



Martinshaw 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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Martinshaw Wood
Location:	Ratby & Groby
Grid reference:	SK510072, OS 1:50,000 Sheet No. 140
Area:	102.84 hectares (254.12 acres)
Designations:	National Forest, Planted Ancient Woodland Site, Site of Local Nature Conservation Importance

2.0 SITE DESCRIPTION

2.1 Summary Description

This lovely large ancient woodland can be traced back to at least the 13th century and perhaps even as far as the Domesday Book (1085-86) where it may have been one of the woods listed under the ownership of the Manor of Groby. There is an abundance of tree, plant, fungi and bird species, with a diverse range of habitats and archaeological features. The extensive path network which links to nearby woods and the National Forest provides a wealth of opportunities to explore for walkers of all abilities, horse riders and cyclists.

2.2 Extended Description

LOCATION

Martinshaw wood is 5 miles north-west of Leicester, situated between the villages of Groby and Ratby. The woodland can be accessed from the car park off Markfield Road, Ratby and the housing estate on Woodlands Drive, Groby. The complex of woods owned by the Trust which includes Martinshaw, Pear Tree and Burroughs forms the south-eastern boundary of the National Forest. There are also a number of new woodland creation plantations not under Woodland Trust ownership immediately adjacent and also within the general locale as well as other sizable pockets of mature native woodland which add to and buffer this important ancient woodland habitat.

SITE DESCRIPTION

Historical research suggests that Martinshaw has been a productive managed wood since the 13th century. For much of the last seven centuries it formed part of the estate of the Earls of Stamford and supplied timber, underwood and other woodland products to the local economy. Within the large estate were a number of deer parks and the significant ditch and banks which surround the wood illustrate clearly the need to keep out foraging deer from such a park. The estate records also show that over a long period the wood was used variously for pannage, wood pasture and in the nineteenth century as pheasant cover. Up until the twentieth century the wood was managed traditionally as “coppice with standards” on a twenty-year rotation with Oak, Ash and Birch as the principal species. During the latter period under the ownership of the Earls of Stamford records show that more exotic species, including North American conifers were planted and as a consequence the wood began to take on some of the characteristics of a plantation.

In 1925 over 1,150 acres of the estate’s woodland were sold including Martinshaw which was described in the sales catalogue as containing “a large quantity of fine Oak also Ash, Beech and Birch, together with the valuable underwood”. Once sold a large proportion of the wood was quickly clear-felled and left unmanaged. The wood was again clear-felled during the Second World War before it was taken over by the Forestry Commission.

The Forestry Commission acquired the land in 1950 and began planting in 1954 and continued until 1969. Twenty-seven species of both native and exotic broadleaves and conifers were planted including Sessile and Pedunculate Oak, Scots and Corsican Pine, Western Red Cedar, Western Hemlock, Norway Spruce, Lawson’s Cypress, Larch and Red Oak. Additionally Oak, Downy and Silver birch, Rowan, Aspen, Wild Cherry and Hazel regenerated from the former seed source.

In 1967 Martinshaw was dissected by the construction of the M1 motorway and for the purposes of management the woodland is now divided into 6 compartments. Compartment 1 & 2 lie west of the M1 adjacent to Ratby village. The remaining 4 compartments divide the Groby side into almost equal quarters, divided by the main north-south and east-west rides.

Planting commenced in 1954 and for the first few years Corsican and Scots Pine were mainly planted in 3 row by 3 row mixtures with Oak. Occasionally the oaks were planted in groups of 9 trees (3 trees in 3 rows). Generally the entire sub compartment was not planted at the same time, the oak may pre or post date the pine planting.

At the end of the 1950's and during the 1960's more western red cedar was planted together with oak. During the late 1960's many of the formerly pure oak or mixed broadleaves were under planted with Western red cedar. The main silvicultural challenge in a large proportion of the wood is to reduce the dominance of the exotic conifers and to encourage the native broadleaves to establish the characteristics of the former ancient woodland which occupied the site until relatively recently.

ARCHAEOLOGY.

A very thorough Historical Survey was undertaken by Peter Bloxham, a volunteer researcher, of the site in 2004. His ground survey and desk based research through the archives revealed a number of archaeological features which reflect the former uses of the wood and its pre-history.

The oldest feature revealed was what was believed to be a probable Iron-age enclosure at the north end of sub-compartment 5a. It was initially discovered from RAF aerial photographs taken before WW2 when the wood had been clear-felled. However an on the ground archaeological survey in 2018 using magnetic, ground penetrating and earth resistance surveys revealed what look to be large stone blocks in the entrance of the enclosure now covered by earth, there is the possibility that the feature may in fact be the remnant of an ancient barrow burial mound, it is hoped that further archaeological investigation will clear up the mystery as to what this feature is.

Other prominent features on the ground reflect the period when the wood was protected from the encircling Deer Park by a ditch and bank "Park pale". It is possible to identify this feature on the whole boundary of the wood but is most prominent along the northeastern section adjacent to Toothills. There are also a number of other features such as banks and earthen dams across streams whose origin and significance is unknown. There is also a wide sunken track which appears to run towards the ancient stone quarries in Toothills which falls into the same category.

The location of these features is recorded on the Conservation Features Map which appends this Management Plan.

WILDLIFE

Martinshaw wood is situated on an Ancient Woodland site and although its former wildlife value has diminished somewhat with progressive restoration and careful management its conservation value will increase.

In 1944 prior to its acquisition by the Forestry Commission, Martinshaw wood was put forward as a Habitat Reserve by the Nature Reserves Investigations Committee. Due to the felling and replanting activities the significant botanical and entomological interest of the site was greatly reduced and the recommendation was never fulfilled.

In common with many Forestry Commission properties the woodland margins and non-woodland habitats such as the rides and ponds retain much of their former ecological interest. Very comprehensive records have been kept by local naturalists and other organisations of both the flora and fauna of the woodland.

The only area in the woodland relatively un-touched by the activities of the Forestry Commission is Toothills, an area of Pre-cambrian rock outcrops on the northern boundary of the wood. The thin acid soil and difficult rocky terrain has precluded intensive management, and the area has retained many of the plants associated with ancient undisturbed semi natural woodlands.

FLORA

The most interesting areas are the rides woodland margins and the areas around the marl pits in the north. The wood contains Bush Grass, not known in abundance in any other Leicestershire woodland. The wood also contains Lily of the Valley as a naturally occurring plant, one of the only areas in Leicestershire to contain this species.

Other herbs of interest are located around the flooded marl pits. Rare Eared Sallow and Wood Anemone are indicators that this is an Ancient Woodland site. A small boggy area contains

Bogmoss, valerian and two rare willow herbs. The Toothill area is host to ground flora species such as Sanicle, Yellow archangel, Spotted orchid and Primrose. Broad Leaved Heliborine have also been identified in the past.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

By bus:

The nearest bus stop is on Markfield Road directly opposite the main entrance which is serviced by the Arriva bus service route 27.

By train:

The nearest train station is at Leicester, approximately 8 km from both Ratby and Groby. There is a bus service from St Margaret's Bus Station in Leicester to both Groby and Ratby (Service 27). The walk from Dane Hill (Ratby) and Laundon Road (Groby) is approx. 0.8m (about half a mile).

For further information on public transport please contact Traveline on 0871 200 22 33 or visit www.traveline.org.uk

By car:

Travel along the M1, exiting at junction 23a onto the A46. Leave the A46 at the next roundabout by taking the last exit onto Leicester Road. At the following roundabout take the first exit onto Sacheverell Way. Shortly before entering Ratby, Sacheverell Way changes to Groby Road and then crosses back over the M1 after which take the first right onto Markfield Road.

The car park, which can accommodate around 10 cars, and main (west side) entrance to Martinshaw Wood are approximately 400m along Markfield Road, on the right. The eastern side of the wood can be accessed from this car park by using the bridge over the motorway.

3.2 Access / Walks

Martinshaw Wood is approximately 8km north-west of Leicester, situated between the villages of Groby and Ratby. The main access is from Markfield Road on the edge of Ratby, via the small car park where there is a wheelchair-friendly circular kissing gate. From here there is a path leading to a pedestrian bridge which crosses the M1 into the larger section of the wood.

An extensive 10km long network of rides and paths are located throughout the woodland, such as the Leicester Ivanhoe Trail and the National Cycle Network, and around the historic Ratby Burroughs area. Many of these paths have short steep or muddy sections and are not suitable for all abilities. However, Martinshaw does provide excellent wheelchair access via a 1.6 km circular less abled access track located in the eastern portion of the woodland, starting from Groby Community College, running north. This footpath links both to the main east-west ride and an additional loop through the trees which are both suitable for all-abilities.

The Sustrans route through the Ratby side of the wood provides access for horse and cycle to Pear Tree and Burroughs woods, and into the interior of the National Forest. The newly established permissive bridlepath running parallel to Markfield Road provides access through Grey Lodge Wood to land north of the motorway.

Martinshaw is already a large wood (over 100 hectares), so - being directly adjacent to Pear Tree Wood, Burroughs Wood and Grey Lodge Wood, all new areas of woodland creation - there is considerable scope for a variety of different types of public recreation.

There is a Woodland Trust car park on the Ratby side (western section) which will accommodate approximately 10 cars. This car park is accessible from Markfield Road, Ratby with access into the wood through a wooden kissing gate which is not wide enough to allow wheelchairs through. Beyond the entrance there is a surfaced track which is negotiable in all weathers. This track also accommodates the Sustrans bridleway access for both bicycles and horses.

The eastern side of the wood can be accessed from this car park by using the bridge over the motorway.

The access from the Groby side is via pedestrian entrances at the northern end of Woodlands Drive and the public footpath at the back of Groby Community College off the southern end of Woodlands Drive, Groby.

All entrances to the eastern, Groby side of the wood are via large kissing gates which can be opened for motorised wheelchairs using a RADAR key. After 100 metres there is a gate where the bridleway turns left and crosses the south-west corner of the Martinshaw to Markfield Road and the western section of the Sustrans route through Pear Tree, Burroughs, Polebrook and Crow Woods and then to Thornton. Where the bridle path turns left there is access to a further section of surfaced track which extends for 0.8 km.

There are numerous paths and rides throughout the western section of the wood and although many are broad, the grassed surface is often soft and not suitable for wheel-chairs except under the driest of conditions.

4.0 LONG TERM POLICY

To proceed with the incremental restoration of this PAWS(Planted Ancient Woodland) habitat through regular monitoring and surveying to determine areas requiring restoration work which in this case is the slow removal of the conifer crop over a period of many years. The ultimate aim will be to bring the woodland back to a state where the dominant species are native, the dominant high forest species being oak with birch, rowan and hazel as the understorey and with a varied array of flora and fauna associated with ancient woodland throughout. Thinning of even aged oak stands will also take place in order to encourage diversity of species and age classes and to encourage natural regeneration.

To encourage greater use of the site for both individual and group activities which are likely to increase the enjoyment and appreciation of the woodland. This objective may be achieved by a combination of the following initiatives. To facilitate the use of the wood by specialist groups who wish to undertake surveys of moth/butterflies, birds, mammals, mosses/lichens, fungi etc. Consider the use of the wood for Geocaching. Expand the use of the woods by schools and other groups for orienteering. Seek links with the wider landscape to facilitate greater access by the public.

5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

5.1 Planted Ancient Woodland Site

Description

Martinshaw is an ancient woodland site, indicated by the herb communities present. The less common plant species are generally found in areas relatively untouched by the Forestry Commission in the 1950's and 1960's. It is hoped in the long term to restore the wood to native broad-leaved woodland habitat, characteristic of the area with its associated flora and fauna. The woodland currently consists of a matrix of predominantly oak planted with various exotic conifers including western red cedar, western hemlock and scots pine. The woodland is buffered by new native woodland plantation both owned by the Woodland Trust and private landowners and together forms a significant block of woodland habitat on the southern boundary of the National Forest area. Surveys of the woodlands condition are undertaken periodically the latest PAWS survey was undertaken in 2018, the proposed silvicultural plan is based upon the results of these surveys.

Significance

Martinshaw is one of the largest single areas of mature ancient woodland habitat in the National Forest area and now that additional new woodlands have been created adjacent and in the wider vicinity of the site its significance in the landscape is considerably enhanced. Consequently when the process of PAWS restoration is complete its importance in terms of biodiversity will be highly significant within the National Forest and the County of Leicestershire.

Opportunities & Constraints

Martinshaw contains an economically viable conifer crop with the potential to provide a valuable broadleaf crop in the future. Fluctuations in the timber market could make any economic gains from the restoration work somewhat negligible.

Factors Causing Change

Squirrel Damage in places most notably on any beech, fire, misuse / anti-social activity, regenerating invasive conifer species, widening of the M1 motorway (which was investigated in the early 2000's).

Threats from pests and tree diseases such as ash dieback.

Long term Objective (50 years+)

To restore the wood to its former status as ancient woodland habitat consisting predominantly of native broadleaved trees which it possessed for seven centuries until the clear fell in 1920 and the subsequent coniferisation by the Forestry Commission after WW2. The process of restoration will be readily achieved in those areas designated as secure in the PAWS survey but the areas in the threatened and critical categories are likely to take a number of silvicultural operations spaced over a long period of time. The transitional habitats along the ride side, the veteran trees and standing and fallen deadwood will form an important contribution to the interest and biodiversity of the wood. It is envisaged that oak will form the main canopy species, with birch, rowan, hazel etc. in the understorey. The woodland will be managed in such a way as to promote variety in terms of species and age classes with natural regeneration of native species encouraged throughout.

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

The short term objective will be to continue to monitor the woodland health and condition over the next 5 years and to carry out silvicultural works annually based on the recommendations from the PAWS assessment completed in 2018. The first thin will be in late summer 2019. Both conifer and oak will be thinned in order to reduce the dominance of the conifer crop and to encourage natural regeneration and the development of an uneven aged stand in the oak component.

5.2 Connecting People with woods & trees

Description

Martinshaw Wood is an Ancient Semi-Natural Woodland (ASNW) covering just over 100 hectares (254 acres), situated close to Ratby and Groby within the picturesque Leicestershire Vales area. Together with Pear Tree and Burroughs woods, Martinshaw forms part of the largest continuous woodland area within the National Forest (158 hectares / 390 acres in total).

Martinshaw Wood is now part of the Woodland Trust's Welcoming Sites Programme; aiming to deliver a consistent level of visitor experience across an extensive suite of our woodland estate.

'Its position in the landscape'

Martinshaw Wood is located 8km north-west of Leicester, sandwiched between the villages of Groby and Ratby. Martinshaw was cut in two by the M1 motorway in 1969 and the two parts are now connected by a bridge across the motorway.

The wood sits within the National Forest; an area covering 200 square miles of the Midlands (Derbyshire, Leicestershire and Staffordshire) which is transforming the landscape via woodland creation with the aim of linking the two ancient forests of Charnwood and Needwood to its west. The National Forest Company is leading the creation of the forest, with a vast array of partners also contributing (including WT), and last year (2017) celebrated its 25th anniversary.

Martinshaw is fairly unusual within the National Forest setting due to its age; much of the woodland across the rest of the area is newly planted. Subsequently, Martinshaw has much history associated with it, and was likely mentioned in the Domesday Book. It was once part of a large deer park owned by the Earls of Stamford, and up until the 20th century was managed as coppice with standards. In the first half of the 20th century much of the woodland was felled, and was later replanted with various native/non-native broadleaf and conifer species.

'General description of the access'

The main access into Martinshaw Wood is from Markfield Road on the edge of Ratby. There is a small car park, accommodating approximately 10 cars, and access points leading to both sides of the wood.

An extensive 10km long network of rides and paths are located throughout the woodland, including the National Forest Way and National Cycle Network route 63. The majority of paths through Martinshaw are unsurfaced and have steep/muddy sections which can limit accessibility. However, the site does have a 1.6 km all-weather circular track located in the eastern portion of the woodland, starting from Groby Community College, running north. This footpath links both to the main east-west ride and an additional loop through the trees.

'Specific furniture/ access point description'

The Welcoming Sites Project has addressed a lack of signage at some entrances, with all access points into Martinshaw now having appropriate entrance and exit signage. There is currently no waymarking or orientation points to help visitors navigate through the wood, and given the history and wildlife interest of the site there is also a great deal of potential to interpret these stories through appropriate mechanisms.

‘The visitor profile’

The wood is well used by locals and visitors; however there are no current visitor numbers available. There are over 5,000 households within the immediate postcode area, and anecdotally we know that the wood is very popular with local dog walkers.

‘Nearby Woodland Trust sites’

Burroughs and Pear Tree Woods are both situated adjacent to Martinshaw and are WT owned, so the potential of the combined sites is large. All three woods sit within the National Forest, and are surrounded by other sites owned by the National Forest Company.

Bradgate Park is close by, run by the Bradgate Park Trust. Originally Martinshaw Wood would have formed part of the Bradgate Park Estate, and so partnership working opportunities with the Bradgate Park Trust to reconnect the story of this historic landscape could be explored. The Park also has a visitor centre, toilets, shop and tearoom, so opportunities to signpost visitors between sites would be useful.

Thornton Reservoir, owned by Severn Trent Water, is to the west of Martinshaw, offering a variety of activities and facilities. To the north east lies Groby Pool and Woods, a Site of Special Scientific Interest.

‘Events and Activities’

There is currently no public events programme at Martinshaw, although it has been used for fundraising and corporate events in the past, and also forms part of the induction programme for new WT staff. The National Forest Company are keen to organise a programme of events for their nearby sites and opportunities to work in partnership with them on joint events could be considered.

‘Schools’

There are currently no schools using the site, although a local school did trial running a forest school at the site previously. There are at least 5 primary schools close enough to the site to be able to use it, potentially accessing on foot. (Groby Martinshaw Primary school, Ratby Primary School, Lady Jane Grey Primary School, Kirby Muxloe Primary School, Elizabeth Woodville Primary School). In addition, Groby Community College is within walking distance of the wood; connected to it by a footpath from the eastern end. They have expressed an interest in working with us on a project where students could create woodland furniture such as benches or sculptures for the site.

‘Volunteering’

There are currently no volunteers on site here, but there is potential for working in partnership with the NFC volunteers for them to work on the site. A number of local people do act as eyes and ears for the property reporting incidents and queries as they are encountered.

Significance

Increasing enjoyment of woodland is one of the Woodland Trust's key outcomes. Martinshaw wood, when combined with Burroughs and Pear Tree Wood, forms the largest area of continuous woodland within the National Forest. It is a significant area of natural recreation on the doorstep of Leicester, and surrounded by a large urban population. It has huge potential to provide recreational and educational opportunities for local people and provides an opportunity to highlight the benefits of woods and trees within an urban setting..

As an ancient woodland, it is a valuable site for engaging people with the importance and significance of ancient woodland and is an ideal opportunity to educate about PAWS restoration work.

The varied history of the site and the connection to Lady Jane Grey and Bradgate House give huge potential to develop interesting interpretation and offer visitors an opportunity to engage on an additional level and open it up to potential new, history-minded, audiences. Opportunities to develop this and include it in both on-site interpretation and off-site signposting at other local attractions should be maximised.

The rich diversity of wildlife and the ancient woodland habitat is another aspect of the site which has potential to attract interest from diverse audiences and this should also be included in onsite interpretation.

The 10 kms of paths/rides give sufficient scope for all types of activity on foot from walking the dog to running and orienteering. The Sustrans route through the Ratby side of the wood provides access by horse and cycle to Pear Tree/Burroughs and into the interior of the National Forest, meaning Martinshaw can accommodate a variety of user groups that many other woodland sites are unable to.

Opportunities & Constraints

Opportunities

- Martinshaw has a generally flat aspect making walking easy and enjoyable throughout the whole of the woodland.
- The woodland contains a number of walking environments from open straight rides to enclosed narrow sinuous paths which are capable of appealing to a broad spectrum of preferences.
- There are sufficient points of interest distributed throughout the wood to engage the visitor. These include historical features such as the Iron-age enclosure and ancient deer park pales, small-scale habitats such as the marl pit ponds and the pre-cambrian outcrop at Toothills as well as the larger wood itself. These points of interest should be a focus for any onsite interpretation.
- Partnership working opportunities with the NFC
- NFC HLF bid may enable us to tap into their plans and help better connect to the surrounding landscape.
- Rich and diverse local history shared with adjacent historical sites gives opportunities to develop interpretation and the possibility of partnership working and cross-signposting with adjacent sites to open up to wider audiences
- Diverse ancient woodland habitat and wildlife which gives opportunities for visitor engagement and education
- Opportunities to engage visitors with PAWS restoration work and WT messaging round protection and restoration of ancient woodlands

Constraints

- Dissection of the site by the M1 and the impact of M1 noise on parts of the site
- Antisocial behaviour, fly tipping and vandalism (has limited forest school use in the past)
- Car park is small so limited scope for parking.
- Competition from NFC sites and Bradgate Park locally. Bradgate Park in particular is very popular with local walkers.
- For a significant period ahead silvicultural operations will form an important part of the management of the site. Therefore there will be a number of months during the year when the public will be denied access for their own safety to some paths and rides. (Although this in itself provides an educational opportunity).
- Adequate signage when and where needed will be important in maintaining the safety of all users of the wood during felling operations.
- Harvesting operations in the past have stimulated the growth of bramble which will have the effect of reducing the range of public access but serve to decrease the levels of disturbance to wildlife.

Factors Causing Change

NFC's HLF project and their desire to engage with Martinshaw and include it in their project
Increased numbers of visitors to the site as a result of increased engagement.
Plans to significantly improve welcome signage on the site
Requirement for annual maintenance, with a periodic (10 year) refurbishment to maintain entrance points , signage and interpretation
Higher expectation of the quality of the infrastructure and interpretation provided as a result of improvements.
Restoration work will inevitably mean disruptions to access during operations which may mean the closure of paths and routes, and relatively long periods where access is reduced.
Change in character of the wood as PAWS restoration continues

Long term Objective (50 years+)

Martinshaw provides an extensive area of high quality green space to a wide range of users both from the local community and the wider urban population. It's an excellent example of ancient woodland restoration and recognised as such within the professional sector, being used as a demonstration site to educate the public and influence landowners. The wood is also valued by visitors and locals for its wildlife, history and the benefits the woodland brings to a predominantly urban landscape.

Entrances and signage are welcoming and well-maintained, and orientation points at key locations mean visitors can confidently explore the whole of the woodland. A network of managed paths provide a range of circular routes which pass through a range of varied habitat types,

Visitor experience is enhanced where appropriate with innovative and inspiring interpretation, which brings to life the historical stories of the wood and celebrates its wildlife and diversity.

Martinshaw is regularly used by local schools on a self-led basis, as a unique and immersive setting for outdoor learning, and as inspiration for a wide range of learning topics.

The Woodland Trust's ongoing partnership with NFC has cemented Martinshaw's place at the core of the National Forest, and joint initiatives for events and volunteer working have increased public engagement with the site. Local people are proud of the wood, and use it regularly for recreational purposes. There's a strong sense of ownership locally, and the community is knowledgeable about the fascinating history of the site and its links with surrounding heritage venues within the wider landscape.

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

- Maintain relationships with the National Forest Company and other key local stakeholders to utilise opportunities for joint working as and when they arise, including exploration of the potential to feed into the Charnwood Forest HLF project (2019/ongoing)
- Ensure regular maintenance of new signage at all entrances
- Maintain paths and edges. Monitor scrub and tree growth on the edge of the surfaced rides to ensure that they do not become over grown / damp and wet due to shading. Keep the surfaced tracks scraped clean periodically to prevent them from disappearing under leaf mold and detritus. Cut the most popular paths and rides five times a year.

- Create and install welcome/orientation points at key locations to aid visitor navigation (2019)
- Finalise S.O.P document to use as a starting point for interpretation development work
- Create an interpretation plan for Martinshaw to identify/capture key themes/stories and to guide future development (2019)
- Consider the creation of a site leaflet to distribute around local area/other attractions (2020 - dependent on need; level of anticipated distribution)
- Explore opportunities for use of the site by local schools/colleges (2020)
- Ensure temporary signage/interp is installed as and when felling/harvesting works are planned.

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	3.55	other oak spp	1960	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>Stand of predominately Oak planted in 1957 and then planted with scots pine and japanese larch in 1961. Almost all the larch was removed sometime pre-2000. Small areas of western red cedar remain. The understorey is predominantly of hazel the field layer being dominated by brambles and bracken in areas of high light penetration. In those areas where hazel is significant (by the central ditch and northern boundary with the motorway) the field layer is principally grasses and lesser stichwort.</p>							
1b	4.46	Scots pine	1961	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A stand of oak planted in 1950 and subsequently under-planted with western red cedar in 1966. Thinned pre-year 2000 so that approximately 150 stems/ha of oak and 425 stems/ha. of western red cedar remained. The whole area is heavily shaded by Western Red Cedar with natural regeneration of desirable tree species and ground flora heavily suppressed. Existing canopy level oak and sycamore are also heavily suppressed and hemmed in by the surrounding cedar. Where a sub-canopy does occur it is made-up of hazel, birch and the occasional rowan. Small light gaps have allowed the development of the occasional fern and mosses. Bracken and bramble does exist in the odd spot where enough light is able to penetrate. Sycamore, bracken and bramble seem to be most prevalent on the woodland boundary with the adjacent M1 shelter belt.</p>							
1c	6.01	Scots pine	1966	PAWS restoration	Sensitive habitats/species on or adjacent to site	Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>Selectively thinned stand of Oak and Scots pine both planted in 1954. Bramble and bracken dominate the field layer across almost the whole sub-compartment. A large active badger sett of an estimated 2000 square metres is located in the NE corner close to the open area (SK505068).</p>							
2a	1.38	Western red cedar	1966	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site

<p>Mixed stand of oak planted in 1957 and subsequently underplanted with western red cedar in 1966. The majority of the sub-compartment remains unthinned. This sub compartment is heavily shaded. Where it occurs the sub-canopy is made up of western red cedar, birch, rowan, hazel and hawthorn. The field layer tends to be sparse and where light levels are high enough is made up of grasses, male fern and bramble. Regeneration of western red cedar is prevalent throughout. The canopy contains a large number of nice oaks that have been heavily suppressed by the surrounding western red cedar.</p>							
2b	1.58	Oak (pedunculate)	1957	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed stand of selectively thinned Oak, Western red cedar planted in 1957 and Scots pine planted in 1961. This compartment was thinned in 2008 which resulted in almost the complete removal of the western red cedar. The canopy is now dominated by oak which has suffered greatly due to suppression by the cedar as is evident in its long, spindly form. There is currently little understorey with hazel and sycamore being occasional to rare. The field layer is made up of grasses, bramble, bracken, honeysuckle and common cow-wheat. Following the 2008 thin and vastly increased light levels bracken has started to dominate this sub-compartment.</p>							
2c	2.47	Western hemlock	1960	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>The stand is dominated by Western hemlock planted 1960 and pockets of Oak planted in 1945. The subcanopy is restricted to the occasional birch whilst regeneration of Western hemlock can be profuse, cutting back of hemlock regeneration was undertaken in 2010. This compartment is very dark and as such the field layer is very sparse. Compartment 2C tends to be a hang out for kids so there is some vandalism present to existing tree stock that includes nails being hammered into some trees, this needs to be born in mind in relation to any felling operations. The kids also tend to have fires and small parties in here occasionally.</p>							
2d	3.01	Western red cedar	1957	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A stand of mixed oak and western red cedar planted in 1957. A small number of scots pine can be found to the east of the compartment and close to the southern boundary there is a small number of Red Oak. The western red cedar adjacent to the houses remained largely at its original 1.8m spacing and was and still is to some extent a playground and a focus for fires and dumping. A halo thin of oak took place in 2008 that resulted in the removal of practically all the western red cedar. This has vastly increased light levels and there has been significant hazel regeneration in this area coupled with an increase in bramble cover over most of the sub-compartment. This has lessened the impact of anti-social behaviour somewhat. Interestingly a slow worm was found by the Site Manager in this compartment in 2011</p>							
2e	2.94	Scots pine	1960	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site

<p>A stand selectively thinned in 2004 consisting predominantly of corsican pine planted in 1965 and oak planted in 1955. Additionally there are small numbers of western red cedar, birch, ash, red oak and goat willow close to the entrance. Some oaks are of good form whilst others are significantly suppressed and have been snowbent. Hazel, sycamore, birch, hawthorn and goat willow all occur here as understorey. Bramble and bracken dominate the field layer; rosebay willowherb, male fern and raspberry are also present. Regeneration has occurred across the majority of the compartment and consists principally of Hazel, Holly, Birch and western red cedar.</p>							
2f	0.38	Other	1965	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>Originally an area that housed a building used by the Forestry Commission and later by a Scouts Group. Long since demolished this area is now an open area consisting of rough grassland habitat. The area acts as a timber stacking come lorry loading area during felling operations. Kids sometimes have the occasional fire and party here.</p>							
3a	6.43	Western red cedar	1966	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed planting of oak in 1945 and 1962 and western red cedar in 1962. Western red cedar although thinned in some areas, predominates. An area to the south east also contains some Lodgepole pine planted in 1971.</p>							
3b	9.72	Oak (pedunculate)	1955	PAWS restoration	Sensitive habitats/species on or adjacent to site	Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A stand of Oak planted in 1945 and 1955 and Scots pine planted in 1955. The southern half of the sub-compartment was thinned in 2005. The density of stems is high and the quality of both species more variable. Hazel and Oak coppice tend to form the understorey whilst in the field layer bramble and bracken dominate along with the occasional honeysuckle, grasses, raspberry and male fern. Regeneration has been variable with frequent hazel and occasional holly, sycamore and sweet chestnut. There is a large active badger sett in the NE corner of the sub-compartment (SK508075).</p>							
3c	2.72	Other	1971	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>Planted in 1962 with a mixture of Oak, Beech and Western red cedar. Subsequently most of the Western red cedar has been removed. Western red cedar, Hazel and Holly tend to form the sub-canopy with localised Poplar in the central eastern sector. Grasses dominate the field layer with the occasional raspberry, rosebay willowherb, foxglove and male fern.</p>							
3d	0.58	Beech	1962	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site

<p>A poor stand of Scots pine, Lodgepole pine, Western red cedar and Oak planted in 1971 line and selectively thinned at various times in the past. The present species distribution illustrated by basal survey is Scots pine 80%, Lodgepole pine 18% and Birch 2%. The quality of the Scots pine was highly variable and the Lodgepole pine poor. The small number of Oaks within the stand have been suppressed resulting in windthrow and snow bend. Birch and hazel formed the sub-canopy and bramble, bracken and rosebay willowherb the occasional field layer.</p>							
4a	7.08	Oak (pedunculate)	1940	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed stand of Oak and Scots pine planted in 1957 with a number of older mature Oaks and subsequently underplanted with Western red cedar and Scots pine. The Scots pine tends to be located in small discreet coupes spread throughout the sub-compartment. Many of the Oaks and Scots pine are of good form whilst a high proportion of the Western red cedar have been suppressed. A significant number of Western red cedar have been snowbent and have regenerated to form linear clumps. Beneath the Oak the sub canopy is well developed consisting of Hazel coppice, Hawthorn and Western red cedar. Grasses dominate the field layer with frequent bramble, bracken and male fern. Regeneration consists of Oak, Western red cedar and Holly. There is an extensive badger latrine in the central western sector beneath a Scots pine coupe and there are a number of rocky outcrops SW of Toothill along the northern boundary.</p>							
4b	1.87	Oak (pedunculate)	1955	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site, Site of Local Nature Conservation Importance
<p>Exposed corner of Martinshaw situated on the northern boundary of the woodland site. The Toothills is the only area of Martinshaw to have remained relatively undisturbed since the second world war. The sub-compartment is predominantly made up of stunted Oaks with the occasional Ash situated along the field boundary. The occasional scattered Birch is also present. The form of any tree species within this sub-compartment is poor. Understorey is frequent consisting of Hazel coppice and the occasional Hawthorn and Holly. This area was also designated as a wildlife site by the Wildlife Trust and Hinckley and Bosworth Burrough Council in 2006. This is probably the best example of ancient woodland habitat within the whole of Martinshaw with bluebells, dogs mercury, sorrell, wood anemonies etc all prevalent in this area. There is also a very large and active badger set in the side of the rock outcrop. This area can suffer occasionally from abuse by mountain bikers (adults not kids) who like to ride or cut routes down the steep but short slopes.</p>							
4c	5.91	Scots pine	1955	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site

A highly complicated stand of Oak planted in 1940 and mixed conifers planted in 1961. The Western red cedar, Norway spruce and Western Hemlock were planted in linear blocks and in some locations have remained unthinned whereas some areas of Oak have been selectively thinned leaving small blocks of Oak high forest. Many of the Oaks and conifers are of good form. The present species distribution based upon basal area is: Oak 36%, Western red cedar 26%, Western hemlock 17%, Norway spruce 13%, Birch 8% and Small-leaved lime 1%. In the Oak blocks the understorey of Elder, Hazel, Hawthorn, Oak coppice and WRC tends to be well-developed whereas in the conifer blocks there tends to be little understorey. A similar pattern is apparent in the field layer. Bramble, Grasses, Honeysuckle and Male fern predominate in high light environments and a sparse field layer occurs beneath the conifers. Regeneration of Hazel, Holly and Western red cedar was observed throughout the stand.

4d	2.32	Oak (pedunculate)	1955	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
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A mixed stand of Oak planted in 1955 and underplanted with Western red cedar in 1971 and a further section planted with Oak and Scots pine in 1957. Most of the sub-compartment has been selectively thinned quite hard in favour of Oak but some small concentrated blocks of Western red cedar remain unthinned. Western red cedar, particularly of regenerating snow-bent stems, tends to form the sub-canopy with the occasional Oak coppice. In the thinned areas the field layer is well developed and is made up of bramble, bracken, grasses and the occasional bluebell, foxglove and male fern. Regeneration was recorded in half of the plots and was principally Western red cedar.

4e	3.31	Other	1971	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
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A stand of predominantly Oak planted in 1958 and underplanted with Scots and Corsican pine in 1971. The Corsican pine tends to be confined to the SE sector where it has remained comparatively unthinned whilst the Scots pine/Oak section has been selectively thinned in favour of Oak in the recent past. There is little or no sub-canopy or regeneration and the field layer is dominated by bramble and bracken with the occasional fern and foxglove.

5a	5.43	Scots pine	1965	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
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A mixed stand of Oak, Corsican and Scots pine planted between 1955 and 1970 which has been successively thinned. However the pines dominate the canopy and the majority of the Oaks are suppressed to some degree. Within the stand there are the occasional Red oak, Sycamore, Rowan, Birch and Aspen. The understorey is not significant and the field layer is dominated heavily by Bramble and Bracken with the occasional Bluebell, Male fern, Foxglove, Sedge and Rush. Regeneration is confined to the occasional Oak, birch and Rowan. A flood during the Spring of 2001 covered approximately 0.5ha of the sub-compartment close to the entrance and killed much of the field layer but appears not to have affected the canopy-forming trees.

5b	7.59	Scots pine	1961	PAWS restoration	Sensitive habitats/species on or adjacent to site	Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed stand of Oak, Scots and Corsican pine planted between 1955 and 1971. The Corsican pine being predominately located in the lower south east of the compartment close to the site entrance where it is also mixed with Aspen. There is also a small block of Ash in the centre of the compartment. The compartment has been progressively thinned but unevenly, as a consequence many of the Oaks are of poor form and remain suppressed beneath the canopy formed by the pines. There is little evidence of an understorey and the field layer is dominated by Bramble and Bracken with the occasional Bluebell, Foxglove, Rosebay willowherb, Male fern, Soft rush and grasses and rare Wild sage. Regeneration was confined to Oak, Birch and Ash. An active badger sett was located in the centre of the northern sector of the sub-compartment (SK509071). An area of approximately 0.8ha flooded in the Spring of 2001 to a depth of 3m in parts. As a consequence plants and shrubs were killed off but the canopy forming trees appear not to have been affected.</p>							
6a	2.33	Other	1966	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed sub-compartment of Pines and Oak planted in 1966. Many of the Corsican pine are of good form and the Oaks severely suppressed, often some 4 m below the canopy formed by the pines. The understorey is made up of abundant Hazel and occasional Birch and Oak. In areas of recent thinning the field layer is diverse, bramble, bracken, raspberry, wild sage and rosebay willowherb being frequent. In unthinned locations the field layer is dominated by bramble and bracken.</p>							
6b	4.07	Oak (pedunculate)	1958	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed sub-compartment of Oak planted in 1940 and subsequently underplanted with Western red cedar in 1965. Many of the Oaks are of poor form. Where the understorey exists it is formed by Hazel and Holly. The field layer tends to be sparse with the occasional foxglove and male fern.</p>							
6c	2.52	Western red cedar	1965	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>The stand is predominately Oak planted in 1958 and subsequently underplanted with conifers most of which have been removed in recent thinning although some remnants remain. Some Oak stems are of reasonable form. Hazel is the dominant species in the understory whilst bramble dominates the field layer.</p>							
6d	5.13	Oak (pedunculate)	1958	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site

<p>A mixed stand of Oak planted in 1940, Western hemlock in 1961 and Western red cedar in 1965. In all but along the northern boundary the Oak has been so suppressed that little evidence of it remains. Many of the conifers are of good form. Large blocks of Western red cedar and Western hemlock have remained unthinned and have created low light environments where both understorey and field layer are largely non-existent. Where thinning has favoured Oak the understorey is of hazel and the field layer well developed being of bramble, bracken, honeysuckle and grasses.</p>							
6e	0.49	Western red cedar	1961	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A selectively thinned stand of predominately Beech planted in 1957. Some Western red cedar remain at the eastern end of the sub-compartment. The quality of the Beech stems is variable, many being affected by attack from squirrels and rabbits. A dense understorey of Downy birch has developed in the centre of the sub-compartment. The field layer is generally sparse.</p>							
6f	2.35	Beech	1957	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed stand of broadleaves and conifers estimated to have been planted in 1959 and subsequently thinned in favour of broadleaves but some isolated groves of conifers remaining. The species distribution determined by basal survey was: Oak 37%, Western hemlock 23%, Beech 17%, Birch 3% and Rowan 1%. Bramble dominates beneath Oak and Beech with the occasional bluebell. However within the conifer groves the field layer was non-existent. Regeneration was confined to rare Ash beneath Beech.</p>							
6g	6.98	Oak (pedunculate)	1956	PAWS restoration		Planted Ancient Woodland Site	National Forest, Planted Ancient Woodland Site
<p>A mixed stand of Oak planted between 1937 and 1959 and subsequently underplanted with Western red cedar, Norway spruce and Western hemlock. The sub-compartment has been progressively thinned to create a largely Oak high forest. However individual and groves of conifers still remain. The majority of the stand is covered by a dense mat of brambles whist in small areas of remaining conifers the field layer is more diverse.</p>							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2019	1a	Thin	3.55	28	100
2019	1b	Thin	4.46	90	400
2019	1c	Thin	6.01	58	350
2019	2a	Thin	1.38	80	110
2019	2b	Thin	1.58	63	100
2019	2c	Thin	2.47	61	150
2019	2d	Thin	3.01	20	60
2019	2e	Thin	2.94	88	260
2019	4c	Thin	5.91	3	20
2019	6g	Thin	6.98	1	5
2020	6a	Thin	2.33	43	100
2020	6b	Thin	4.07	25	100
2020	6c	Thin	2.52	40	100
2020	6d	Thin	5.13	19	100
2020	6e	Thin	0.49	204	100
2020	6f	Thin	2.35	43	100
2020	6g	Thin	6.98	28	196
2021	4a	Thin	7.08	28	200
2021	4c	Thin	5.91	28	168
2021	4d	Thin	2.32	28	65
2021	4e	Thin	3.31	28	93
2022	3a	Thin	6.43	28	180
2022	3b	Thin	9.72	28	272
2022	3c	Thin	2.72	28	76
2022	3d	Thin	0.58	28	16
2023	5a	Thin	5.43	28	152
2023	5b	Thin	7.59	28	212

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.