WOODLAND TRUST

Lineover Wood

Management Plan 2017-2022

MANAGEMENT PLAN - CONTENTS PAGE

ITEM **Page No.**

MAPS

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Lineover Wood
Location:	Dowdeswell
Grid reference:	SO987188, OS 1:50,000 Sheet No. 163
Area:	49.97 hectares (123.48 acres)
Designations:	Ancient Semi Natural Woodland, Ancient Woodland Site, Area of Outstanding Natural Beauty, Planted Ancient Woodland Site, Site of Special Scientific Interest

2.0 SITE DESCRIPTION

2.1 Summary Description

Lineover Wood's mosaic of ancient woodland, more recent planting and limestone grassland create a diverse habitat that's a haven for wildlife, and a place where rare plants and fungi flourish. The wood lies within the Cotswold Area of Outstanding Natural Beauty and offers breathtaking views across Cheltenham and the Malvern Hills.

2.2 Extended Description

Lineover Wood lies on the gently sloping lower and steeper upper slopes of the escarpment formed by Wistley Hill, overlooking Cheltenham and Charlton Kings. The site lies within the Cotswold Area of Outstanding Natural Beauty (AONB) and is an exceptional example of the mixed oak/ash woodland described in the National Character Area 107 - Cotswolds. The wood is surrounded on three sides by predominantly arable and pasture farmland while the northern boundary comprises a disused railway line. Soils are generally thin across the upper slopes and covered by surface scree or 'Cotswold Brash', the lower slopes have deeper, heavier soils.

The site contains a number of diverse habitats and woodland types including Ancient Semi-Natural Woodland (ASNW) which makes up approximately half of the site, Plantation on Ancient Woodland Site (PAWS), secondary Woodland and unimproved grassland.

Roughly 80% of the ASNW is designated as a Site of Special Scientific Interest (SSSI) for its high conservation value. It is notified as an outstanding example of ancient semi-natural coppice woodland, rich and varied in ground flora.

The PAWS was largely planted in the 1960s and 70s with a mix of conifer species. Planting at this time extended the woodland boundary further to the east on land formerly used as rough grazing; although semi-natural features are evident. Areas of secondary woodland are scattered around the site in addition to a new area of broadleaved plantation created by The Woodland Trust in 1991/2. To the south-east of the woodland lies an area of unimproved species rich limestone grassland which has been extended in recent years through the felling of areas of conifer plantation underneath overhead power lines. The top of 'the meadow' affords good views looking north-west across to Cheltenham and the Malvern Hills. The Cotswold Way long distance National Trail passes through the main entrance of the site and runs alongside part of the grassland/mixed habitat area which has become a favourite place for visitors to stop and enjoy the views while having a picnic.

Other notable site features include a number of historic pollards and coppice stools of Large Leaved Lime, some veteran Beech trees, rich ground flora including a number of rare ASNW species, dry stone walls, species-rich hedgerows, wood banks, earthworks and natural streams.

The wood is well served by the local Public Right of Way (PROW) network, The Cotswold Way National Trail and one other public right of way pass through the site, as well as numerous permissive internal paths. There is a steady flow of visitors through the site, most on the Cotswold Way, but the wood is also used by a local forest school and a long-standing group of local Woodland Trust volunteers who undertake practical woodland management.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

By bus: The number 801 bus runs from Cheltenham along the A40 towards Moreton-in Marsh. The nearest bus stop is opposite the Reservoir Inn (now the Koloshi restaurant), about a five minute walk from the northern site entrance.

By train: The nearest train station is Cheltenham Spa.

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

By car: From Cheltenham, head south on the A435 (Cirencester Road), turn left onto the A436 and continue for around four kilometres (2.5 miles). Lineover Wood is on the left. Parking is in two lay-bys close to the entrance, but be aware this is a busy road and parking/pulling-out can be tricky.

The wood's northern entrance is off the A40 Cheltenham to Oxford road, where there is parking for up to four cars on an access track that runs between the road and the entrance to the site.

(January 2017)

3.2 Access / Walks

The site has entrances from the A436 to the south and the A40 to the north. It can also be accessed by public footpath from the east and the west

The wood has several paths, including public rights of way totalling 2.4km (1.5 miles) and permissive paths totalling 4.5km (2.8 miles). There are two hour-long suggested circular routes: the North Walk with its medium terrain and the South Walk with some more strenuous sections. The long distance Cotswold Way national trail crosses the site.

4.0 LONG TERM POLICY

In 50 years' time:

- A diverse and continuous predominantly native woodland canopy will exist across all of the ancient woodland and secondary woodland areas, broken occasionally by semi-natural glades, rides and open space to provide associated habitats.
- The Planted Ancient Woodland Site will be fully restored to a native broadleaf high forest with the majority of conifer trees removed through a continuous cover forestry approach; selected conifers may be retained for their aesthetic or wildlife value.
- The secondary woodland areas will have developed into mature, structurally diverse broadleaf high forest, with the conifer element mostly thinned out through a continuous cover forestry approach as with the PAWS area.
- The SSSI will be in favourable condition.
- Remnant semi-natural open space habitats will be restored and maintained through grazing and rotational management of scrub and invasive weeds and will link together throughout the site via semi-natural corridors such as rides, glades and formal meadow pasture.
- Lineover Wood will remain a popular destination for all visitors who will be welcomed into the site with a path network in good condition for all seasons, clear site interpretation, and entrances, gates and stiles in good repair.

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 Ancient Woodland Site

Description

Broadly two thirds of Lineover Wood is designated ancient woodland, predominately National Vegetation Classification (NVC) types W10 (pedunculate oak, bracken/bramble) and W8 (ash, field maple, dogs mercury).
It is comprised of two distinct components:

Ancient Semi-Natural Woodland (ASNW):
Occupying the southern half of the wood, towards the mid and upper slopes and comprising sub compartments 3c and 3e. All of the ASNW except 3e is designated a Site of Special Scientific Interest (SSSI) as an outstanding example of the ancient semi-natural coppice woodland that was once widespread in the Cotswolds. The diverse woodland includes ash (Fraxinus excelsior), pedunculate oak (Quercus robur), whitebeam (Sorbus aria), small-leaved lime (Tilia cordata) and the nationally rare large-leaved lime (T. platyphyllos). The understorey includes hazel (Corylus avellana), field Maple (Acer campestre), hawthorn (Crataegus monogyna), and, in localised areas, lime loving (calcicole) shrubs such as wayfaring tree (Viburnum lantana), dogwood (Cornus sanguinea) and spindle (Euonymus europaeus). The ground flora is rich and varied. The steep slopes are dominated by bramble (Rubus fruticosus agg.) and dog's mercury (Mercurialis perennis), whilst on the damper soils at the base of the slope the plants include meadow saffron (Colchicum autumnale), opposite-leaved golden saxifrage (Chrysosplenium oppositifolium) and extensive stands of herb paris (Paris quadrifolia). Many rare and uncommon plants are present including angular solomon's seal (Polygonatum odoratum), lily-of-the-valley (Convallaria majalis) and limestone polypody (Gymnocarpium robertianum). There are also a large number of wild orchids present including Greater butterfly orchid (Platanthera chlorantha) and Fly orchid (Ophrys insectifera).

Traditional coppice with standards management ceased during the early 20th century leaving the majority of the area, including the SSSI, to develop a high-forest structure. However since 2005, in order to retain an element of coppice habitat, nine Hazel and Lime coppice coupes have been managed on a 10 year rotation.

There are a significant number of ancient/veteran large-leaved limes, present as over-mature coppice, low pollards and mature standards. Many of these are collapsing through structural failure; attempts at restorative pollarding in recent years have had mixed success. Occasional natural lime regeneration has been identified and protected and some stools have naturally layered following wind damage. In addition a large number of large beech (Fagus sylvatica) specimens (planted during the 19th century) are scattered throughout the woodland and are now developing veteran tree features such as rot holes and deadwood limbs which are important for rare deadwood invertebrates and other species. Deadwood habitats, both standing and fallen, are found in significant amounts throughout the ASNW area. The senescence and death of older trees also

creates openings in the canopy which promote natural regeneration.

Plantation on Ancient Woodland Site (PAWS):
Occupying the north-western quarter of the site on the lower slopes beneath the spring line the PAWs area comprises sub-compartments 3a, 3b (not designated as PAWS but displaying similar features) and 3d. The plantations date back to the 1970s and consist of even-aged mixed conifer species (norway spruce, douglas fir, grand fir, larch, and western red cedar). Since Trust ownership the areas have been progressively thinned through a continuous cover forestry approach to provide structural diversity, improve light levels and gradually restore a broadleaved composition. This process has been initially successful with native broadleaved regeneration (including ash, elder, thorn, birch, willow, oak and holly) developing throughout, especially along riparian edges. Ancient woodland flora is patchy but found throughout the whole area including primrose, dog's mercury and bluebell.

Vigorous bramble and bracken is present throughout, particularly on the lower slopes below the spring line, and tends to dominate the ground vegetation where light allows, potentially limiting natural regeneration opportunities.
Remnant low-cut oak pollards can be found throughout the PAWS area providing ancient/veteran niche habitat in addition to some deadwood, which otherwise tends to be limited within the PAWS areas. Generally these feature trees remain at threat from being suppressed by adjacent conifer trees.

Two watercourses run downslope south-north within the PAWS component, providing rich habitat diversity and an extensive network of well established, historic rides provide important woodland edge habitat and temporary open space throughout both ASNW And PAWS areas.

In 2016 the management track was upgraded enabling better management access of the PAWs area.

Significance

Lineover Wood forms part of the local semi-natural woodland landscape and is itself an important reserve of biodiversity with significant ancient woodland features, reflected in its designation as a SSSI. It is also locally important for its association with traditional lime and hazel coppice management, once typical to this area of the Cotswolds. Ancient woodland Oak/Ash woodlands are highlighted in the National Character Area as a significant feature but only make up 3 per cent of the total NCA area.

Lineover Wood is affected by the Cotswolds Area of Outstanding Natural Beauty Management Plan as this identifies lowland mixed deciduous woodland, lowland beech and yew woodland and wood pasture as priority habitats. Lineover Wood also falls within the Cotswold Scarp Nature Improvement Area.

Mixed broadleaved woodland (Lowland Mixed Deciduous Woodland) was a priority habitat in the UK Biodiversity Action Plan (UKBAP).

Opportunities & Constraints

Constraints:
- Inadequate access infrastructure to effectively manage PAWs area (cpt. 3b) which requires upgrading- is also cut off by existing livestock fence which needs moving to facilitate PAWS restoration;
- Vigorous bramble growth and its effect on current silvicultural strategy in terms of permitting natural regeneration;
- Terrain: steep slopes, unstable and easily damaged soils.
- SSSI, AONB and ASNW designations.
- The presence of the Cotswold Way national trail.

Factors Causing Change

- Browsing by squirrels and deer;
- Chalara Ash die back (Hymenoscyphus fraxineus) – observed on site late 2016;
- Other pests and diseases.
- Climate change.

Long term Objective (50 years+)

The Ancient Woodland Site will be managed as predominantly high forest through limited selection thinning while traditional areas of coppice will be maintained to ensure their diversity in structure and species which supports a varied habitat for associated woodland flora and fauna.

The Planted Ancient Woodland Site area will have been restored to a predominantly broadleaved composition made up of a wide variety of native tree species. The SSSI area will be in favourable condition.

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

- Upgrade management access into PAWS area to facilitate management and timber extraction (cpts. 3a and 3b);
- Relocate livestock fencing prohibiting management within 3b along with track upgrade (in between 2a and 3b).
- Maintain programme of selective thinning within cpts. 3a and 3b to ensure remnant ASNW features identified in the PAWs assessment are protected and enhanced and continue gradual progression to broadleaved composition to favour associated native species and habitat;
- Maintain ride management throughout ASNW and PAWS areas to promote and maintain woodland edge habitat;
- Maintain coppicing of selected coupes in rotation to further provide temporary open space (see coppice rotation map);
- Maintain glades and other areas of permanent open space to support woodland edge, grassland and invertebrate species;
- Create increased levels of standing and fallen deadwood in PAWS area during regular thinning interventions;
- Promote growth of low-cut lime pollards through halo thinning;
- Complete deer impact assessment and develop appropriate deer management strategy.

5.2 Secondary Woodland

Description

Comprised of sub-compartments 1a, 1b, 3f, 4a, a disparate group of wooded areas of mostly secondary native broadleaves forming a significant element of the wider woodland complex. The key feature can be split into a number of relatively homogenous areas:

Sub-compartment 1a represents the north and east boundary to the site and is comprised of an even-aged poplar plantation (dating to circa 1950) to the north along a floristically rich streamside, with a historic mix of coppice, standards and hedging down the thin eastern boundary strip.

Sub-compartment 1b consists of a large area of even-aged, unthinned, predominantly ash plantation planted in 1991/2.

Sub-compartments 3f and 4a, projecting to the south east, are more semi-natural in terms of structure and species and probably have been wooded for considerable periods of time although are not recorded as ancient woodland.

Other species are found throughout including elder, hazel and ash, and more dominant and abundant along watercourses and old historic boundaries.

For the most part canopy across the separate areas is closed, having been relatively unmanaged, and affords little opportunity for ground flora or ground vegetation However, sparse areas of wood sorrel, nettle, dog's mercury and wild garlic with grassland species are present in areas.

Management access to and within these areas is generally poor with no formal tracks. Compartment 1b lies within a fenced grazing enclosure which was erected with a view to grazing the area. While this area will not be managed as permanent woodland pasture, grazing for shorter term management purposes could be utilised as well as facilitating the management of livestock across the wider east section of the site for mixed habitat and open habitat key features.

Significance

This extensive area of fairly mixed secondary woodland provides a contiguous buffer to the semi-natural habitats to the west and south and is itself already showing signs of a well-established woodland habitat.
The extended woodland plantation complements and enhances the wider Dowdeswell Valley landscape.
Mixed broadleaved woodland (Lowland Mixed Deciduous Woodland) was a priority habitat in the UK Biodiversity Action Plan (UKBAP).

Opportunities & Constraints

Opportunities:
- Periodic grazing to control dense scrub and vegetation;
- Upgrade unmade track within 1b to link with PAWS area in sub-cpt. 3b to facilitate future thinning on young plantation as well as PAWS area.

Constraints:
- Limited vehicular access for forestry machinery;
- Frequently wet ground;
- Fencing has been created within young plantation 1b for purposes of forest group which now constrains management.
- Falling within the Cotswold AONB area and the presence of the Cotswold Way national trail.

Factors Causing Change

- Deer browsing;
- Squirrel damage;
- Chalara Ash die back (Hymenoscyphus fraxineus) – observed on site late 2016;
- Other pests and diseases.

Long term Objective (50 years+)

Predominantly native broadleaved secondary woodland of diverse structure and species providing habitat connectivity to the wider site and key features.

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

- Improve structural diversity through selection thinning notably in cpt. 1b;
- Introduce periodic grazing in compartment 2a to break up dense scrub/bracken and enable natural regeneration;
- Upgrade track running from stacking/entrance area running in-between 3b and 2a to facilitate management for both.

5.3 Mixed Habitat Mosaic

Description

Lineover wood is a mosaic of different habitats. In addition to the ancient and secondary woodland described in Key Features 1 and 2, the site has areas of unimproved grassland, scrub, coppice woodland and plantation forestry.

Conifer plantings within the mixed habitat mosaic occurred between 1946 and 1975 and include blocks of western red cedar, European larch, douglas fir, Norway spruce and grand fir (sub-compartments 2a, 3a and 3b). The ground flora beneath these stands is impoverished due to lack of light and thinning these stands is therefore a key part of the restoration of this woodland.

Oak trees dating from the 1920s onwards preceded many of these conifer plantings, and remnants of oak woodland are scattered between the later conifer plantings (sub-compartments 3a and 3b). Light levels are better beneath the oaks, but ground flora is less varied than that seen beneath the areas of ancient semi-natural woodland in other parts of the wood. These older trees are beginning to develop some veteran features and their retention is important to the ecology of the site. Older ‘stubs’ (low-cut pollards) of oak can also be seen throughout the wood, some still living, but many now dead. These are ecologically and historically valuable and their survival is threatened in places by shading from conifers. Reducing further loss of those stubs still living is an important part of the restoration of this woodland.

A stand of poplar in the middle of the wood (sub-compartment 3b) was felled in the 1990s and the area partially replanted with native species. This area has also been mechanically cut regularly to prevent succession into dense scrub. A variety of woodland and grassland species can now be found in this area.

More recently a large area of Norway spruce has also been felled when it was decided to extend a way-leave for power lines to the edge of sub-compartment 2a. This created a large area of open ground which has since developed into scrub due to a lack of active management. While scrub is a valuable habitat it would eventually develop into high forest again without management. It is intended that this area will be grazed to reduce the density of scrub and break up areas of bramble and bracken which could otherwise suppress other plants. This will also suppress the succession of this habitat into high forest.

To the south of this area of scrub is a meadow (sub-compartment 2b) which is recorded as open grassland at least as far back as the late 19th century. In 1990 this meadow was fenced by the Woodland Trust to enable conservation grazing. This was initially successful, but it has been difficult to find a suitable grazier in recent years, leading to the present management method of cutting half the meadow each year and collecting of the sward. This maintains a diverse range of grassland plant species and in turn supports a diverse array of invertebrate life. The position of this meadow also affords some of the best views from the site and is a popular area for visitors to pause and rest.

Isolated from these other areas is sub-compartment 3d, an area which was planted with larch in the past, but has now been largely restored to a mix of native species. Parts of this sub-compartment are cut as coppice on a rotation by the Lineover volunteer group, and a high diversity of ground flora can now be seen.

Significance

Lineover is one of the Woodland Trust's largest woodlands in Gloucestershire and displays a wide variety of woodland and non-woodland habitats. This diversity allows the woodland to support a diverse and important reservoir of wildlife with distinct habitat requirements. Parts of the site are covered by conifer plantations and are in need of restoration to preserve and encourage wildlife which is affected by the light and chemical changes that result from conifer plantation.

Unimproved limestone grassland and broadleaved woodlands are habitats of local and national priority.

Lineover falls within the Cotswolds Area of Outstanding Natural Beauty and part of the site is designated as a Site of Special Scientific Interest by Natural England.

Opportunities & Constraints

Opportunities:
- Improve the quality of remnant grassland habitats through combination of grazing and mechanical management;
- Reduce the density and percentage of non-native conifer tree cover within the wood, increasing the likelihood of colonisation and survival by ancient woodland species.

Constraints:
- Limited vehicular management access;
- Frequently wet ground;
- Overhead cables running through 2a.

Factors Causing Change

- Encroachment of scrub on grassland areas;
- Succession of scrub areas into secondary woodland;
- Chalara ash dieback (Hymenoscyphus fraxineus) - observed on site late 2016.

Long term Objective (50 years+)

A mosaic of open, species rich semi-natural grassland, successional scrub woodland and open canopy woodland integrated with the adjacent areas of ancient and secondary woodland. A varied age and structure of native broadleaved trees will be present scattered throughout the key feature as both clumps and standards offering a diverse and open canopy within a grassland habitat.
Tree canopy will be suitably open to ensure that grassland elements are not suppressed and semi-natural features are not lost. Scrub and tree regeneration will be a natural part of the varied habitat but managed so as not to dominate and lead to a loss of semi-natural grassland; the Meadow (2b) will be remain completely open unimproved grassland.
All this will ensure a continuous diversity of habitats throughout the key feature, supporting a broad range of wildlife.

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

- Introduce grazing across the key feature (2a and 2b) to enhance grassland habitat and break up areas of encroaching scrub;
- Manage grassland habitat to maintain varied sward height and avoid dominance of encroaching scrub through a combination of grazing and mechanical management;
- Protection of selected areas of developing natural regeneration to ensure continuity of woodland habitat;
- Selective thinning of conifer dominated areas to open canopy and allow development of flora and grassland species.

5.4 Connecting People with woods & trees

Description

Alongside regular local users, including dog walkers in increasing numbers, the site draws visitors from far and wide keen to explore the local footpath network or to walk the length of the Cotswold Way National Trail that passes through the site. The wood is also regularly accessed by the long-standing Lineover Wood Volunteer Group (1988), which supports the management of the site through an annual work programme. The site is also used by a local forest school.

The interior of Lineover Wood is interspersed with both Public Rights of Way (PROW totalling almost 2,400m) and permissive paths (totalling 4,500m) that are subject to an annual mowing regime. The extent of paths and variety in the internal landscape means the site maintains interest for daily visitors. Most visitors choose circular walks yet there are a number of linear walks linking this site with the PROW network across bordering land.

Linoever Wood is neighboured to the south west by Ravensgate Hill, an area of open access. Public Rights of Way that run through the site link with many other riights of way covering the wider landscape. A two mile walk in a southerly direction reaches the Gloucestershire Way public footpath.

Part of the ride network used for public and management (including vehicular) access is surfaced with stone from the main northern management access point to the northern edge of sub-compartment 3a where it abuts sub-compartment 3c, a distance into the wood of about 750 metres. Another stretch of track in the wood (running through sub-compartments 1a, 3a and 3b) is intended to be surfaced with stone in 2017, further improving management and public access.

The remaining public access rides are historical management routes with poor bearing capacity; vehicular access can result in deep ruts making public access difficult.

Lineover does not suffer overly from antisocial behaviour, although since 2014-2015 issues with commercial dog walkers have increased. Fly tipping occurs occasionally.

Significance

Lineover Wood provides a destination for a diverse visitor base throughout the year and is popular with local people from the surrounding towns and countryside. It provides for a stretch of the Cotswold Way National Trail, and is utilised regularly by specialists, locals, the Woodland Trust volunteers, a forest school and more. There is a passionate feel of woodland culture with those who spend frequent time in the wood.
The site has been selected as one of the top 250 sites owned by the Woodland Trust which are likely to see further investment in the visitor experience in near the future.

Opportunities & Constraints

Opportunities:
- Upgrade access infrastructure to provide a dry, all-year-round circular walk option in the wood, with a stretch to the north accessible for buggies and durable wheelchairs;
- To refresh the entrance configuration including new interpretation boards and associated signage;
- To reconfigure the car parking to enable better usage of the main entrance area rather than the track to the north (likely to require a height barrier to prevent unauthorised camping).
- To work with nature interest groups to build a picture of the variety of wildlife supported by Lineover Woods.

Constraints:
- The steeper slopes across the southern half of the site restrict access to this area by those people with mobility limitations;
- Soils prone to waterlogging and consequent damage through management can impact negatively on visitors' experiences.

Factors Causing Change

- Increase in high water volume events and waterlogging causing further degradation of access routes;
- Cattle grazing and poaching;
- Possible increase in anti-social behaviour with increasing visitor numbers.

Long term Objective (50 years+)

Maintain high quality access provision offering a variety of pedestrian circular and through walks over the site. Entrances will be welcoming and clear with appropriate signage and interpretation. The woods will remain a popular visitor attraction for a diverse range of people. Areas of the wood will be accessible for those with mobility needs, in particular the northern internal track from the entrance to the west of the wood.

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

- Upgrade internal path from the main entrance to the PAWS area (1a and 3a) to facilitate better pedestrian access up to the spring line and to complete an internal circular all-seasons walk;
- Reconfigure the car parking to enable better usage of the main (northern) entrance area rather than the track to the north (likely to require height barrier to prevent unauthorised camping);
- Improve the entrance configuration by installing new interpretation boards and associated threshold signage;
- Maintain and improve the existing PROW and permissive path network in favourable condition, liaising with the Cotswold AONB, local council and local volunteers;
- Develop engagement plan as part of the site's selection as a top 250 site likely to result in increased visitor activity including an event programme.
- Maintain connections with local wildlife groups to build a picture of the wildlife importance of Lineover Woods.

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By

APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	2.72	Ash	1900	High forest	Gullies/Deep Valleys/Uneven/ Rocky ground, Services & wayleaves	Connecting People with woods & trees	Area of Outstanding Natural Beauty

Sub-compartment 1a is a thin belt of well-established wooded land occupying the north and east perimeter of Lineover Wood. It was acquired in October 1990 as a buffer between the main body of the woodland and the A40 to the north and agricultural land to the east. It is not subject to active management other than safety & access works and some veteran tree, hedge and coppice work. Access within sub-compartment 1a is limited and there are no permissive paths running through it, however it is narrow and bordered by access routes towards the interior of the site.

Sub-compartment 1a is comprised of the previous sub-compartments 1b, 1c, 1d, 2f and these can still be distinguished on the ground.

The western-most strip (formerly 1d) has an over-storey of mature, densely-spaced poplar. Native species regeneration is abundant and a diverse understorey has developed including hazel, ash, blackthorn, elder and crab apple. Below this the ground flora includes wild garlic, bramble and burdock. This area shows as a thinly wooded strip on the Ordnance Survey Epoch 1map from 1890 and so could be planted ancient woodland, though this is unverified. Overhead power lines run through the area and the poplar has been cleared around these to create a wayleave. The Redbrook, a stream fed by two smaller spring-fed streams in the wood, runs at the bottom of the slope within the Woodland Trust perimeter.

The northernmost triangle (formerly 1b) sits partially on a disused railway embankment. A diverse range of native broadleaves forms canopy and shrub cover across approximately 80% of the sub-compartment, with ash, oak and sycamore being most frequent. A small area of planted scots pine is also present at the western end. This area also includes the main management and public access point to Lineover wood, up a Woodland Trust owned track from the A40. A timber stacking area in this area was re-surfaced with Cotswold stone in 2016 and may be used for parking in the future. The historic railway embankment is steep in places, impacting on the potential for management in this area.

The north-east perimeter (formerly 1c) forms a thin strip running south-east to north-west on the eastern boundary of Compartment 1. It is mainly a mature hedge up to 50 metres wide and includes mature oak and ash and a wide variety of native shrubs. The hedge has a naturally uneven structure with abundant natural regeneration. The western boundary is formed by the Cotswold Way national trail, which is regularly mowed and kept clear. To the east of the Cotswold Way is a small strip of grassland before the start of the hedge. This creates a graded edge progressing through mown grass, un-mown grass, shrubs and eventually mature trees deeper into the hedge. Due to its location and structure this thick hedge acts as a buffer to the main site. The Volunteer group have propagated progeny from an ancient Pear tree in sub-compartment 2b and have established them within this hedge.

The south-easternmost triangular portion (formerly 2f) was recorded as agricultural land in 1890. It is likely that at this time it was rough grazing land characterised by many standard and mature coppice trees. Woodland consisting of mature trees and stored coppice dominates the western and northern parts, supporting a population of town-hall clock (Adoxa moscahtellina) and adders-tongue fern (Ophioglossum sp.). While the eastern part supports a variety of limestone grassland indicator species. This part of sub-compartment 1a also includes a long finger of the external boundary consisting of a species diverse hedge. A trio of magnificent Beech pollards are located along a historic track passing through the area. One of these is thought to have the third largest girth of any beech in England and has been designated as a 'Heritage Beech' by the Woodland Trust.

1b	3.88	Ash	1992	High forest	Management factors (eg grazing etc), No/poor vehicular access within the site, Services & wayleaves	Connecting People with woods & trees	Area of Outstanding Natural Beauty
Sub compartment 1b (formerly 1a) is the main area of the new Lineover extension and covers an area of 3.81 hectares. The majority of this compartment was planted with a native broadleaf mix over the winter of 1991/92, using UK-grown stock of known provenance. Ash is the most frequent species and forms a canopy above a mixture of Oak, Field Maple, Hazel, Hawthorn and Willow species. Sub compartment 1b has a moderate westerly aspect. The planted area is dissected by mown grassy rides for informal public access and open space; these link to other permissive routes through mature woodland and the Cotswold Way National Trail. It is also enclosed within a stock fence that surrounds a multi-compartment grazing area, though multiple pedestrian and management gates enable access. Sub-compartment 1b was regularly used by the Treecreepers forest school for child and adult outdoor education sessions. An internal fence was erected to create an area free from grazing for the forest school to use.							
2a	6.63	Norway spruce	1973	Wood pasture	Management factors (eg grazing etc), Site structure, location, natural features & vegetation	Connecting People with woods & trees	Area of Outstanding Natural Beauty

Sub-compartment 2a consists of the former sub-compartments 2b, 2c, 2d and 2e. Four distinct areas can still be identified on the ground (planted Norway spruce; clear-felled former Norway spruce; planted European Larch; and ash-coppice/mixed native broadleaves), but they have been combined into a single sub-compartment for management purposes. This creates a mixed mosaic of habitats.

The largest component of this compartment is a stand of Norway spruce high forest. Planted around 1973 it occupies the north-west portion of the sub-compartment. This has been line-thinned in the past and this is anticipated to be repeated in the future – enabling light to reach the forest floor and natural regeneration to occur. A stream runs through the stand, and its banks show a higher diversity of native flora than the rest of the forest floor in this area. This stream also features historic water supply infrastructure including a hydraulic ram, water tanks and pipework. Natural regeneration is limited under the spruce due to low light levels. Some elder, ash and hazel are present and the ground flora present is dominated by bracken and brambles. Previous felling at the western edge of the stand has created a scalloped edge, forming a more varied habitat.

An area to the east of the Norway spruce is now mixed scrub and grassland, following the clear-felling of part of the spruce stand in 2010. This clear-felling was instigated by the necessity of creating a way-leave for electric powerlines and was extended beyond the minimum required. Since this area was clear-felled a range of native flora has naturally regenerated due to the increased light. This includes elder and thorn, with areas of bracken, bramble and nettle alongside rough grassland species. This area is particularly high priority to graze to increase the diversity of plant species and keep this area relatively open. It has a history of grazing, being shown as rough grazing on the 1890 Ordnance Survey Epoch 1 map. Where the rough pasture meets the remaining high forest, a rich and diverse edge habitat of shrubs and ground flora has formed.

The southwest corner of this sub-compartment contains native broadleaf species, ranging from old ash coppice to a more open, wood pasture type habitat. The ash coppice is estimated to have last been cut around 1975 and has a ground flora dominated by dog's mercury. Other species include elder, hazel, rowan, hawthorn and a veteran large-leaved lime pollard. Where the habitat is more of a wood pasture, a greater variety of ground flora can be seen including more grassland species. This correlated with historical maps (1890 Ordnance Survey Epoch 1) showing this area as rough grazing land.

The entirety of sub-compartment 2a is within the stock grazing area and water supply infrastructure is present along a stream which passes through part of the sub-compartment. Permissive paths run throughout the compartment and the Cotswold Way National Trail forms its eastern boundary.

2b	1.59	Open ground		Non-wood habitat	Management factors (eg grazing etc), Services & wayleaves	Connecting People with woods & trees	Area of Outstanding Natural Beauty

Compartment 2b (formerly 5a) is an area of open meadowland with a wide variety of grassland species present. It is shown as open grazing land in the Ordnance Survey 1890 Epoch 1 map and was fenced by the Woodland Trust in 1990 to enable conservation grazing.

The area is rich in limestone grasses and other ground flora indicative of unimproved grassland, surveys between 1988 and 1990 found 76 grassland plants in this compartment. Adders-tongue fern (Ophioglossum vulgatum) can be found in the east of this compartment, the only location in Lineover wood.

The area is particularly rich in invertebrates including Butterflies and Moths. Periodic grazing has been supplemented by mowing and collection of arisings to prevent the accumulation of nutrients in the meadow and retain a diverse grassland flora.

The edges of this sub-compartment, particularly to the west, tend to succeed into scrub dominated by thorn and bramble. Cattle grazing and work by volunteers has helped to retain this meadow as open grassland habitat.

The Cotswold Way crosses the west boundary of the meadow. This is a favourite place for people to stop as it offers the clearest views of Cheltenham and the Malvern Hills from the woods. Many hikers stop here to eat at the bench on the upper slopes of the hill.

Overhead power lines run northwest-southeast through 2b.

3a	8.32	Mixed conifers	1960	PAWS restoration	Gullies/Deep Valleys/Uneven/ Rocky ground, No/poor vehicular access within the site	Connecting People with woods & trees	Area of Outstanding Natural Beauty, Planted Ancient Woodland Site

Sub-compartment 3a collects a number of former sub-compartments (3a, 3b, 3e, 4a, 4b, 4c, 4d, 4e and parts of 2a, 3c and 3d) which share the characteristic of being plantation on ancient woodland site (PAWS). This is made up of different conifer species, most frequently Norway spruce (planted in 1960 and 1973), but also including European larch (planted 1975); douglas fir (planted 1960), grand fir (planted 1948) and western red cedar (planted 1946). These mainly form distinct stands of single age and species. Different stands have varying management histories, with some stands having been thinned more than others.

Oaks can be found throughout this sub-compartment, mostly dating from a planting c. 1920, but they are only the main canopy species in a small area of the compartment, otherwise they are occasional within or on the edges of conifer stands. Other native broadleaves are infrequent due to shade from conifers inhibiting natural regeneration. Where it does occur ash, silver birch, elder and hazel are most frequent with holly, elm and sycamore less so. Exceptions are the stands of larch, where higher light levels have allowed natural regeneration to occur more frequently and broadleaf trees of similar age are frequent.

Throughout this sub-compartment can be seen a number of veteran, low-cut oak pollards (or stubs). In many cases the trees have died, leaving valuable deadwood habitats, but some still survive, though these are threatened by shade from conifers and the effects of age.

Ground flora within this compartment is dominated by bramble with nettles and bracken also being frequent. This, combined with the shade from the conifers has inhibited the growth of other species. However greater species diversity can be seen along water courses that pass through the sub-compartment as conifer planting was less intensive there.

Sub-compartment 3a can be accessed by several permissive footpaths. One of these was upgraded in 2016 using, Cotswold stone, to enable improved access both for pedestrians and the vehicles necessary for PAWS restoration work.

3b	4.38	Norway spruce	1960	High forest		Connecting People with woods & trees	Area of Outstanding Natural Beauty

Sub-compartment 3b combines parts of several sub-compartments from the last management plan (2a, 3c and 3d) and the entirety of the previous management plan's sub-compartment 3f. They form a mosaic of habitats including plantations of Norway spruce from 1960 and 1973; high oak forest; and a scrubby glade created when a stand of poplars was felled in the early 1990s. This sub-compartment is not considered a plantation on ancient woodland (PAWS) area due to its history, however it does show similar characteristics to PAWS areas at the site.
Where Norway spruce forms the tree canopy there is limited diversity of other flora beneath it. What is present is dominated by brambles, bracken and nettle with some broadleaf regeneration including ash, elder, thorn, hazel and elm. A greater diversity of native flora can be found along the edges of streams where they border the sub-compartment.
Oak dating from around 1920 forms the majority of canopy in part of the sub-compartment, though it still includes about 20% of conifers – Norway spruce and douglas fir. The conifers in this area were thinned in 1989/90 and 1998, including work to specifically release the crowns of oak trees. The ground flora in this area is also dominated by dense bramble and bracken, but some broadleaved regeneration has occurred and oak, ash, birch, holly and hazel can all be found.
Where poplars were felled in the 1990s a scrubby glade has been created, this is partly formed of planted native broadleaves which were set out so as to create a scalloped edge along a track. Annual mowing has been part of the management of this area, maintaining open areas where scrub would otherwise dominate. This is the most diverse part of the sub-compartment, featuring a variety of woodland and grassland species. It is shown as scrubby open ground on the historic Ordnance Survey 1890 Epoch 1 map.
The decaying stumps of dead oak pollards can be found throughout this sub-compartment, contributing valuable deadwood habitat.

3c	16.11	Ash	1920	High forest	Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty, Site of Special Scientific Interest

Sub-compartment 3c (collects former sub-compartments 3g, 4f and 6a) is comprised of two distinct areas; both under the designation of Site of Special Scientific Interest (SSSI) relating to the traditional coppice with standards silviculture (see associated SSSI citation in Appendices). Most of sub-compartment 3c runs along a steep scarp returning to more moderate northerly aspect and has more base rich soils than the compartments to the north.

The largest component of the sub-compartment covers the majority of the upper, southern slopes of Lineover. It has historically been managed as coppice with standards, extensive coppicing having last occurred around the late 1970s. The canopy is around 60% ash (mainly coppice with some standards), 15% oak standards (planting year c. 1920) 15% beech standards (planting year c. 1900) and 10% large-leaved lime coppice (mainly PY). Much older coppice stools are also scattered throughout, with some of the largest being large-leaved lime. The beech is thought to have been planted for aesthetic purposes as many are in prominent positions on knolls and outcrops, though many are now beginning to die off and have been heavily damaged by grey squirrels. This area has a diverse understory including natural regeneration of ash, beech, hazel, hawthorn, field maple, elder and blackthorn; the latter two being in localised patches. Ground flora is dominated by dog's mercury, with patchy bluebell, herb paris, lily of the valley, angular solomons seal, and high numbers of wild orchids including Greater butterfly orchid and Fly orchid.

The northern part of this sub-compartment consists of mixed broadleaf stored coppice, the coppice stools having been singled in the late 80s and early 90s. Ash dominates the canopy with an understorey that includes ash, rowan, hawthorn, elder and hazel. The ground flora is diverse and includes several ancient woodland indicator species such as dog's mercury, bluebell and wild garlic. Dead wood habitats are common throughout the sub-compartment due to the age of the trees present and the low intensity management approach.

Management in this sub-compartment has been minimal in recent years though some re-coppicing has taken place to increase the structural diversity within the compartment. This includes the re-coppicing of a veteran large-leaved lime stools in 2014 and 2015, which have since produced new shoots. The Lineover volunteer group has also developed a four-year rotation for cutting scallops along track edges, creating a diverse woodland edge habitat. The group has also restored a dry-stone wall which forms the south-eastern boundary of the sub-compartment.

3d	2.96	Ash	1990	PAWS restoration	No/poor vehicular access within the site	Connecting People with woods & trees	Area of Outstanding Natural Beauty, Planted Ancient Woodland Site

Sub-compartment 3d (formerly 6b) consists of coppice with standards, the former mainly hazel and ash and the latter consisting of oak, ash and birch established around 1990. Sycamore, birch, field maple, willow, rowan and holly can also be found within this sub-compartment. Sub-compartment 3d had been planted with European larch, but the majority of this has been felled by the Woodland Trust since acquiring the site in 1986. Ground flora is diverse due to the structural diversity of this sub-compartment, the most frequent species being dog's mercury and bluebell.

Parts of this sub-compartment are coppiced by the Lineover volunteer group on rotation, creating habitat diversity and recreating the traditional use of these woods. They have also developed a four year rotation of cutting scallops along the ride edges, creating a diverse woodland edge habitat which supports a diverse population of butterflies and other invertebrates. The group has also created a traditionally laid hedge along the eastern boundary of the sub-compartment.

3e	1.19	Ash	1960	High forest		Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty

Sub-compartment 3e (formerly sub-compartment 6d) is a thin strip of high forest running adjacent to the busy A436 road. It forms an edge habitat of the woodland and also acts as a buffer zone between the road and the ancient semi-natural woodland SSSI to the north.

Ash planted around 1960 dominates the canopy, forming about 55%. This has been under-planted with beech around 1980 which makes up about 10% of the canopy, but has been severely damaged by grey squirrels. Western red cedar of a similar age to the beech are scattered through the sub-compartment and much of the remaining area is classed as open space (35%).

Towards the western end of the sub-compartment the older trees are less frequent and mixed broadleaves including ash, birch, field maple, hornbeam, elder, elm, blackthorn, sycamore and hazel have established since around 1990. This forms a diverse understorey with some of the younger trees growing into the canopy level. The understorey is less developed at the eastern end of the sub-compartment, where the denser canopy limits light reaching the ground.
A patchy ground flora is present and includes lords and ladies, dog's mercury and sedges.

Sub-compartment 3e is largely flat, sitting above the brow of the slope on which most of Lineover lies. The Cotswold Way runs along the entire length of its northern edge with site entrances located at each end.

3f	0.78	Beech	1920	High forest	No/poor vehicular access within the site	Connecting People with woods & trees	Area of Outstanding Natural Beauty

Sub-compartment 3f (formerly 6c) is a narrow finger of woodland extending east from where it abuts sub-compartment 3d, the rest of its border is with neighbouring agricultural land.

The canopy is predominantly beech estimated to have been established in the early twentieth century; this may make it contemporary with the beech plantings in sub-compartment 3c. There are younger beech towards the east end of the cub-compartment, estimated to have established around 1970. Also present are scots pine dating from the early twentieth century; whitebeam; cherry; and hazel coppice (last cut c. 1995) in the east of the sub-compartment. More recent plantings of mixed native broadleaves in open areas have largely been suppressed by competing vegetation.

Natural regeneration of ash, hazel, beech. hawthorn, holly, rowan and elder occur below the canopy. The ground flora includes dog's mercury, bluebell, broad-leaved helleborine, woodruff and patches of bracken and bramble which suppress other vegetation where they occur.

4a	1.39	Beech	1920	High forest	No/poor vehicular access within the site	Connecting People with woods & trees	Area of Outstanding Natural Beauty

Sub-compartment 4a (formerly 7a) is long, narrow area of woodland isolated from the main body of Lineover. It is located to the east of sub-compartment of 3f, following the same contour across the slope and sharing similar composition. It is entirely surrounded by agricultural land used for grazing.

It consists largely of beech high forest, established between 1900 and 1920 – contemporary with beech plantings in sub-compartments 3f and 3c. Other tree species present are cherry, whitebeam, ash and holly. The ground flora is sparse due to shading from the beech. Where it does occur it includes dog's mercury, bluebell, woodruff and broad-leaved helleborine as well as bracken and bramble.

Management access to sub-compartment 4a is limited. The perimeter is fenced with only a pedestrian access gate.

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2019	1b	Thin	3.88	20	77.6
2019	2a	Thin	3.00	30	90
2019	3a	null	0.00		250
2019	3b	null	0.00		100
2020	3c	Thin	16.11	0	0
2020	3e	Thin	1.00	20	20
2023	1a	Thin	1.00	10	10
2033	3a	Thin	8.00	30	240
2033	3b	Thin	2.50	30	75
2035	2a	Thin	3.00	30	90

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.