.							
1b	1.01	Mixed native broadleaves	1970	Wood establishment	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
2 discreet stands of semi mature sycamore with occasional beech The larger of the two borders the A89 to the north and the path to the south with the smaller stand consisting the narrow strip along the southern boundary of compartment one with the slip road off the M8 to the south. Understorey of occasional rowan, elder, hawthorn and sycamore. Ground flora of soft grasses and ferns were light allows. No significant deadwood.							
1c	1.37	Beech	2001	High forest		Connecting People with woods & trees, Secondary Woodland	
An area of young mixed broadleaves and Scots pine planted in 2001; sessile oak, ash, silver birch, Scots pine, wild cherry, hazel and hawthorn. Ground flora dominated by brambles and rose-bay willow herb. Good levels of deadwood throughout made up of partially mulched material following clear fell in 1999/2000.							
1d	0.63	Scots pine	1970	High forest		Connecting People with woods & trees, Secondary Woodland	

Stand of mature, thinned Scots pine. Understorey of abundant bramble, with occasional honeysuckle, rowan, elder, and regeneration of ash, beech and sycamore.Ground flora including broad buckler fern and rosebay willowherb where light allows. Limited deadwood mainly in the form of branchwood following previous thinning operations. Some crown deadwood.							
1e	0.34	Mixed broadleaves	1970	Wood establishment	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Stand of poor drawn, semi-mature Norway spruce, first thinned in 2004. Understorey of sycamore, rowan and hawthorn to the north were some is emerging into the canopy. Ground flora of brambles and occassional fern. No significant deadwood.Some fire damage on tree trunks within the stand.							
1f	1.60	Mixed native broadleaves	1970	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
3 stands of Sitka and Norway spruce, with occasional lodgepole and Scots pine. Both stands have tall drawn stems with small crowns following a prolonged period before being thinned. There is little or no understorey apart from sparse occasional woody shrubs at the edges and very sparse ground flora, mainly broad buckler fern where light allows. Occasional deadwood throughout following previous thinnings.- clear fell carried out on this compartment along with other compartment. New native broadleaf planting occured 2015/2016.							
1g	1.09	Scots pine	1970	High forest		Connecting People with woods & trees, Secondary Woodland	
4 discreet stands of mature thinned Scots pine, with occasional Norway spruce, lodgepole pine, Sitka spruce, sycamore and hornbeam. Understorey in most of these stands in good with occasional rowan, sycamore and hawthorn.Ground flora includes, ferns and rosebay willowherb with abundant bramble throughout.There are some fire damaged trees, especially in the eastern most stand.							
1h	0.69	Mixed broadleaves	1970	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Area of mixed broadleaves planted in 2007. Site mulched and trees planted in 60cm tubes. Establishing well.							

1i	3.90	Sycamore	1970	High forest		Connecting People with woods & trees, Secondary Woodland	
Three single species blocks of planting containg sycamore, ash and alder. Understorey of occasional ash and sycamore regeneration and elder. Ground flora includes bramble, soft grasses, dog rose and rosebay willowherb. Occasional small deadwood. There is a pond within the subcompartment, towards the eastern end of the main block.							
1j	0.76	Mixed native broadleaves	2016	Wood establishment	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Wayleave running east/west occupied by a Scottish Power overhead lines.							
1k	1.70	Mixed native broadleaves	2001	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Mixed broadleaves planted in 2002 comprosing ash, sessile oak, Scots pine, rowan, aspen, hawthorn and hazel to replace a stand of larch and lodgepole pine windblow cleared in 2001 - a few of these remain along the northern boundary. Other flora consists of abundant bramble, elder and honeysuckle and occasional hawthorn, sycamore regeneration, holly. Soft grasses, with ferns and rosebay willowherb. Occassional deadwood, mainly old stumps.							
1l	0.60	Mixed conifers		High forest		Connecting People with woods & trees, Secondary Woodland	
Lodgepole pine with ash regen coming up amongst bramble ground flora.							
1m	0.65	Mixed conifers	1970	High forest		Connecting People with woods & trees, Secondary Woodland	
Mature stands of Sitka spruce and Scots pine. Brambles under pine but only bare ground under sitka.							

1n	1.12	Mixed conifers	1970	High forest		Connecting People with woods & trees, Secondary Woodland	
Several stands of conifers including Scots pine, sitka spruce and lodgepole pine.							
1o	4.25	Mixed native broadleaves	2009	High forest		Connecting People with woods & trees, Secondary Woodland	
Originally part of the semi improved grazing field, 3ha has now been planted between 2005-2009 under the Tree for All campaign with a mix of Sessile oak, ash, wild cherry, rowan downy birch, hazel, hawthorn, blackthorn, crab apple, holly, elder, willow, dogwood and Scots pine. Ground flora dominated by grasses with thistles, rushes and nettles. Gorse also abundant and spreading at the east end by the water treatment works. Wayleaves for two water pipes and two overhead power lines also run through the compartment.							
1p	1.54	Open ground		Non-wood habitat		Connecting People with woods & trees, Secondary Woodland	
Semi improved and marshy grassland with juncus, thistles and nettles. two wayleaves for water pipeline and overhead power lines run through the compartment leaving few options for additional planting. The only large area of open ground habitat in this woodland site.							
1q	1.25	Mixed native broadleaves	2001	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
An area of young mixed broadleaves and Scots pine planted in 2001; sessile oak, ash, silver birch, Scots pine, wild cherry, hazel and hawthorn. Ground flora dominated by brambles and rose-bay willow herb. Good levels of deadwood throughout made up of partially mulched material following clear fell in 1999/2000. Planted in tubes due to threat of rabbit browsing.Ground flora of soft grasses, ferns and nettles.							
1r	0.93	Norway spruce	1970	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	

Mature Norway and Sitka spruce. Very drawn up, with small crowns but beginning to develop following light thinning in 2004. Sparse and rare ground flora due to heavy shading caused by dense spruce canopies.Deadwood confined to branchwood left following previous thinning.							
1s	1.06	Mixed conifers	1970	High forest		Connecting People with woods & trees, Secondary Woodland	
Stands of semi-mature Scots pine and poor semi mature lodgepole pine, thinned in 2006. Occasional understorey of elder, rowan, and ash with groundflora dominated by ferns. Good levels of deadwood both standing and fallen following thinning.							
1t	5.99	Ash	1970	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
An extensive area of mixed broadleaves including sycamore, beech and ash, with occasional groups of spruce and Scots pine. Understorey includes occasional elder, rowan and raspberry. Ground flora of patchy soft grasses, ferns and tormentil. There is a small area of seasonal open water towards the eastern end which appears to be fed from drain water off the motorway. Limited deadwood, mainly remnants from early thinnings with some recent windblow and occasional standing deadwood.							
1u	0.87	Mixed native broadleaves	2001	High forest	Services & wayleaves	Connecting People with woods & trees, Secondary Woodland	
Replanted in 2001 with native mixed broadleaves; ash, sessile oak, rowan, aspen, hawthorn and hazel. and Scots pine after the stand of mature Sitka and Norway spruce was felled in 2000 to allow early re-structuring of this part of the wood. Ground flora of soft grasses, rose bay willowherb and brambles with limited deadwood retained from clearfelling.							
1v	1.73	Mixed native broadleaves	1900	High forest		Connecting People with woods & trees, Secondary Woodland	
Stand of mature broadleaves, sycamore, beech, ash, pendunculate oak, with occasional lime, birch, elm. Some Scots pine and occasional Sitka spruce. Understorey of frequent rhododendron, with occasional holly, elm, rowan, sycamore, hawthorn and Sitka spruce.Ground flora of soft grasses, nettles and ferns. Good level of fallen deadwood with occasional dead wood in the canopy.							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1i	Thin	3.90	1	4.69999980926514
2020	1t	Thin	5.99	1	7.05000019073486
2022	1c	Thin	1.37	3	4.4
2022	1g	Clear Fell	1.25	120	150
2022	1r	Clear Fell	0.93	91	85
2022	1s	Clear Fell	1.06	94	100

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.