



# Longacre Wood

## Management Plan 2015-2020

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## THE WOODLAND TRUST

### INTRODUCTION

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

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

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

### PLAN REVIEW AND UPDATING

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

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## 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](http://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.

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## 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

<b>Site name:</b>	Longacre Wood
<b>Location:</b>	Dutton
<b>Grid reference:</b>	SJ580780, OS 1:50,000 Sheet No. 117
<b>Area:</b>	12.99 hectares (32.10 acres)
<b>Designations:</b>	Community Forest

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

Nestling in the River Weaver valley alongside the Trent and Mersey Canal, Longacre Wood is typical of the clough woodland that is so characteristic of this part of Cheshire. Shady woodland, grassy rides and a peaceful stream create a tranquil setting for a bracing walk surrounded by flourishing flora and varied wildlife.

## 2.2 Extended Description

The site was acquired by the Woodland Trust in two phases between 2002 to 2004 with support from the Mersey Forest, English Nature, WREN, the Forestry Commission and local funders. The wood is located to the south east of the small village of Dutton in North Cheshire, only two miles south of the M56 and the town of Runcorn. It lies within the attractive Weaver Valley which is an Area of Special Landscape Value and has one of the largest concentrations of ancient woodland in Cheshire. The landscape is predominantly mixed dairy and arable farmland with wooded copses and several large areas of private estate woodlands. The wood is adjacent (but divided by the West Coast railway line) to the much larger Bird's Wood ancient woodland that forms part of the Aston Estate. It also lies alongside the Trent and Mersey Canal.

The Woodland Trust also owns a large site less than a mile away at Dutton Park which has over 31ha of new native woodland and two small blocks of ancient woodland. Dutton Park can be easily accessed from Longacre Wood by following Lodge Lane towards its end and then taking the public footpath towards the River Weaver.

The site consists of three compartments: the largest is a clough Ancient Semi-Natural Woodland (ASNW) with a stream running through it and the other two smaller compartments are new native woodland planting which had previously been fields used for grazing and arable crops. The soils are predominantly brown earth and boulder clay with pockets of lighter alluvial deposits along the stream.

The ASNW compartment was cleared and then replanted in the 1940s and many of the trees here are now of a similar age from this time. It contains oak, ash, sycamore, wych elm, horse chestnut, alder, silver birch, downy birch, common lime, wild cherry, hazel, elder, hawthorn and occasional specimen hornbeam. There are a number of mature specimen (potential future veterans) trees including common limes (arranged in avenues), hornbeam and oak (the bulk of the which are found along the canal embankment). The wood contains a significant amount of standing and fallen deadwood.

The new woodland areas were planted in 2004/5 with approximately 8875 native trees and shrubs. Species planted were English oak, ash, alder, silver birch, rowan with hazel, hawthorn, blackthorn, and dog rose. These compartments are 74% new native woodland with 16% open ground mostly in the form of open rides and filled Marl pits and approximately 10% left for natural regeneration to colonise.

There are public access points into the wood from Lodge Lane, a track/bridleway leading from Aston on the southern boundary and from the canal towpath. The site has about 1km of grass path rides in the new woodland blocks and an unsurfaced footpath through the ASNW. A public footpath passes along the eastern edge of the woodland from Lodge Lane to the canal towpath and the Delamere Way runs past the southern section of the site. The wood does not have high numbers of visitors, but is regularly used by local people.

Two large culverts and an overflow channel for the canal (all the responsibility of the Canals and Rivers Trust) are located within the ASNW compartment. There are also two underground ethylene pipelines running beneath all three compartments from east to west.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

#### Access to the site:

Longacre Wood is located near the village of Dutton in North Cheshire, about a mile along Lodge Lane which is off the A533 Northwich Road.

#### Parking:

There is very limited parking available along Lodge Lane and parking restrictions apply here. Some parking is available at the Bluebell nursery on Lodge Lane (200m walk from the wood) when this is open (spring/ summer months only).

#### Entrances and Footpaths:

Access into the wood from Lodge Lane is via a stile onto a Public Footpath opposite Dutton Lodge, then crossing through a pasture field (not owned by the Woodland Trust). The path enters the wood via another stile and passes along the sites eastern boundary and leaves the site at another entrance (with stile) on the northern boundary by the Trent and Mersey Canal towpath. There is another entrance from the towpath near the north eastern corner of the site, with two flights of steep steps leading into the wood. Two further access points (via kissing gates) lead into the site from a Public Bridleway that runs along the southern boundary of the site (accessed from Lodge Lane). There is a good network of unsurfaced grass footpaths on the site but they can get quite wet and muddy in the winter months. The site has a mix of gentle to quite steep gradients and there are steep flights of steps and a footbridge in the mature woodland.

#### Public Toilets:

There are no public toilets in the vicinity.

#### Bus stops:

There are no bus stops in the vicinity. The nearest ones are on the A533 Northwich Road.

### 3.2 Access / Walks

## 4.0 LONG TERM POLICY

The long term intention for Longacre Wood is to create and maintain a high forest of predominantly native mixed broadleaves with a diverse species and age structure.

The wood will be managed primarily as a recreational and landscape feature. Key drivers for any woodland management operations will be for public access and safety, tree safety and if necessary to encourage a more diverse and resilient woodland for the future capable of withstanding pressures from climate change, pests and diseases.

The ancient semi-natural woodland (ASNW) component should be protected and retain a diverse mix of species and age structures along with natural regeneration and suitable ancient woodland ground flora species. The areas of new planted woodland will help to act as a buffer to the ASNW and reduce the impact of any future changes in the surrounding land use.

Overall the woodland will be allowed to develop through natural processes where possible, but it may necessary to intervene to diversify the species mix and age structure.

Woodland edges will be managed to create a more varied structure along path edges and to maintain access sight lines.

The site entrances, footpaths and site infrastructure will be suitably maintained to ensure the site is welcoming and safe for visitors to use and enjoy.



## 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 Semi Natural Woodland

#### Description

Longacre Wood is a fairly even aged mix of mature broadleaf species including English (pendunculate) oak, sycamore, hornbeam, common lime, beech, ash, wych elm, wild cherry, silver birch, downy birch, alder and horse chestnut. The shrub layer of the wood includes hazel, hawthorn, elder, honeysuckle and ivy. Many saplings can also be observed in the shrub layer particularly ash, which shows natural regeneration is occurring successfully. Ground flora in the woodland is both diverse and well established. Locally abundant species include bluebell, ramson, dogs mercury, lesser celandine, wood anemone and ferns. The woodland contains significant levels of deadwood which offers an excellent habitat for birds and invertebrates. A stream runs through the compartment with associated wetland marginal zones including a pond.

#### Significance

Compartment 3A is designated as Ancient Semi-Natural Woodland (ASNW) in English Nature's Ancient Woodland Inventory. Ancient woodland is a rare habitat and now comprises only 2% of woodland cover in the UK. The Weaver Valley area has the second highest concentration of ASNW in Cheshire making this site significant in the local area. Ancient woodland is a Biodiversity Action Plan priority habitat for Cheshire which has approximately 5% woodland cover in total.

#### Opportunities & Constraints

Restructuring of the canopy layer which is dominated by sycamore would create gaps in the canopy and opportunities for more diverse natural regeneration.  
A constraint to carrying out management work is that vehicular access is difficult in parts of the woodland especially the wetter areas and steep slopes.

#### Factors Causing Change

Shading caused by dense canopy of sycamore and beech resulting in poor shrub layer and ground flora in some areas. Squirrel damage to trees is occurring but is not currently an issue for tree health or natural regeneration. Tree disease especially Chalara ash dieback will lead to the loss of ash within the wood.

#### Long term Objective (50 years+)

In the long term the ASNW should be predominantly native broadleaves with a mix of species, structure and age classes along with a diverse shrub layer and ground flora. The site should retain a mix of open ground areas with scrub, transitional zones and wetland habitats to enhance the biodiversity value of the site. There should be an increasing volume of fallen and standing deadwood.

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

During the plan period there will be minimal intervention apart from any work required for public safety reasons as part of the Trust's duty of care to visitors through the tree safety inspection regimes. Carry out a woodland condition assessment once during the plan period to monitor natural regen. and ground flora, the health and resilience of the woodland and identify any threats from tree disease, pests or mammals.

## 5.2 New Native Woodland

### Description

The young woodland compartments were planted in 2004/5 with a mix of native trees and shrubs including oak, ash, silver birch, rowan, alder, wild cherry and woody shrubs: hazel, hawthorn, blackthorn, crab apple and dog rose. The new woodland planting comprises approx. 74% of the site with 16% left as open ground including rides and a further 10% fenced, scarified and then left for natural regeneration to colonise.

### Significance

Cheshire is one of the least wooded counties in England with less than 4% woodland cover. This new native woodland planting will serve to buffer the adjoining ASNW and enhance biodiversity of the site by creating a mix of habitats.

### Opportunities & Constraints

The new woodland is uniform in age and structure because it was all planted at the same time. Thinning work would enable the new woodland blocks to develop a more mixed age structure, species composition and help to increase the amount of deadwood habitat.

### Factors Causing Change

Canopy closure will occur as the wood matures. Tree disease particularly Chalara could result in significant tree loss in the new woodland blocks.

### Long term Objective (50 years+)

The long term aim is to create an extension to the ASNW of native broadleaves with a mix of species, structure and age classes along with a diverse shrub layer and ground flora. The site should contain a mix of habitats including scrub, transitional zones and a wetland/pond area to enhance the biodiversity value of the site.

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

During the plan period coppicing will be carried out along path edges to improve sight lines and create a varied structure to the woodland edges. Thinning will be carried out in the new planting blocks to diversify the age and structure of the new woodland. The open ground areas will be allowed to develop naturally into transitional scrub zones. The growth and health of the new trees will be monitored.

### 5.3 Informal Public Access

#### Description

Longacre Wood offers informal public access with about 1km of permissive grass path rides through the new woodland and an unsurfaced path through the ancient woodland. Access to the site is from either Lodge Lane, the canal towpath or the track/ bridleway that passes alongside the south western boundary. A public footpath runs through the eastern part of the site linking the canal to Lodge Lane. Woodland Trust welcome signs are at all entrances and 2 new Information boards were installed in 2017 at the entrance near Lodge Lane and the entrance from the canal leading down steps. Within the wood there is a wooden footbridge over the stream, three sets of timber steps, several old way marker posts with tree leaf designs and a single bench located near the footpath through the ancient woodland.

#### Significance

The wood provides informal public access for visitors to enjoy and experience an area of ancient woodland and younger native woodland. There are good footpath links to the Trent and Mersey Canal and Weaver Navigation. It is also easily accessed from the Runcorn which is less than two miles away. Increasing access to and enjoyment of woodland is one of the Trust's key outcomes.

#### Opportunities & Constraints

##### Constraints:

There is no parking at the site and parking on Lodge Lane is very limited with police parking restrictions.

Management access within the ancient woodland area is limited/ difficult, and the ground in the new woodland blocks can get muddy in winter/ after heavy rain.

Opportunities to improve access from the canal towpath and Lodge Lane could be investigated.

#### Factors Causing Change

Damage to grass footpaths when it is wet. Increase in the level of public use of the site could cause greater wear and tear on footpaths and infrastructure.

#### Long term Objective (50 years+)

Public access should be maintained at current levels with five entrance points, appropriate infrastructure, signage and 1000m of grass rides and surfaced footpath being suitably maintained to ensure the site is welcoming and safe for people to visit.

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

Footpaths will be maintained by mowing and cutting back vegetation (three times a year in 2015) to maintain public access. Entrances, boundaries and site infrastructure will be inspected and maintained as part of the EMC. Coppicing along path edges will be undertaken to improve sightlines. The condition of access infrastructure (footpaths, bridge, steps, signs, etc) will be monitored during the plan period. An entrance survey (part of the Welcoming Sites Programme) will be carried out to identify any improvements that may be required.

The Trust's duty of care to visitors will continue to be addressed through on going tree safety and site risk assessment regimes.

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## 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	2.30	Oak (pedunculate)	2004	Wood establishment	Services & wayleaves	Informal Public Access	Community Forest

This compartment forms the eastern part of the site and is mostly flat with a slight slope towards the west and a single damp depression in the middle of the site. The northern boundary is defined by a hedgerow beyond which lies the Trent and Mersey canal and the eastern and southern boundaries abut neighbouring pasture fields. The western boundary adjoins the mature ASNW (compartment 3). The compartment is 87.5% (2.01ha) new native woodland planted in 2004 and 12.5% (0.29ha) open ground which includes paths rides and a small damp marl pit which has been filled with sub soil in the past.

The planting mix comprises of English (Pedunculate) oak 35%, ash 25%, silver birch 10%, rowan 10%, alder 5%, wild cherry 5% and 10% woody shrubs (hazel 4%, hawthorn 2%, blackthorn 2%, crab apple 1% and dog rose 1%). In total 4275 trees were planted in blocks varying in size from groups of 10 to 50. Prior to planting the site was predominantly rye grass and this was cut. The perimeter field boundaries contain remnant wildflower populations of red campion, greater knapweed and foxglove, mainly found beneath the hedge boundary in the northern part of the site. A public right of way runs across the eastern edge of the site from the NE corner (access over a stile) by the canal towpath to the SE corner (where there is a stile and dog gate). It then runs along the edge of the neighbouring pasture land onto Lodge Lane via a stile.

2a	3.19	Oak (pedunculate)	2005	Wood establishment	Services & wayleaves	Informal Public Access	Community Forest
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This compartment forms the south western part of the site and has a gentle slope with a south/ south easterly aspect. The northern and eastern boundaries adjoin the mature ASNW (compartment 3) with a small section bordering a neighbouring pasture field in the south east corner of the compartment. The western boundary abuts the railway embankment and the southern boundary is next to an access track. This compartment contains new native planting completed in March 2005. It was previously intensively farmed for many years and was used for maize production in 2003. Prior to planting the site was seeded with a low vigour grass mix. The compartment is 64.5% (2.05ha) new native woodland, 16% (0.5ha) natural regeneration and 19.5 % (0.63ha) open ground which includes paths/ rides and a damp marl pit.

The planting mix comprised English (Pedunculate) oak 35%, ash 25%, silver birch 10%, rowan 10%, alder 5%, wild cherry 5% and 10% woody shrubs (hazel 4%, hawthorn 2%, blackthorn 2%, crab apple 1% and dog rose 1%). In total 4500 trees were planted in this compartment in blocks varying in size from groups of 10 to 50.

At the fringes of the compartment some open space has been left to be colonised by natural regeneration and this area was rabbit fenced and scarified to assist colonisation.

There are two pedestrian/ management access points into the compartment along the southern boundary from the access track which is also a public bridleway.

3a	7.50	Sycamore	1946	High forest	Gullies/Deep Valleys/Uneven/Rocky ground, Housing/infrastructure, structures & water features on or adjacent to site, Mostly wet ground/exposed site, No/poor vehicular access to the site, Services & wayleaves	Informal Public Access	Community Forest
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This compartment is a typical clough woodland and is Ancient Semi-Natural Woodland (ASNW) comprising of sycamore, oak, ash, silver birch, downy birch, wych elm, wild cherry, alder, horse chestnut, beech, hazel, elder, hawthorn, hornbeam and common lime. This sub-compartment is bounded by new native planting (cpts 1 and 2) on both sides and the Trent and Mersey Canal to the north east. Many of the trees are similar aged from when the site was cleared and replanted in the 1940's. Sycamore (and to a lesser extent beech) dominates the canopy and hence very little shrub layer and ground cover exists on the upper level of the wood. There are some interesting specimen trees including hornbeam, large leaved lime, wild cherry and hawthorn. Along the canal survives some of the older oak can be found from the war time clearance.

It contains a diverse assemblage of ancient woodland indicator plants including bluebell, ramson, dogs mercury, lesser celandine, wood anemone and harts tongue fern. There is a small stream running the entire length of the woodland and this is where the richest ground flora can be found. Large areas of damp ground are covered with ramson during springtime.

Approx. 0.25ha of ash regeneration interspersed with a smaller number of oak can be found between the stream and the canal. There is a small pond in the centre of the site with horsetail being the dominant species. A permissive footpath runs from the canal towpath down steps and back up more steps into the wood before the path splits and goes into the two compartments of new woodland.

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**Appendix 2: Harvesting operations (20 years)**

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2016	1a	Thin	0.25	4	1
2016	1a	Ride edge Coppice	0.50	4	2
2017	2a	Ride edge Coppice	0.10	30	3
2018	1a	Ride edge Coppice	0.10	20	2
2022	1a	Ride edge Coppice	0.25	4	1
2025	1a	Thin	3.00	7	20



## 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.