



# Penguin Wood at Botany Bay

## Management Plan

# 2019-2024

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## THE WOODLAND TRUST

### INTRODUCTION

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

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

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

### PLAN REVIEW AND UPDATING

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

## 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>	Penguin Wood at Botany Bay
<b>Location:</b>	Adacent to Top Wood
<b>Grid reference:</b>	SK260150, OS 1:50,000 Sheet No. 128
<b>Area:</b>	38.81 hectares (95.90 acres)
<b>Designations:</b>	National Forest

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

A newly planted wood on previous agricultural land. Will be magnificent when grown. Best description and history for this wood can be found by clicking the landowners website option to the right of the screen.

### 2.2 Extended Description

Penguin Wood at Botany Bay lies between the villages of Linton, Rosliston and Coton in the Elms in South Derbyshire.

It has proved impossible to ascertain the origin of the name Botany Bay, however it's thoughts that a local man was transported to Australia, subsequently made his fortune and returned to South Derbyshire and created Botany Bay Farm. The name Penguin is easier to explain as it comes from the major sponsor of the site, Penguin Books, who see their considerable involvement in the development of the site as a way of putting back some of what they take out of the environment through the creation of their books.

The site consists of 96 acres (38.9ha) of flat agricultural land being divided into two parcels north and south of the Grange Wood to Linton Road. The land originally formed the bulk of Botany Bay farm and was a mix of established dairy pasture and some recently grassed arable fields. A number of existing hedges with occasional mature hedgerow trees occur on the site.

The surrounding land use is predominantly farmland grazed by cattle and also planted with crops predominantly of wheat, a number of liveries can also be found in the local area with pasture for horses the nearest being Botany Bay Farm immediately adjacent. Penguin Wood sits within the wider National Forest area and is one of a number of woodland creation sites locally the closest being Woodland Trust owned Top Wood immediately adjacent and Grange Wood Farm under private ownership. Grange Wood also contains a large area of mature broadleaved woodland of which Penguin Wood, Top Wood and the new planting at Grange Wood act as an extension and buffer all together forming a significant block of woodland habitat. There is extensive public access locally and again Penguin Wood fits neatly into this with Public rights of way including the long distance National Forest Way and permissive paths running off in all directions. It is also worth mentioning Bee Hive Farm Shop and Camp Site which also has pockets of new woodland habitat as well as lakes which lies about a kilometre to the north of Penguin Wood following the adjacent country lane and is probably the best place for visitors to Penguin Wood to park to access the site allowing for the short walk south along the lane to get to the property.

The acquisition which took place in February of 2007 provided the opportunity to create the "missing" part of the jigsaw of recently created woodland around the villages of Linton and Rosliston and to provide a single woodland block of considerable size. For lowland England the opportunity to create single 650 acre woodland was very rare and clearly brings biodiversity benefits that come with scale and provides an opportunity to integrate the existing public access provision across the various ownerships within this part of the National Forest.

The site was planted with a range of native species predominantly oak and ash. Ash dieback is prevalent in the National Forest area and it is only a matter of time before the property begins to suffer the consequences of this outbreak, as yet there has been no thinning of planted trees at Penguin Wood and the first thin will likely target ash as the predominant species for removal in favour of other natives such as oak and birch to encourage those species to develop and grow unhindered without competition from the ash which will only succumb to ash dieback in the future.

There are no major management constraints associated with this property with ample access via the lane opposite Botany Bay Farm and plenty of grassed open space (taken locally for hay) in which to manoeuvre forestry equipment and stack timber.

The purchase also provided the Trust with the opportunity to consider demonstrating something new and different within the National Forest in terms of woodland creation. The basic plan is to apply two methods of long-term woodland creation. On the northern section, which was under grass leys/arable, woodland was established by direct seeding after having been deep-ploughed to invert the rich topsoil. Wildflower seed was co-planted with the tree seed to increase the visual appeal and biodiversity. The small grassed field adjacent to the Rosliston Road and a 40 metre buffer strip around the direct seeding area was planted in the traditional way under the T4A partnership with the National Forest during '07 and '08.

The southern section remained predominantly as grassland and the plan is to graze this at low intensity to allow it to convert slowly into scrub/wood pasture though as at the time of writing this hasn't been overly successful. The process of transformation was encouraged by the enclosure of a group of mature oaks and the planting of a number of large enclosures. By 2018 the process of establishment by natural regeneration has been very slow and consequently it has been decided to accelerate the conversion by extending the area covered by the wooded enclosures with the

establishment of a new tree seed orchard with initial planting early 2019, the stock will be oak grafts grown from cuttings taken from native oak trees by a partner organisation known as Foreststart. The planted enclosures are concentrated in the southern half of the site as is the planned tree seed orchard. There will be two more planting seasons associated with the orchard likely in the 19/20 and 20/21 planting seasons but at the time of writing this is still to be confirmed.

The key features for this site are:

- KF 1 New Native Woodland
- KF 2 Informal Public Access
- KF 3 Wood Pasture

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

At the present time only the northern section of the site is available for public access. As the southern section will be grazed by cattle public access will be limited to crossing the site from Grange Wood to the management gate on the Botany Bay to Grange Wood Road. In time as this section progresses towards wood-pasture access will be reviewed.

The main entrance to the site is off the Linton Road approximately 100 metres to the east of Botany Bay Farm

In the section to the north of Botany Bay Farm there is a public right of way which runs from the Linton Road, crosses the site and then exists over the brook approximately 100 metres east of the Rosliston Road. In addition a further pedestrian entrance has been constructed in the far north-west corner of the site on the Rosliston Road 50 metres down from the entrance to the Beehive Farm Fishing Lakes car park. Parking is difficult close to the site and it is recommended that visitors park their car at the Beehive Farm car park where there are excellent facilities including Café, Mini-zoo and toilets. The walk through Beehive Farm to the Rosliston is very pleasant.

There are permissive footpaths around the periphery of the site and more will be established as the development of the site progresses.

There are no bus stops close to the site. However there is a bus service from Burton on Trent to Rosliston and from Swadlincote and Ashby de la Zouch to Linton but both would then involve a walk of more than a mile.

The nearest public toilets are at Woodville Road, Overseal some 5 kms away. They are open 7 days per week during daylight hours. They have disabled but not baby changing facilities. Further information concerning this and other public toilets in the district can be found at the following webpage.

<http://faqs.south-derbys.gov.uk/portal/an/default.aspx/ServiceView/?SvcID=4BDF2A01EFE>

Additional information about places to visit, accommodation, walks, activities in the locality can be obtained from the National Forest website at <http://www.nationalforest.org>

### 3.2 Access / Walks



## 4.0 LONG TERM POLICY

The aim is to establish native broadleaved woodland habitat over the long term, in 50 years time the woodland will be well developed and a number of thins will have taken place to promote diversity, encourage establishment of the current tree stock and to take into account issues with pests and diseases namely ash dieback which already has a foot hold in the National Forest area. The woodland will need to be resilient and ultimately natural regeneration will need to be encouraged to meet this end, future thins of tree stock will be the management used to deliver this.

In accordance with the Trusts policies on access provision free public access will be provided for quiet, informal recreation and the woodland managed to ensure it remains accessible in perpetuity. Paths will be maintained to provide a range of woodland walks and the site valued as an important local amenity. Ride edge coppicing will be undertaken where appropriate to enhance visitor and conservation interest.

Establishment was undertaken using traditional planting methods and direct seeding to create a broadleaved woodland with a ground flora of wildflowers and secondly by manipulating the management of the grassland using grazing managed by a farming tenant in the southern section to allow it to progress to scrub and ultimately wood pasture in the long term, if this is struggling or unsuccessful then some further planting may be required, this will be assessed in the long term.

A seed orchard will be created in one of the southern sections fields in 2019 in conjunction with Foreststart in which oak tree grafts of chosen genetic material will be grown on to provide a future seed source for native oak trees for planting elsewhere in the country on and off of Woodland Trust property.

## 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 New Native Woodland

#### Description

Woodland was established in the northern section using two methods of establishment. In sub-compartment 1a standard methods using transplants supported by canes and protected by plastic shelters was used. EWGS Native Woodland at 1600 per hectare. The species are Oak 25%, Ash 25%, Rowan 15%, Wild cherry 15%, Shrubs (Hazel, Hawthorn and Guelder rose) 5% and Open ground (grassland) 15%.

The large, 10 hectare, rabbit-fenced enclosure which forms sub-compartment 1b was used as a trial in an untried method of woodland establishment. This involved the planting of tree seeds with wildflower seeds. The tree species here are Ash, Oak, Wild cherry, Field maple and Silver birch. The initial display of wildflowers will be the cornfield annuals but over time they will be replaced by the perennials.

#### Significance

It was felt important for the Woodland Trust to pioneer alternative methods of woodland establishment. The trial is supported by both the National Forest Company and the Forestry Commission. Once established the core of the woodland with its ground flora of wildflowers should have an enhanced biodiversity and greater visual appeal.

#### Opportunities & Constraints

The co-planting of tree and wildflower seeds was untried at the time and therefore germination and establishment effectiveness was unknown as such tree development with the wild flower area has been patchy.

Natural regeneration within the grazed areas has also been largely unsuccessful and again was a trial in 2007.

#### Factors Causing Change

Uneven establishment of seeded trees.  
 Ash die back in the planted areas.  
 Change in the species composition of the seeded wildflowers.

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

Establish a well structure, diverse, resilient, species rich broadleaved woodland.

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

All the tree shelters should be collected and removed off site in 2019.

Carry out a 25% thin of the planted areas in compartment 1a focusing on ash where it is in competition with other native species. To take place late summer 2020. With the advent of ash dieback and its presence in the National Forest ash will be targetted as the main species for removal over other native broadleaves to encourage the establishment of other natives and prevent over topping and shading in the future.

Monitor the woodland condition annually with a full woodland condition assessment as part of the next management plan review in 5 years time in 2023.

## 5.2 Informal Public Access

### Description

The northern section, sub-compartments 1 and 1b have open public access. The already established public right of way which runs diagonally across the site was enhanced by an extended pattern of mown paths and also sits on the line of the National Forest Way. Because of the need to ensure that the central enclosure remains rabbit-proof access to sub-compartment is via styles which may inhibit access for some people. However once the wood is established the rabbit fence will be removed.

As a consequence of the grazing of cattle in the southern section, access within the fields is somewhat restrictive and because of the presence of cattle access although present is kept relatively low key. Currently this area of the site consists predominantly of grazed pasture with planted fenced enclosures, a tree seed orchard the planting of which begins in February 2019 will increase the tree'd area, however each tree will be individually protected with a wooden crate so that cattle grazing in the seed orchard field can continue to keep control of weed growth and the development of course, scrubby vegetation. The whole of the south section of Penguin Wood has a park land type feel.

There is one permissive path from the main entrance on Grange Wood Road to the corner of the adjacent property, the new woodland at Grange Wood Farm.

### Significance

Access through this site enables the public to walk through over 600 acres of newly planted woodland by connecting Top Wood and Grange Wood to Beehive Farm and Rosliston.

### Opportunities & Constraints

In the northern section, sub-compartment 1b the 10 hectare area was enclosed by rabbit netting and access is by a Centrewire stile therefore not suitable for the disabled.

The southern section, sub-compartment 2a, will be grazed by cattle and therefore access will be restricted to a single footpath from the main access on Grange Wood Road across to the corner of Grange Wood new plantation.

### Factors Causing Change

Encroachment of vegetation restricting the width of paths and poaching of path line in the southern section of the site due to the presence of cattle.

### Long term Objective (50 years+)

Establish and maintain a pattern of permissive footpaths in the northern section which enables the public to enjoy the variety of created habitats. There are paths along the broad rides adjacent to the established hedges, boundary trees and the stream/ditch in the north. Narrower paths take the public through the direct-seeded enclosure with its changing display of wildflowers and less-regimented maturing trees. Initially public access will be limited to one transverse path in the southern section where the cattle will be grazing. However as the wood pasture develops there should be greater scope for public access over the whole area.

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

Maintain permissive footpaths by mowing in May, June, July, August and Sept as per spec 2.1

The open area close to the Linton Road boundary to be cut in September.

The signs, gates, stiles and footbridge will be inspected in May and September and kept clean and tidy - all should be to Woodland Trust spec and brand bible.

Assess paths once every 2 years in July to ensure that there are no issues and that the site remains open allowing for a pleasant experience for visitors.

## 5.3 Wood Pasture

### Description

This sub-compartment occupies the whole of the southern section of the site and is separated from the northern section (Sub-compartments 1a and 1b) by the original Botany Bay Farm with its farm buildings and in-by land. The entire sub-compartment was initially four large fields of permanent grassland with hedges and mature boundary trees. The smaller, northwesternmost field still shows signs of the medieval ridge and furrow.

The section has 9 fenced enclosures in which broadleaved trees were planted. It is envisaged that the grassland which is grazed by cattle at low intensities will gradually colonise with trees and scrub both from the enclosures and hedge and boundary trees creating, in the long-term, scrub and eventual wood pasture.

### Significance

The management of this sub-compartment in order to achieve wood pasture in the long term is an untried method of woodland establishment and very much an experiment. It was felt important that the Trust takes this opportunity to trial this method of establishment in order to produce an alternative woodland habitat.

Additionally the acquisition of the large and varied site with its adjacent established, recently planted woodland and agricultural mosaic enabled the Trust to plan the enhancement of the biodiversity on a landscape scale. Because of the modern commercial agricultural pressures wood pasture has almost been eradicated as a habitat in this region. Here was an opportunity to redress the balance to a small degree.

### Opportunities & Constraints

The establishment of wood pasture is likely to be a long process. The majority of the permanent grassland has had relatively high nitrate inputs in the recent past and will have to be managed sensitively in order to reduce the fertility progressively. This is likely to be done by changing the breeds of cattle to increasing primitive stock and by reducing the stocking density over a long period. Additionally when natural regeneration occurs from both trees planted within the enclosures and from mature boundary trees the growth may need to be protected from browsing in order to progress to wood pasture in the long term. It will be very much responding to changing circumstances as the site progresses.

### Factors Causing Change

Rabbit damage.

Failure to balance agricultural use due to over-stocking and the resultant impact on tree and shrub regeneration.

Ash die back of trees in the planted enclosures.

Excessive competition to tree regeneration from weeds due to the high fertility of the soil.

### Long term Objective (50 years+)

Establish a wood pasture over the long term.

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

Carry out a 25% thin of the planted enclosures in compartment 2a focusing on ash where it is in competition with other native species, ash die back is already present in the National Forest area, favouring ash for removal will encourage the growth and development of other natives and prevent over-topping and shading by ash which will be highly likely to succumb to ash dieback in the none to distant future. To take place late summer 2020. The thin will help to promote the growth of the remaining tree stock.

Monitor and assess grazing at the property annually in July including tree stock in fenced enclosures

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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	7.70	Mixed native broadleaves	2007	Wood establishment		Informal Public Access	National Forest
<p>In the long-term compartment 1 will be managed as a single unit. However, because of the varying nature of the method of establishment, the sub-compartment a and b will be differentiated. Sub-compartment 1a refers to that area of the northern section of the site which was established by traditional planting methods. It is confined to the small rectangular field adjacent to Rosliston Road and a 50 metre buffer-strip around the central enclosure which is sub-compartment 1b.</p>							
1b	10.10	Mixed native broadleaves	2007	Wood establishment		Informal Public Access	National Forest
<p>Sub-compartment 1b is the central enclosure surrounded by the rabbit-proof fence where the method of establishment was direct seeding. The area was initially deep-ploughed and then sown with wild-flowers, both annual and perennial, and then a further 2.4 million tree seeds in the Autumn of 2007. The tree-seed planting followed the recommendations of the Forestry Commission Practice Guide "Creating New Broadleaved Woodland by Direct Seeding" The species seeded were Oak, Ash, Field maple, Wild cherry and Silver birch.</p>							
2a	20.20	Mixed native broadleaves	2007	Wood pasture		Informal Public Access	National Forest
<p>This sub-compartment occupies the whole of the southern section of the site and is separated from the northern section (Sub-compartments 1a and 1b) by the original Botany Bay Farm with its farm buildings and in-by land. The entire sub-compartment was at acquisition four large fields of permanent grassland with hedges and mature boundary trees. The smaller northwesternmost field still shows signs of the medieval ridge and furrow. The section has four fenced enclosures of 40m x 40m and one 40m x 80m in which broadleaved trees have been planted. It is envisaged that the grassland will be grazed by cattle at low intensities and that trees will gradually colonise both from the enclosures and hedges and boundary trees creating, in the long-term, scrub and wood pasture.</p>							

## Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1a	Thin	5.00	6	30
2020	2a	Thin	4.00	6	24

## 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.