



Backmuir Wood

Management Plan 2015-2020

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THE WOODLAND TRUST

INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations. Please either consult The Woodland Trust website www.woodlandtrust.org.uk or contact the Woodland Trust (wopsmail@woodlandtrust.org.uk) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland. Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website

www.woodlandtrust.org.uk. Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
10. Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site - their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

1.0 SITE DETAILS

Site name:	Backmuir Wood
Location:	Muirhead
Grid reference:	NO341339, OS 1:50,000 Sheet No. 54
Area:	56.89 hectares (140.58 acres)
Designations:	Long Established Woodland of Plantation Origin

2.0 SITE DESCRIPTION

2.1 Summary Description

This lovely mix of ancient broadleaved woodland, conifer and open glades was once part of the estate belonging to the Earl of Moray. It's home to a wealth of wildlife, including red squirrel; has a varied flora and some fascinating fungi; and offers breathtaking views over the Firth of Tay and the Sidlaw Hills.

2.2 Extended Description

Backmuir wood is situated to the east of the Carse of Gowrie approximately 4km to the northwest of Dundee, between the villages of Muirhead and Liff. The wood lies between the altitudes of 110 and 140m above sea level, and faces generally in a southern direction.

Physical Description

The underlying geology of the area is Devonian - gedinnian, fluvial sandstones, with basic, dominantly fine-grained igneous intrusions. The soils are brown forest soils, with some gleying. The land is relatively dry, with a few areas of wetter ground. There are a number of well-defined drains which run through the wood, connecting in the west with agricultural drainage. The MLURI climate map identifies this area as fairly warm, rather dry to moist lowland, being moderately exposed with moderate winters. There is an earth bank crossing the site from Liff Road to the field boundary near the Coupar Angus Road, but its history is unknown.

Woodland Description

Backmuir Wood is situated in an agricultural setting, and apart from the section of Backmuir Wood not owned by the Woodland Trust, (which is being managed as a red squirrel and deer sanctuary), there are no other woods adjacent, but there are other woods nearby including Dronley Wood, Templeton Wood, and Camperdown Park. The wood is shown on the Ancient Woodland Inventory as being of Long Established Plantation Origin, and there are no other ancient woodlands in the local area.

Backmuir Wood is very diverse in character with a variety of different tree species, ages, structures, and density of cover, along with some areas of open ground. Relatively natural areas of woodland cover are interspersed with stands of more clearly of plantation origin. Broadleaved areas include stands of single and mixed species of pedunculate oak, beech, alder, birch, rowan and willow. There are also stands of Scots pine, Norway spruce and occasional larch. Conifers currently account for around 20% of the wood, broadleaves 70% and open space the remaining 10%.

Millennium Corner, the extension to the SW, was planted with mixed broadleaves and Scots pine in 2001.

Shrubs are scarce, limited to whin and broom and a small number recently planted.

Other Habitats Description

There are a couple of open areas to the NW of the wood, some being dominated by whin, broom and bracken, as well as a number of "open canopy" areas. There is also an open area to the NE adjacent to houses. The main ditches in the wood add aquatic interest.

Wildlife

Roe deer are often seen in the wood, and both red and grey squirrels are present, along with occasional rabbit and other small mammals.

A wide range of birds have been seen including jay, great spotted woodpecker, buzzard, tree creeper and wren. Many invertebrates and fungi have also been seen in the wood.

Site History

The main part of Backmuir Wood (45.16ha) was acquired by the Woodland Trust in February 1996 with funding from SNH, HLF, and the local community; a field extension "Millennium Corner" (4.26ha) was purchased in 2000 with funding from Homebase; and the final extension (7.64ha) was purchased in July 2009 with fundraising by the local community and a grant from Angus Environmental Trust (landfill communities fund).

Management to date has included improving the path network, installing benches and perch posts, upgrading entrances, constructing a small disabled car park, felling 2 small areas of sycamore and replanting with mixed native broadleaves, felling semi-mature beech next to houses and re-planting with native trees and shrubs with local nurseries, planting the Millennium field extension with native broadleaves, tree safety work, and worked with Liff Primary School on outdoor learning.

Community Engagement

The local community have been involved with the wood from the acquisition stage, and helping with the management.

Backmuir Wood has a "friends of" group who we keep updated about the wood. Every five years the management plan is reviewed and posters put up at the Wood's entrances asking people for comments, as well as a press release being sent to the local papers for wider advertisement.

When the management plan was revised in June 2015, wood users were also asked to vote if they

wanted the path to be upgraded, with any comments replying by text, email or survey monkey. Results showed that 92% of those responding were in favour of having the path upgraded. All comments received were about the proposed path.

Liff Primary School took part in our 'Schools into woods' programme where the Woodland Trust Scotland help teachers overcome barriers they feel they have to outdoor learning. We offer training, resources and support bespoke to the school. Following this teachers have been taking their classes out regularly.

Access Information

Backmuir Wood is one of a few woodlands in the area which is easily accessible, and is very well used, especially by local dog walkers. Many walkers come from the neighbouring Muirhead and Liff, but others come from further a field. There is a network of approximately 9km of paths, including over 3km all abilities surfaced path. Some paths are part of the core path network and also link into the wider Sidlaw Path Network. There are many entrances around the wood and a car park suitable for about 12 cars is located at the southern end of the wood. There are good views of the surrounding countryside from several points.

Management access is available direct from the car park and the other two entrances off the Liff Road, as well as along an access route off the Coupar Angus Road. There are welcoming signs at the entrances and a visitor leaflet is available (on site, from the local chemists or online).

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

By bus: Buses run regularly between Dundee and Muirhead. The nearest stop to the wood is Edward Place (on Coupar Angus Road, near the Post Office and opposite Liff Road).

By train: The nearest train stations are Dundee (11.3km/7 miles) and Invergowrie (5.8km/3.6 miles).

For up-to-date information on public transport, visit traveline.org.uk, travelinescotland.com, or telephone 0871 200 22 33.

By car: From Dundee, take the A923 towards Muirhead, turning left onto Liff Road. There is a car park with space for around 12 cars about one kilometre down Liff Road at the southern end of the wood. You can also park in a layby around 500m (550yds) closer to Muirhead or on Muirhead's residential streets. There is a disabled car park for two vehicles off the Liff Road, accessed through a gate with a radar padlock.

(December 2016)

3.2 Access / Walks

The main pedestrian entrance is from the car park at the southern end of the wood. There are other entrances off the Liff Road, one entrance from the Coupar Angus Road (across a field and not signposted), and another from The Logan (a path to the west). Entrances are either pedestrian gates or squeeze gaps of at least 1.2m wide.

There is a network of around 9km (5.6 miles) of paths, including a 1.5km (one mile) all-ability surfaced path which runs from the entrance nearest Muirhead on the Liff Road to a seat on the western side of the wood. Some routes link to the wider Sidlaw Path network. Apart from the surfaced path, most trails are rough, with exposed tree roots and stones, and may be muddy in places.

4.0 LONG TERM POLICY

WOODLAND HABITAT

The long term vision is for Backmuir Wood to continue to be a woodland with diverse species and age composition, primarily dominated by native species but with a proportion of non-native conifers and broadleaves. There will be abundant wildlife, frequent deadwood, both standing and fallen, and a healthy population of red squirrels.

Regeneration of non-native trees will be accepted unless it dominates an area. Control of deer or protection of the trees may need to be considered if regeneration is being heavily browsed. Open ground areas will be left to develop naturally, with regenerating trees or scrub not cut to keep an area open.

PUBLIC ACCESS

The long term vision is to maintain the main path network in a suitable condition for access by a wide range of users, which may include further upgrades of existing paths. It is not planned to create any more paths.

The Trust will involve the local woodland management group in the management and care of Backmuir Wood.

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

Backmuir Wood is situated on the edge of Muirhead & Birkhill (population 2,000), and not far from the edge of the village of Liff (population 568), and less than 20 minutes drive from Dundee city centre (population 148,270). The surrounding land-use is housing, fields, and woodland. The wood is 56.9 hectares in size.

Backmuir Wood is a large native woodland with compartments of non-native trees such as larch, spruce and, beech. It has a peaceful, rural feel and is well used by local dog walkers. There is opportunity to enjoy wild flowers, and see red squirrels and roe deer, and hear bird song.

There is a network of approximately 9km of paths, including over 3km of all abilities surfaced path. The non-surfaced paths can be muddy with uneven ground. The paths are on fairly level ground and all entrances have either pedestrian gates or have no barriers and a gap (with minimum size of gate or gap of at least 1.4m wide, except for Coupar Angus road access gate (0.9m wide) and gap by disabled car park (1.05m)).

Some paths are part of the core path network and also link into the wider Sidlaw Path Network. There are many entrances around the wood and a car park suitable for about 12 cars (with height barrier of 2.15m) is located at the southern end of the wood. Further parking for 2-3 cars is available in an unofficial lay-by at the sharp bend in Liff Road, and more parking in the residential streets of Muirhead. An additional 2 vehicle disabled car park is off the Liff Road, accessed through a gate with a radar padlock.

Entrances are located: 2 from the car park at the south of the wood; three off the Liff Road - one from the sharp bend layby, one half way down at the disabled car park, and one from our northern boundary (with seating feature; one linking to Inver Terrace path (across land not owned by WT); one linking to the Coupar Angus Road (across land not owned by WT); and one at the NW end of the wood linking onto the Drovers Path.

There are good views of the surrounding countryside to north and south from several locations. There are several benches and perch posts.

There are welcome signs at all entrances, and also ladder boards and the car park and northern Liff Road entrance. There are also large welcome signs on Liff Road at the northern and southern edges. A leaflet on the wood is available at the car park and northern Liff Road entrances.

Local people are interested in the ongoing management of the wood and there is a community interest group who are kept updated about the wood. There used to be a Management Group which carried out work in the wood and helped with fundraising, but as there is less practical work to be done in the wood now, it was decided to discontinue this group at the end of 2017. There are currently 3 volunteer wardens who help to keep an eye on the wood and carry out minor maintenance work and keep the leaflet dispensers topped up. We also have volunteers who manage the red squirrel feeders.

The wood is used regularly by local schools and nurseries. Both Liff and Birkhill Primary Schools, and Red Squirrel Nursery, and Birkhill Primary Pre-school are within walking distance of the wood. The local Scout Hall is close to the wood. In 2015 we ran a Schools into Woods project with Liff Primary School. This empowered teachers to use the woodland for outdoor learning. We occasionally hold community events at Backmuir Wood as part of our rolling events programme.

Millennium Corner, the young woodland to the South West, was planted as part of the Millennium celebrations with help from the Community. A glade with a ring of copper beech trees and some standing stones were designed by the community.

Significance

Backmuir Wood is one of the largest woodland areas near Dundee in an area that is predominantly farmed.

With a population of over 2000 within 1km, the wood is well used and loved by local residents, as well as many from further afield. The current level of public use is defined as WT Access Category A (high usage sites).

There are also other woodlands nearby - Dronley, Templeton and Camperdown (a more formal park).

With schools and nurseries nearby, open areas and paths, Backmuir Wood is great for outdoor learning.

Health benefits of access to woodlands is included in the Angus Woodland & Forestry Framework 2011 (access & health section), and in the Angus Countryside Access Strategy (policy 9). With multi use surfaced paths connecting to car parking, this makes access easier for a range of abilities. A lantern event held in 2016 was very popular and further community events are planned.

Opportunities & Constraints

Opportunities

Backmuir's location on the outskirts of Dundee, and the plan to build more houses in the area, gives potential for more visitors to the site.

There are opportunities to engage more with the 2 primary schools (Liff & Birkhill) and 3 nurseries (Tiddlywinks & the Red Squirrel Nursery, & Birkhill Primary Pre-school) nearby, and with the local scout group.

There are opportunities to hold future community events, with all abilities access.

Constraints

The increased number of visitors has led to paths becoming very muddy when wet. The car park is often full in the mornings limiting numbers of visitors that can park at the wood. There are problems with a few irresponsible dog owners with out of control dogs chasing wildlife, and dog mess becoming an issue. There is occasional fly tipping in the car park and at the layby entrance.

There is an opportunity to encourage more people from the western side of Dundee to access the woodland however ability accessing transport may be a constraint.

Lack of staff capacity to hold annual events.

Factors Causing Change

Increasing use of woodland paths and the car park with new houses being built and more planned in the area

Long term Objective (50 years+)

For Backmuir Wood to continue to be a pleasant, tranquil place to visit, with easily accessible paths. Local schools and nurseries will be using the wood regularly.

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

Access provision will be in keeping with WT access guidelines and site access coding (A) annually - managed paths will be kept free from vegetation and over-hanging branches, and in a safe condition, and entrances will be welcoming (annual path cutting and renewing entrances and signage when necessary). Any fly tipping will be removed promptly.

Regular updates to the community interest group when major work or events are planned on in the wood (ongoing).

The local community group has requested surfacing a path from the car park to join in with the existing surfaced path in the north. A survey was carried out where 92% responded in favour of a path upgrade. This will go ahead subject to grant aid (2016 - 2017 depending on when can secure funding). The upgraded path will go north from car park, up eastern and western sides of wood to link to existing surfaced paths, creating a loop. Path will be 1.5m wide, made from terram, MoT type 1 stone and whin dust (completed 2017).

The existing surfaced path in the north will be topped up in 2018 (1.5km).

Drystone dykes will be repaired by volunteers (with priority to walls along roadside and near entrances, subject to volunteer's availability).

Hold community events: lantern event (2016); Volunteer event (2017); wild flower planting (2018); wood carving (2018); another event tbc (2020).

For schools the Engagement officer will promote the Green Tree School Award, Free Tree Packs, Outdoor Learning Pack, and Nature Detectives (2019).

5.2 Long Established Woodland of Plantation Origin

Description

The woodland is very diverse in character with a variety of different tree species, ages, structures, and density of cover, along with some areas of open ground. Relatively natural areas of woodland cover are interspersed with stands more clearly of plantation origin. Broadleaved areas include stands of single and mixed species of oak, beech, alder, birch, rowan and willow. There are also stands of Scots pine, Norway spruce and occasional larch. Conifers currently account for around 20% of the wood, broadleaves 70% and open space the remaining 10%. Red squirrels (as well as greys) are present in the wood.

Significance

The wood (except for the Millennium Corner extension) is on the Ancient Woodland Inventory as being of "long established plantation origin" and is shown on maps dated 1865, indicating that the wood has a high biodiversity value.

The wood is important locally as there are few woods in the area.

The red squirrel is a protected species and their conservation is covered under a UK species action plan.

Opportunities & Constraints

Opportunities

To work with Saving Scotland's Red Squirrel Project

To acquire permanent access rights from Inver Terrace.

Constraints

Deer browsing, but not of significant levels.

Factors Causing Change

Wind blow of conifers; Chalara / ash dieback (found on young ash in Millennium Corner in 2015); beech regeneration

Long term Objective (50 years+)

To maintain the diverse character of the woodland and enhance its biodiversity.

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

Monitor the spread of ash dieback and assess impact (ongoing).

Ensure the young planted trees are successfully established and remove tubes when no longer needed. Tubes removed from cpt 1c by end 2017; and monitor planting in cpt 5a, replacing short tubes with taller ones if deer browsing is preventing establishment by 2018.

Maintain a healthy population of red squirrels in the wood by regularly controlling grey squirrels in partnership with Saving Scotland's Red Squirrels and supplementary feeding red squirrels when food is scarce (annually).

Thin Scots pine in Millennium Corner (20% thin selecting best stems) (cpt 4a 0.53ha by end 2020).

Thin out denser areas of beech regeneration to reduce the threat of ground flora being shaded out (cpts 1a, 2d, 3d 5a & 5b by 2020).

Plant up glades in Millennium Corner with wild flower plugs to increase wildlife and amenity interest (cpt 4a by 2018).

Any standing deadwood or fallen trees will be left, where it is safe to do so, for the benefit of wildlife. However, large areas of wind blown trees will be cleared if accessible.

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	1.70	Oak (pedunculate)	1920	High forest		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Open stand characterised by large spreading mature oak and beech, and also rowan. Large open area to south-east with broom and whin. Several small groups of shrubs have been planted along the southern edge in 0.75m shelters. Ground flora of soft grasses. Narrow bit of the site - only 50m at the western edge, but with tree cover only 30m at eastern edge. NVC type W10 (modified).							
1b	0.80	Beech	1930	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of uniform mature beech, with occasional younger beech, rowan and willow at the edges. Understorey consists of beech regeneration and whins on the northern edge. Ground flora of soft grasses with patches of brambles, raspberries and bare areas of ground.							
1c	1.50	Open ground		null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Area of largely open ground, dominated by whin, broom and by bracken in the SE corner. Occasional scattered individuals and groups of mature beech, sycamore and younger oak, rowan, willow and elder. 125 oaks were planted in tubes in 2002. Ground flora includes soft grasses, bracken, raspberry and bramble. NVC type W16 & 20% W10 (modified).							

1d	2.00	Rowan	1950	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Mixed stand with mature rowan, beech, oak, and semi-mature sycamore with the occasional mature downy birch. The understorey includes whin, beech, sycamore, holly and rowan, with a ground flora of ferns, brambles and bracken to south. NVC types W16 & W10 (modified).							
2a	0.40	Scots pine	1950	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Small stand of mature Scots pine with occasional hybrid larch and beech. The understorey includes rowan regeneration with whin and broom bushes. Ground flora consists of soft grasses and brambles with occasional areas of bracken.							
2b	3.00	Beech	1930	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Mixed stand of uneven structure: with large mature beech and scattered Scots pine and larch; semi-mature oak and sycamore; and dense stands of younger downy birch and beech regeneration. Understorey includes whin and broom and the ground flora consists of sparse soft grasses, ferns and blaeberry at the east end.							
2c	2.00	Birch (downy/silver)	1960	null	Mostly wet ground/exposed site	Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin

Wet area containing dense thickets of downy birch on drier ground to the south, and on wetter ground grey willow, with an area of alder. There are occasional older birch and Norway spruce and elder in the understorey. The ground flora contains patches of heather, sphagnum mosses, ferns, soft grasses and rushes. The area is crossed by drains. NVC type W4 and W7.							
2d	2.60	Scots pine	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of mature Scots pine with narrow crowns. Also some semi-mature downy birch to the south and west (dominating along the southern edge), occasional pedunculate oak and Norway spruce in the NE corner. Understorey includes regeneration of rowan, holly, birch and beech, scattered throughout the stand, with denser birch along drain lines. Ground flora of soft grasses with areas of ferns and blaeberry. Several large drains cross the area.							
2e	4.00	Birch (downy/silver)	1960	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Rather mixed stand dominated by maturing downy birch to the north and young rowan to the south and east. There are occasional remnant Scots pine, beech and pedunculate oak. The understorey includes occasional broom, holly, rowan, beech, birch and Scots pine. The ground flora includes soft grasses, sphagnum mosses, ferns, brambles, blaeberry, whin and bracken to the SE. NVC type W16 (modified).							
2f	2.60	Open ground		null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin

An area of open ground and mixed open canopy woodland. Groups of mature Scots pine and scattered individuals of downy birch, pedunculate oak, larch, beech and rowan. The oak are likely to be AW remnants, and are not under threat due to open grown nature. Trees are denser towards the west of the area. Understorey is rowan and birch regeneration. Ground flora of soft grasses with elder, broom and whin at edges. A fine spreading beech tree, possibly pollarded in the past, marks the path junction at the centre of the glade. NVC type W10 (modified).							
2g	0.50	Scots pine	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of mature Scots pine with occasional beech. Understorey including elder and rowan. Ground flora consisting of soft grasses, brambles and ferns.							
3a	1.70	Scots pine	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of mature Scots pine with frequent beech and Norway spruce to the west. There are also occasional hybrid larch and Douglas fir. Understorey includes occasional sycamore, rowan, birch, beech and holly. Ground flora consists of sparse grasses and ferns.							
3b	1.70	Mixed broadleaves	2001	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Area of young sycamore felled in 2000 and restocked 2001 with native broadleaves and small proportion of pine in tubes. Occasional ash and mature Norway spruce retained as overstorey, concentrated in the south. Also strip of mature beech and Scots pine along the western edge and on knoll, with occasional hybrid larch, pedunculate oak and downy birch. Ground flora is grass, raspberry, rushes near the ditch and ferns. Large drain crosses the area and links into agricultural drainage system to west. NVC type W10 (modified).							

3c	6.10	Birch (downy/silver)	1960	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Wet area dominated by downy birch, with two wetter areas dominated by alder on the SW (0.3 ha) and alder and NS on the NE (2.0 ha) edges. Occasional willow, rowan, sycamore, beech, oak and Norway spruce. Understorey includes rowan, birch and sycamore regeneration. The ground flora consists of grasses, rushes, ferns, mosses and brambles. Drains cross the area, connecting up the field drains in the west. NVC type W7 (modified).							
3d	1.30	Scots pine	1930	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of mature Scots pine, with beech and occasional Norway spruce. The understorey includes frequent Scots pine regeneration around the edges and the occasional holly, beech, rowan, whin and Norway spruce. The ground flora consists of mosses, blueberry and ferns.							
3e	2.00	Birch (downy/silver)	1960	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of dense young downy birch, with occasional Scots pine, beech and mature downy birch. Also wet stand of willow, with alder on eastern leg. The understorey contains whin, elder and sycamore regeneration. The ground flora consists of ferns, grass and sphagnum mosses. NVC type W16 (modified).							

3f	2.20	Birch (downy/silver)	1950	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Open canopy stand of mature Norway spruce with mature downy birch. Occasional oak, hybrid larch and beech. Patches of windblow occur. Understorey includes rowan, elder, beech and birch. Ground flora consists of sphagnum mosses and ferns. A drain crosses the north of this area. Nearest NVC type W11 (modified).							
3g	2.80	Birch (downy/silver)	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of multi-aged downy birch, with occasional sycamore, beech and older pedunculate oak. The understorey includes rowan and birch regeneration, with occasional holly, sycamore, broom, elder and willow. The ground flora consists of soft grasses, with bracken and ferns, and a patch of gorse, broom and raspberry on the roadside. NVC type W11.							
3h	2.80	Beech	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Stand of widely spaced mature beech with the occasional downy birch and older pedunculate oak to the east, grading to a more mixed stand of downy birch, beech and occasional pedunculate oak, sycamore and larch to the west. Occasional regeneration consists mainly of beech with the occasional rowan, oak, sycamore and holly. The ground flora is relatively sparse, especially under beech and comprises of mosses, ferns, and grass with the occasional raspberries, brambles and nettles and some broom and whin on the edge. There was a small patch of Japanese knotweed near the entrance by the lay-by in 2007/8, but this has been controlled. The compartment includes the area of dumped stones and rubble known as the racetrack. NVC type part W11 (modified).							

3i	1.60	Mixed native broadleaves	2001	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Area of sycamore felled in 2000 and restocked 2001 with native broadleaves and small proportion of pine in tubes. Occasional mature oak, beech, Scots pine and Norway spruce retained as overstorey plus some birch and rowan along path edge. Ground flora is grasses, raspberry, willowherb and bramble. NVC type W10 (modified).							
3j	1.80	Oak (pedunculate)	1900	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
Open stand of mature pedunculate oak, downy birch and rowan, with occasional beech and sycamore. Mature older trees occupy about 30% of the canopy and the understorey, which contains rowan, with broom and holly and the occasional young oak and sycamore tree, about 50%. Most of the open areas are dominated by bracken, with soft grasses occurring throughout. NVC type W11. There is also a small car park to the south.							
4a	4.30	Oak (pedunculate)	2001	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	
Area of ex-arable land, planted with mixed native broadleaves including oak, birch, ash, aspen and a small stand of Scots pine in spring 2001. Planting was enclosed by deer and rabbit fence which was removed in 2009. Ground flora is grasses (sown before tree planting). Millennium feature of standing stones and a ring of copper beech trees.							

5a	3.48	Scots pine	1940	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
<p>Stand of mature Scots pine with occasional beech, birch, sycamore and rowan. Norway Spruce is also present to the north of the compartment, and next to the houses a stand of mature beech (which is multi-stemmed and tightly forked) mixed with sycamore.</p> <p>Understorey consists of mainly of rowan and beech. Ground flora includes fern, blaeberry and grass. There is a small open glade in the NE corner.</p>							
5b	4.16	Mixed broadleaves	1950	null		Connecting People with woods & trees, Long Established Woodland of Plantation Origin	Long Established Woodland of Plantation Origin
<p>Mixed stand of Scots pine and birch, with sycamore, rowan, beech and occasional oak, willow and larch. Understorey consists of young and regenerating rowan, beech and sycamore. Ground flora is mostly ferns, blaeberry and honeysuckle.</p>							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2017	4a	Thin	0.53	8	4

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 on 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.