



# Low Burnhall

## Management Plan 2017-2022

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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>	Low Burnhall
<b>Location:</b>	Durham
<b>Grid reference:</b>	NZ266390, OS 1:50,000 Sheet No. 93
<b>Area:</b>	67.29 hectares (166.28 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, Area of Landscape Value, Conservation Area, Green Belt, Other

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

Low Burnhall is made up of a patchwork of habitats: a couple of gnarled veteran sweet chestnut trees in a block of ancient woodland contrasts with areas of recent planting. This captivating woodland is a tranquil haven for people and wildlife, within easy reach of the city.

### 2.2 Extended Description

Low Burnhall Wood is situated in greenbelt land on the southwest edge of Durham City around two miles from the city centre (grid ref: NZ 267 391). At its northern end, the wood occupies south-facing slopes on the western side of the River Wear Valley, dropping down onto the river flood plains to the south. The underlying geology consists of Carboniferous Middle Coal Measures that includes bands of sandstone above and below the Durham Low Main coal seam. Soils consist mostly of silty clays derived from boulder clays, sands and gravels deposited during the last ice age. Most of the wood falls within the Burn Hall Conservation Area and all of the land lies in an Area of High Landscape Value.

The whole farm was purchased at auction in March 2008, the farm buildings and some surrounding land were sold on, leaving the Trust with 67.24 ha (166 acres) of land consisting of arable, pasture and woodland. The wood's southern boundary is formed by the River Browney that flows into the

River Wear whose bank is the site's eastern boundary. Saltwell Gill Burn forms its northeast boundary whilst its northern boundary is made up of old field hedges. The bulk of the western boundary is defined by the A167 except where it runs around the boundaries of Oakmead House to the south and where it leaves the A167 and runs along the eastern boundary of Farewell Hall East Farm to the north.

Farmland and woodland belonging to Durham University lies to the north of the site and further farmland and woodland forming part of East Durham and Houghall Community College adjoins the site's northeast boundary. Across the River Wear to the east lies Croxdale Hall Estate consisting of arable farmland, Ancient Semi-Natural Woodland (ASNW) and the 7.95ha SSSI site known as Butterby Oxbow, created in 1811 when the River Wear was straightened, cutting off this meander. To the west on the other side of the A167 lies the old Burn Hall Estate, much of which is now occupied by the Durham City Golf Club course. Both Croxdale Estate and Burn Hall are registered Historic Parks. South of the River Browney lies more open farmland and the Honest Lawyer Hotel.

The land at Low Burnhall had been farmed for hundreds of years but had also been affected by industrial activity. During the nineteenth century a brick and tile works was located here and the pond in sub-cpt 41i occupies the old clay pit that served this manufacturing process. Coal was also mined here for a short time between 1838 and 1847 and one of the Croxdale Pit shafts was uncovered on our neighbour's land during ground works in 2010 just east of the access track opposite the southern end of sub-cpt 41i. The route of the old wagonway associated with Croxdale Pit can still be followed on the ground, marked by a fragmented holloway running northwards through sub-cpt 41d and the site of the old engine house that operated the rope haulage on this incline is located in sub-cpt 41e. Within the River Wear next to Low Burnhall there existed a natural salt well and also a sulphur well, probably located in Saltwell Gill at the eastern end of sub-cpt 41a. Both these natural springs were used for medicinal purposes during the eighteenth century but it is believed that the salt well was affected by the advent of mining, resulting in its loss.

The wood at Low Burnhall was established using six phases of planting, beginning in March 2010 and ending in December 2012. In total, 94,250 native broadleaved trees and shrubs were planted, the most numerous species being sessile oak with hazel being the most common shrub species. The wood enjoys an extensive network of interlinking paths, rides and open spaces that link into the public footpaths that run through the wood. Alongside the A167, the main access track and covering a total of 3.0ha are four wildflower meadows sown in September 2010. Access to the wood is available from the A167 and A177 to the west and via the public footpath to the east that enters Low Burnhall at the northeast corner of sub-cpt 41b. A small public car park is situated at the northwest corner of sub-cpt 41e, accessed from the A177. Management access is also available here and also directly off the A167. Once on site, visitors can enjoy three informal play areas, a viewing area, sign posted walks and several seats. Walkers can also meet the willow miner and his wife, two wonderful sculptures located in the wood. Bird enthusiasts can also enjoy the bird hide that overlooks the fascinating wetland area by the River Wear that contains blocks of wet woodland, small ponds and wet scrapes that attract a great variety of bird species.

The purchase of Low Burnhall was made possible due to financial assistance from County Durham Environmental Trust (CDENT), Heritage Lottery Fund (HLF), Biffaward, The Shears Foundation, TK Maxx, local people and others. Woodland establishment was funded with the help of these organisations and the Forestry Commission.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

**By bus:** The 6, 7 and X21 buses operate regularly to and from Durham along the A167. The nearest bus stop is just south of the public footpath leading to the buildings at Low Burnhall.

**By train:** The nearest train station is Durham.

For up-to-date information on public transport, visit [traveline.org.uk](http://traveline.org.uk); or telephone 0871 200 22 33.

**By car:** From Durham, head south west on the A690 (Crossgate Peth). Then turn left on to the A167 (Darlington Road). At the Cock of the North roundabout take the first exit onto the A177 (South Road). The Woodland Trust car park, with space for 18 cars and minibuses, is located immediately to your right. There is coach parking in the layby on the A167.

(December 2016)

### 3.2 Access / Walks

The main entrance is at the car park just off the A177 (South Road). There are also five entrances from the A167 (Darlington Road). There is a network of maintained routes through the woodland, with informal play areas, seats, a viewing platform and the following signposted walks.

**Wagon Way Trail (1.1km/0.7 miles):** This short trail follows the route taken by the Croxdale pit wagons to the railway at the top of the hill, where it reaches a panoramic viewpoint overlooking the River Wear. The grassy track is suitable for buggies.

**Sulphur and Salt Trail (2.3km/1.4 miles):** The route follows the Wagon Way Trail to the viewpoint, then drops down steeply to join the public footpath. A landmark stone spiral marks the turning point for this walk.

**Riverside Trail (3.5km/2.2 miles):** This route follows the path alongside the River Wear, taking you through young woodland and newly created meadows. Please take care to follow the waymarked route as the buildings and farms are private property.

The routes pass a number of points of interest. Look out for the carvings in locally quarried sandstone by sculptor Jason Turpin-Thomson, representing the wood's wildlife and history. The works include a fish, railway tracks, and a bottle - a reference to the medicinal waters.

**Orienteering:** There is permanent orienteering course, set up in collaboration with orienteering club, the Northern Navigators. The course consists of 30 controls set out randomly over the site.

It's possible to walk from Low Burnhall wood through adjacent woods and along the banks of the River Wear to Durham City, or follow a shorter route northwards to Durham University Botanic Gardens. The Weardale Way, a 124km (77 mile) walk from Killhope in the North Pennines to the mouth of the river in Sunderland, runs just south of the wood.

## 4.0 LONG TERM POLICY

Low Burnhall will be managed in order to ensure native high forest broadleaved woodland is successfully established and maintained across the site so that, over the long-term (50 to 100 years plus), the wood becomes self-perpetuating through natural regeneration, ensuring its existence in perpetuity. Informal public access will be encouraged by mowing paths, rides and other open spaces each year to ensure these remain open for walkers. By carrying out these activities, contributions will be made towards achieving the Trust's corporate objectives of increasing the area of new native woodland and also increasing enjoyment and understanding of woodland. The wildflower meadows alongside the A167 will be maintained in perpetuity as open ground habitats and sub-cpts 41i and 41l managed as wetland features. The ASNW in sub-cpt 41a will be protected and allowed to develop naturally without direct intervention.



## 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

Between March 2010 and December 2012, 94'250 native trees and shrubs were planted across 61.00 ha of former arable and pasture farmland to create a new native wood on the southwest edge of Durham City.

#### Significance

Native broadleaved woodland is a vital habitat for many plants and animals found in the UK. Over the centuries, our countryside has lost most of its natural tree cover, with a consequent loss of biodiversity. By planting new native woodland we are helping to reverse this depletion and fragmentation of the countryside. Planting on former farmland provides a net gain in biodiversity that will increase as the woods develops. Consequently, increasing the area of new native woodland is one of the Trust's four key corporate objectives that the creation of the new wood at Low Burnhall helps to fulfil. At a local level, the new wood will help protect the ASNW of Saltwell Gill Wood by removing potentially adverse farming practices from site and extending and linking this wood into a much larger continuous corridor of woodland running along the western side of the Wear Valley, helping to reverse the affects of habitat fragmentation.

#### Opportunities & Constraints

The creation of a new wood at Low Burnhall provides the opportunity to extend and buffer the ASNW in Saltwell Gill as well as extend the continuous ribbon of woodland running down the western side of the Wear Valley from Maiden Castle in Durham City all the way to the outskirts of Sunderland Bridge around 6km (3.7 miles) to the south. The site also provides the opportunity to create areas of wet woodland that is both a regional and national biodiversity action plan priority habitat. Because Low Burnhall is situated in a Conservation Area and also within an Area of High Landscape Value, the use of individual plastic tree shelters was not considered appropriate across the entire site. Consequently, most trees have been planted without protection and are therefore vulnerable to rabbit, hare, vole and deer damage as well as being missed during weeding and beat-up operations.

#### Factors Causing Change

None identified at this time

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

To ensure that native high forest broadleaved woodland is successfully established across site and to ensure this remains healthy and vigorous so that, over the long-term, the woods becomes self-perpetuating through natural regeneration, ensuring their existence in perpetuity.

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

In December 2014, ash die-back was confirmed to be present at Low Burnhall. Ash accounts for around 16% of all the stock planted across the wood and in some sub-cpts is the first or second most frequently planted species. Therefore, the spread of this disease across the wood will be monitored over the next plan period to assess the scale of the impact it has on the wood's establishment. As the overall objective is to achieve a healthy mixed native broadleaved woodland across all parts of the site, the options for replanting failed areas may have to be considered, depending on the magnitude of the disease's impact on woodland cover and the current policy positions of the Trust and the Forestry Commission. A programme of tree tube removal will be undertaken, likely at year 5 following planting or earlier should degradation occur.

## 5.2 Ancient Semi Natural Woodland

### Description

Saltwell Gill Wood (sub-cpt 41a) covers 3.34ha and is a fine example of an ASNW occupying the steep slopes of the gill and those running down to the River Wear at the northern end of Low Burnhall. It forms part of the larger 8ha County Wildlife Site (No 4.13) with many ancient woodland indicator species present. The canopy is dominated by sessile oak, beech and sycamore but also present is hornbeam and sweet chestnut, a number of which are significant veteran trees and so increase the wood's value for wildlife. Although the ground flora generally reflects the acid soils (blue bell, dog's mercury, etc.) the slightly calcareous nature of the sandstone also supports yew, small leaved lime and spindle adding considerably to the woods ecological importance at a county level.

### Significance

Ancient Semi-natural Woodland, a nationally rare habitat type whose preservation is both a local and national target within biodiversity action plans. Saltwell Gill Wood is also County Wildlife Site and one of the reasons why this area is designated an Area of High Landscape Value. It is a particularly fine example of ASNW containing a number of veteran trees as well as species such as small leaved-lime and spindle that are both rare in county Durham; with Low Burnhall being one of only nine sites for spindle in the county and containing seven of the 320 known small-leaved lime trees.

### Opportunities & Constraints

Woodland Trust ownership of this part of Saltwell Gill Wood provides the opportunity to ensure this ASNW is protected and maintained for future generations to enjoy. The new planting in sub-cpts 41b, c and d both extend and buffer the wood whilst the ancient woodland flora and fauna it contains will act as a source from where these species can migrate into the wood new, increasing its biodiversity. Although the steep slopes and vertical drops prevent public access for safety reasons, these do provide the opportunity to maintain this wood as undisturbed habitat, benefitting the flora and wildlife that live there.

### Factors Causing Change

None identified at this time

### Long term Objective (50 years+)

To maintain in perpetuity, continuous broadleaved high forest woodland across sub-cpt 41a that is predominantly native in character which continues to develop naturally without direct intervention.

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

Saltwell Gill Wood will be managed on a minimum-intervention basis. Near the end of each 5-year management plan period, the wood's condition will be formally inspected to check for diseases and other signs of damaging impacts, such as invasive species. If problems are discovered that can be realistically addressed or rectified, appropriate action will be taken.

## 5.3 Open Ground Habitat

### Description

Four wildflower meadows have been created alongside the A167 and next to the access track leading to Low Burnhall Farm in sub-cpts 41h, 41j, 41k and 41m and cover an area of 3.0 ha. These four areas were cultivated and sown with 20kg/ha of annual and 10kg/ha of perennial wildflower seeds in September 2010.

### Significance

Species rich wildflower meadows have become increasingly rare with the rise of modern farming and the increased use of herbicides and pesticides, so creating these meadows will help address this decline. Their creation will provide a rapid increase in biodiversity which, on young woodland creation sites Low Burnhall that tend to be rather dull during the early years of establishment, provide much needed colour and variety. The meadows also fulfil the important function of creating a buffer zone between the A167 and the new wood, avoiding future problems and safety issues of having trees alongside a busy main road.

### Opportunities & Constraints

Introducing wildflower meadows into the wood's design at Low Burnhall provides both the opportunity of quickly increasing the biodiversity on site and also creating colour and interest for visitors during the early years of establishment. They also push back the woodland edge away from the A167, avoiding future problems and safety issues that having trees next to a busy road can cause. To avoid potential conflicts over archaeology and increased costs of mitigation, deep inversion ploughing was not used on this site as a means of ground preparation prior to sowing. Instead, the existing ground vegetation sprayed off with glyphosate then several days later the four areas were subjected to shallow disk cultivation and sown with pure wildflower seed. This method of establishment does, however, increase the chances that the emerging wildflowers will be being subject to competition from grasses and other species still surviving in the soil's weed bank which could act as a serious constraint on the establishment of the meadows.

### Factors Causing Change

Emerging grass competing with wildflowers

Noxious weeds colonising wildflower meadow

### Long term Objective (50 years+)

To create a species-rich grassland habitats that will both create interest for visitors and benefit local wildlife. Also, to maintain a buffer zone of open ground between the wood and the A167.

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

Since sowing, most of the annual species have been replaced by perennials with knapweeds currently the dominating all four wildflower areas. All four areas will continue to be chain flailed in September/October each year once most species have flowered and seeded, to allow the sward to continue to develop towards species rich grassland over the next 5 to 10 years.

## 5.4 Semi Natural Open Ground Habitat

### Description

Low Burnhall contains a number of interesting wetland habitats. The most significant of these are the ponds and wet grassland in sub-cpt 41l and the pond in the old clay pit sub-cpt 41i. In addition to these there is the new stand of wet woodland created in sub-cpt 41p and the wet flushes that occur in 41d.

### Significance

Wet woodland is both a regional and national biodiversity priority habitat type, so wherever this occurs or can be created on site, it will have intrinsic value in its own right. Wetlands of all types generally have high conservation value, supporting a wide variety of aquatic, aerial and terrestrial invertebrates as well as larger animals such as newts, frogs, toads, water voles and otters. They can be particularly important as feeding areas for breeding wading birds but are also used by many farmland birds as well. Within a wood they provide valuable habitat diversity and help increase the overall biodiversity of the wood.

### Opportunities & Constraints

Wet habitats can constrain woodland establishment, killing tree species unable to cope with the waterlogged conditions and therefore limiting what can be planted but they also provide the opportunity to create wet woodland that is both a regional and national biodiversity priority habitat. Wet areas also have intrinsic conservation value in their own right and create valuable structural and habitat diversity in young woodland. Seasonal bodies of open water and rank wet vegetation such as the ponds and ground cover in sub-cpt 41L can be particularly valuable for birds, as well as European protected species such as otters that are known to be present in the River Wear alongside Low Burnhall. Most semi-natural ponds generally have high conservation value and the one in sub-cpt 41i with its associated scrub woodland provides a great opportunity to restore open water that is likely to provide high quality habitat for other protected species such as great crested newts.

### Factors Causing Change

Spread of bulrush across the pond in sub-cpt 41i

Silting up of the pond in sub-cpt 41i

### Long term Objective (50 years+)

To create and/or maintain vibrant and species-rich wetlands, stands of wet woodland and ponds in sub-cpts 41d, 41i, 41k, 41l and 41p.

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

Over the next five years, the stands of wet woodland planted in sub-cpt 41p and 41L will become fully established and all tree shelters will have been removed from these trees. By 2022, the ponds and wet scrapes excavated in 41L in 2013 will have become established seasonal water bodies attracting a variety of bird species to this wetland area. Subject to planning and environmental assessment, additional wetland areas along the riverside could be established

## 5.5 Connecting People with woods & trees

### Description

This site is part of the Welcoming Sites Programme, which aims to improve the visitor experience to this site. The Welcoming Site Programme will lead to a series of lasting upgrades that will improve the visitor experience and will likely increase the number and range of visitors to Low Burnhall. It will build on the infrastructure that was designed and installed as part of the original programme of works when the wood was planted. The site will be managed to meet the required high standards of the Welcoming Site Programme and will provide a clear welcome: well-maintained entrances, furniture, signs and other infrastructure as well as sustainable paths. The site will be a truly valued resource for the local community and visitors to Durham alike.

#### It's position in the landscape

Low Burnhall Wood is situated in greenbelt land on the southwest edge of Durham City around two miles from the city centre. At its northern end, the wood occupies south-facing slopes on the western side of the River Wear Valley, dropping down onto the river flood plains to the south. Most of the wood falls within the Burn Hall Conservation Area and all of the land lies in an Area of High Landscape Value.

The wood's southern boundary is formed by the River Browney that flows into the River Wear whose bank is the site's eastern boundary. Saltwell Gill Burn forms its northeast boundary whilst its northern boundary is made up of old field hedges. The bulk of the western boundary is defined by the A167.

Farmland and woodland belonging to Durham University lies to the north of the site and further farmland and woodland forming part of East Durham and Houghall Community College adjoins the site's northeast boundary. Across the River Wear to the east lies Croxdale Hall Estate consisting of arable farmland, Ancient Semi-Natural Woodland (ASNW) and the 7.95ha SSSI site known as Butterby Oxbow

The land at Low Burnhall had been farmed for hundreds of years but had also been affected by industrial activity. During the nineteenth century a brick and tile works was located here and a pond occupies the old clay pit. Coal was also mined here for a short time in the 1800's. The route of the old wagonway associated with Croxdale Pit can still be followed on the ground, marked by a fragmented holloway running northwards and the site of the old engine house that operated the rope haulage on the incline. Within the River Wear next to Low Burnhall there existed a natural salt well and also a sulphur well, Both these natural springs were used for medicinal purposes during the eighteenth century but it is believed that the salt well was affected by the advent of mining, resulting in its loss.

#### General description of the access

The Site has 7 access points, One of these is adjacent to the Honest Lawyer Pub on the A167, One is to the North East of the land and links through to the University land at Houghall and then the Botanic Gardens. The third main entrance is off the car park and the Cock of the North Roundabout where the A177 and A167 intersect. The paths are all down to grass and of a good width in general (approx 4m) narrower along the river section. One public right of way leads from the Botanic Garden entrance and crosses the wood exiting along the shared track to the housing in the middle of the wood.

#### specific furniture/ access point description

There is a brown tourist sign to direct traffic onto site off the A177 and a ladder board at entrance to

the car park at the end of the tarmac road. There is also an information board just inside the gate adjacent to the car park. Two legacy banners also situated nearby at the threshold to the walking routes. There are three promoted waymarked trails - called the Riverside Trail at 3.5km, the Sulphur and Salt Trail at 2.3km and the Waggon way Trail at 1.12 km. The Routes reference the historic use of the site for coal mining and salt and sulphur wells that were used for medicinal purposes in former times. There are three other information boards on site. One adjacent to the Honest Lawyer entrance, one at the entrance off the A167 and the path that leads down to the bird hide. The other is at the north eastern entrance leading in from the Botanic gardens. Each board highlights the entrance point with a "you are here" arrow and information about the walks and features on site. The woodland also has a bird hide overlooking wetlands and the River Wear, seating areas, three stone play features and a number of willow sculptures, wildflower meadows, fixed orienteering course and drystone wall viewing platform to create extra interest. The willow miner sculpture is very popular with visitors.

#### The visitor profile

The site is on the edge of Durham City with a population of 29,000. The DH1 postcode which the woodland immediately serves has a population 18,112. The woodland is growing in popularity and the car park busy throughout the week. The site is particularly popular with dog walkers.

#### Nearby Woodland Trust sites

The two closest woods to Lowburn Hall are Ragpath Wood and Elemore Woods, Both are approx. 5 miles from Low Burnhall. There are other woods which are more on a par with Low Burnhall in the County such as Hedley Hall and notably Pontburn Woods but these are further afield at 12 miles plus. There is scope to promote our other best woods in the county currently just done via the trust website.

#### Volunteering

There are opportunities to be a site warden, we have had two wardens recently and one of these is still in post. He visits the woods a number of times each week and reports any issues to the site manager. The warden also puts up event posters and banners for us and clears up any litter on site. The warden has also helped out at events in the past and there is scope to do more of this in the future.

### Significance

Increasing enjoyment of woodland is one of the Woodland Trust's key outcomes which we can achieve at Low Burnhall as it sits on the edge of the City of Durham and therefore easily accessible for many people. The topography of the landscape with the River Wear on one boundary make it especially attractive landscape close to the city centre. It links in with a number of connecting footpaths so visitors have options of longer or shorter walks. The car park at the northern entrance is busy throughout the week especially with dog walkers.

The woodland is developing well and the number and range of visitors also increasing. After the initial community events which took place when we planted Low Burnhall there is now a small scale programme of events to sustain the interest in the woodland longer term.

There is scope to broaden this as we move forward and the site could be used for demonstration purposes for woodland creation. It will be the region host site for the Woodland Charter in 2017 and also sits in the Treescape area for the North East. We also have wider schools activity in the region as part of the Green Tree schools Award (GTSA). Durham County Council are very supportive of our work in the County and have supported us with woodland creation projects over the past 10 years on their land holding.

## Opportunities & Constraints



The waymarked trails and information/ orientation on site needs to be updated into new brand and interpretation about the landscape developed so visitors get a greater sense of the areas history and what we are trying to achieve with the woodland creation. Some sections of the paths get quite wet in winter so there is scope for an all ability loop from the car park to aid visitors throughout the year.

The car park we have created is not that big for holding larger events (enough spaces for approximately 10 cars), planning permission would be needed for any increase in size and a decision on where this would be built. Brand moments can be delivered on site and each year we currently organise an Easter Egg Trail which is growing in popularity as more people are aware that the wood is used for these events. Other events have been run in the past and can be repeated and built on, however creativity is needed to accommodate car parking.

Low Burnhall has a suite of education resources which are available for schools to download for free to make the most of a visit to the woods, this is a legacy of the initial project when the woodland was planted. More can be made of these resources and to make local schools aware of their existence especially through GTSA

As the woodland develops there will be more scope for forest schools type activity and also for the community to have greater engagement with the management of the woodland. At present we have a number of site wardens in post and these roles could be expanded to help deliver events and the establishment of a friends group. A wood allotment group may be one option in a few years time when some of the trees are ready for thinning.

There is opportunity to re-establish links with the nearby visitor attractions such as the Honest Lawyer, and the Botanic Gardens which can help with cross promotion of our facilities.

The sculptures on site have been very popular and a draw for visitors. These have reflected the the historical uses of the woodland with the Willow Miner and his wife. There could be scope for more sculptures on site, perhaps some temporary installations on an annual basis to draw in more visitors?

### **Factors Causing Change**

Increased numbers of visitors will require improved infrastructure on the site and greater engagement with visitors, volunteers and local businesses and attractions. It will also require a greater level of annual maintenance, with a periodic (10 year) refurbishment of the entire welcome facilities as well as a higher expectation of the quality of the infrastructure and interpretation provided.

Pro-active engagement with the dog walkers who are using the routes would help to minimise any damage to the woodland flora and fauna and also litter left on site.

Increased flooding of the River Wear could result in more bank erosion effecting the site and making some areas impassable after heavy rain upstream. But does have a knock on benefit in the wetland areas, which there could be an opportunity to extend.

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

The woodland will provide an area of quiet informal recreation to a wide range of users both from the local community and from further afield.

The use of the site by visitors to Durham will be promoted through positive relationships with neighbouring attractions such as the Botanic Gardens, The Honest Lawyer and City centre attractions. Good information and interpretation on site will be key to this. The area will be well managed example of woodland creation and management for community benefit in it's widest sense. The biodiversity of the site will have increased with a range of habitats and wildlife for people to see.

Entrances and signage will have a welcoming appearance and there will be a network of well-maintained paths providing a number of circular and through routes suitable for visitors. Permanent and temporary features on site will add interest for visitors with information and orientation materials up to date.

There will be wardens on site who can talk with visitors to inform them about the work of the Trust, membership opportunities and things to see and do on their visit.

A friends group has been established and regularly works in the wood on conservation tasks. There may also have been scope to extend the woodland through local partnerships so we link and buffer the woodland into the adjoining landscape. This will give even better access from Durham City Centre and the promotional messages we can use about our organisation.

The use of the site for education will have increased, with a programme established.

The site will be seen as a flagship woodland trust site in the North East benefiting the local community, visitors to Durham and local businesses.

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

The visitor welcome & experience will be further enhanced by the following infrastructure improvements by the end of the current plan period:

Welcome signage will be updated and replaced including exit signs. The existing information, orientation and interpretation at all entrances will be updated into new brand and the access guidelines used to inform users as to the nature of the walking routes.

The three waymarked routes will be reviewed and consolidated and be maintained to providing free access on foot throughout the wood.

Promoting of the walks, orienteering course, sculptures and other on site features will be developed and marketed locally in the Durham area.

New volunteer activity and volunteer roles will be developed and encouraged, along with the existing volunteers with the assistance of the Volunteer Development Officer.

Forest schools and other local user groups will be encouraged wherever possible if they are in line with the aims of our organisation.

Events will be undertaken as required, including themed seasonal activity in line with the wider trust requirements.

Access provision will be in keeping with WT access guidelines. This will ensure that entrances & signage are welcoming to visitors and inspected and cared for on a regular basis. The paths are all managed and kept reasonably well-drained and free from encroaching vegetation, and that access infrastructure such as steps, entrances, signage, commemorative products, dedications and boundaries are kept in good order.

All viewpoints are maintained annually and kept free of encroaching vegetation, where it is obscuring the view.

The site is kept safe and welcoming by: repair of vandalism when needed; clearing of fallen trees where access is obstructed, as required and regular site safety surveys as per risk assessment.

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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
41a	3.34	Mixed broadleaves		High forest	Housing/infrastructure, structures & water features on or adjacent to site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	New Native Woodland	Ancient Semi Natural Woodland, Area of Landscape Value, Green Belt
<p>Saltwell Gill Wood that makes up sub-cpt 41a is a fine example of an ASNW occupying the steep slopes of the gill and those running down to the River Wear at the northern end of Low Burnhall. Covering 3.34ha, it forms part of the larger 8ha County Wildlife Site (No 4.13) with many ancient woodland indicators present. The canopy is dominated by sessile oak, beech and sycamore but also present is hornbeam and sweet chestnut, a number of which are significant veteran trees and so increase the wood's value for wildlife. Although the ground flora generally reflects the acid soils (blue bell, dog's mercury, etc.) the slightly calcareous nature of the sandstone also supports yew, small leaved lime and spindle adding considerably to the woods ecological importance at a county level.</p>							
41b	2.39	Oak (sessile)	2012	Wood establishment	People issues (+tve & -tve)	New Native Woodland	Area of Landscape Value, Green Belt
<p>A former pasture field covering 2.39ha surrounded on most sides by existing woodland. The ground is mostly level but slopes down towards Saltwell Gill Burn at its northeast corner. On the 1838 tithe award map, this field is named "Stinking Well Field" which would appear to be a reference to the natural sulphur spring that existed near here that was visited during the 18th century for medicinal purposes. Around 1.09ha of the sub-cpt was planted at the beginning of 2012 with 1750 native broadleaved trees and shrubs consisting of sessile oak, ash, rowan, common hawthorn, hazel, silver birch, holly and dog wood, leaving 1.30ha as open ground between the plantings.</p>							
41c	1.20	Oak (sessile)	2012	Wood establishment	People issues (+tve & -tve)	New Native Woodland	Area of Landscape Value, Green Belt
<p>A former 1.2ha pasture field sloping gently southwards down towards Saltwell Gill Wood (sub-cpt 41a). Around 0.41ha was planted in early 2012 with 700 native broadleaved trees and shrubs consisting of sessile oak, ash, rowan, common hawthorn and hazel, leaving 0.79ha as open ground between the plantings.</p>							

41d	6.39	Oak (sessile)	2012	Wood establishment	Archaeological features, Mostly wet ground/exposed site, People issues (+tve & -tve), Very steep slope/cliff/quarry/mine shafts/sink holes etc	New Native Woodland	Area of Landscape Value, Green Belt
<p>Sub-cpt 41d consists of 6.39ha of former pastureland with a south-facing aspect occupying moderately steep slopes along its northern side that give way to more gently sloping ground at its middle and southern side. A number of wet flushes/springs occur across this area and well established gorse and hawthorn scrub covers much of the steeper slopes along the northern side of the field. A fragmented holloway runs diagonally up the slope at the western end marking the route of the old nineteenth century wagonway that ran from the Croxdale Coal Pit at Low Burnhall northwards through Blaid's Wood to Houghall and Shincliffe. Around 2.14ha was planted at the beginning of 2012 was 4700 native broadleaved trees and shrubs consisting of sessile oak, ash, rowan, common hawthorn, silver birch, hazel and alder. The remaining 4.25 ha has been left as open ground between the plantings.</p>							
41e	12.73	Oak (sessile)	2012	Wood establishment	Archaeological features, Services & wayleaves	New Native Woodland	Area of Landscape Value, Green Belt
<p>Sub-cpt 41e covers 12.73 ha at the northern end of Low Burnhall. Except where it slopes gentle down towards the A167 at its western side, most of the sub-cpt consists of level ground with panoramic views cross the Wear Valley. Formerly an arable field, the ground was prepared using shallow disk cultivation then sown with grass seed and rolled at the end of September 2009 to create a suitable planting sward and rides for walking. The grass seed mix consisted of sheep's fescue (30%), red fescue (30%), common bentgrass (20%), creeping bentgrass (10%) and crested dog's tail (10%). A water pipe supplying the properties at Low Burnhall passes through the field and the site of the former engine house that operated the rope haulage system for the old nineteenth century wagonway is located near the southeast corner of 41e. A small public car park sits in the northwest corner and is the main access point for the wood. At the end of 2012, 9.97ha was planted with 25000 native broadleaved trees and shrubs consisting of sessile and pedunculate oak, common hawthorn, silver birch, dog wood, hazel, dog rose, elder, holly and wild cherry. A further 1200 cherry trees (720 wild cherry and 480 bird cherry) were planted in 2011 and 2012 as a double row along each side of the ride above the water pipe to create a cherry blossom walk.</p>							
41f	4.94	Oak (sessile)	2011	Wood establishment	Services & wayleaves	New Native Woodland	Area of Landscape Value, Green Belt

A 4.94 ha field occupying moderately sloping ground with a south-facing aspect. The boundaries are formed by old field hedges, except the east where a new hedge was planted at the end of 2010. An overhead electric power line runs along its southern boundary and a water pipe supplying the properties at Low Burnhall runs northwards through its western side. Formerly arable land, the ground was prepared using shallow disk cultivation then sown with grass seed and rolled at the end of September 2009 to create a suitable planting sward and rides for walking. The grass seed mix consisted of sheep's fescue (30%), red fescue (30%), common bentgrass (20%), creeping bentgrass (10%) and crested dog's tail (10%). Woodland planting was carried out at the end of 2011 using 10,000 native broadleaved trees and shrubs consisting of sessile and pedunculate oak, ash, hazel, silver birch, small leaved-lime, wild cherry, rowan, spindle, dogwood, holly and elder.

41g	0.86	Hawthorn species		Non-wood habitat	People issues (+tve & -tve), Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
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Sub-cpt 41g covers 0.86 ha of riverbank behind the buildings of Low Burnhall next to the River Wear. An area of hawthorn woodland occupies its northern end and a scattering of hawthorn, ash and sycamore grow alongside the river away from the water's edge. The ground vegetation consists mostly of rank grasses but during the summer dense stands of Himalayan balsam also form.

41h	3.07	Oak (sessile)	2011	Wood establishment	People issues (+tve & -tve), Services & wayleaves, Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
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3.07 ha located between the A167 and the buildings of Low Burnhall consisting of former arable land converted to grass by sowing Italian ryegrass prior to the Trust purchasing the land in 2008. It consists of level ground at its western side but gently slopes eastwards down towards the residential property outside its eastern boundary. A public footpath enters its southwest corner and runs along the side of the hedge to join the public footpath that runs along the main access track. The overhead power line that runs along the boundary with 41f continues westwards through 41h until it reaches a pole near to the A167 from where it becomes an underground cable, first heading north before turning west and leaving the wood. During August 2010, a 0.38 ha strip next to the A167 was cultivated and sown with wildflower seeds to create a strip of open ground alongside the road to keep the tree line back from the roadside. Early in 2011, 1.81ha was planted with native broadleaved trees and shrubs leaving 1.26ha as open ground. The species planted include sessile and pedunculate oak, ash, hazel, hawthorn, rowan, silver birch, elder, guelder rose, wild cherry and dog rose.

41i	0.83	Hawthorn species		High forest	Management factors (eg grazing etc), No/poor vehicular access to the site	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41i occupies 0.83 ha and contains the old clay pit associated with the nineteenth century tile and brick works that is now a pond but heavily silted up with little open water due to a dense cover of bulrush. An area of rough grassland exists at the southern end of 41i but surrounding the pond and covering most of the sub-cpt is dense scrub woodland. Included within its eastern boundary is the access track/public footpath.</p>							
41j	4.06	Oak (sessile)	2011	Wood establishment	Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41j covers 4.06 ha on a moderate south-facing slope location between the A167 and sub-cpt 41i and includes within its area most the access track/public footpath leading up to the Low Burnhall buildings. An overhead telephone line runs along the southern edge of the access track but otherwise the sub-cpt is free of services. Formerly arable land, the ground was cultivation and sown with grass seed in September 2009 to create a suitable planting sward. During August 2010, a 0.94 ha strip alongside the access track was cultivated and sown with wildflower seeds to create a strip of open ground alongside the access track to keep the tree line back from the trackside. Early in 2011, 2.61ha was planted with 7200 native broadleaved trees and shrubs consisting of sessile and pedunculate oak, hazel, ash, silver birch, hawthorn, dog rose, rowan, wild cherry, dogwood, holly and spindle, leaving 1.45ha as open ground.</p>							
41k	10.01	Oak (sessile)	2010	Wood establishment	Mostly wet ground/exposed site, Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41k covers 10.01 ha of flat ground alongside the A167 south of the access track leading to the buildings at Low Burnhall. Formerly arable land, the ground was cultivation and sown with grass seed in September 2009 to create a suitable planting sward. During August 2010, a 1.13 ha strip alongside the A167 was cultivated and sown with wildflower seeds to create a strip of open ground alongside the road to keep the tree line back from the roadside. At the end of 2010, 7.29ha was planted with 18000 native broadleaved trees and shrubs consisting of sessile and pedunculate oak, hazel, ash, silver birch, small leaved lime, guelder rose, hawthorn, dog rose, rowan, wild cherry, dogwood, holly and spindle, leaving 2.72ha as open ground.</p>							



41l	3.71	Alder species	2011	Wood establishment		New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41L covers 3.71 ha located next to the River Wear. An old levy bank runs along the river's edge and a short steep slope runs along its western and northern boundaries, otherwise the ground is flat and generally wet, containing a couple of small ponds that expand and contract with the seasons. The area was probably created in 1811 when the River Wear at this point was straightened, suggesting the slopes along the western and northern boundaries marks the location of the former riverbank. Further ponds/wet scrapes were excavated in 2013 to enhance the wetland habitat, particularly for birds that can be watched from the bird hide located on the southwest edge of the sub-cpt. At the beginning of 2011, 0.55ha was planted with 550 common alder, crack willow and osier in three small blocks to create some wet woodland cover and in 2012, 50 native black poplar were added along the eastern edge, leaving the bulk of the sub-cpt (3.16ha) still as open ground.</p>							
41m	3.75	Oak (sessile)	2010	Wood establishment	Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41m is a large flat field alongside the A167 immediately south of sub-cpt 41k. Formerly arable land, the ground was cultivation and sown with grass seed in September 2009 to create a suitable planting sward. During August 2010, a 0.38 ha strip alongside the A167 was cultivated and sown with wildflower seeds to create a strip of open ground alongside the access track to keep the tree line back from the roadside. In March 2010, 7400 native broadleaved trees and shrubs were planted, without protection, in three large planting blocks. Planting block i was planted at 1.5m spacing (4444 trees/ha) and blocks ii and iii at 2.0m (2500 trees/ha) leaving approximately 0.44 ha (12%) of the sub-cpt as open ground in the form of grass rides and the wildflower meadow. The first of twelve schools' activity weeks was held on site during the week beginning the 22 March 2010 at which the first trees were planted in 41m. Following this, over two hundred people came to the public planting event on the 27 of March 2010, so it was possible to complete the planting of 41m using only volunteers. The species planted included sessile and pedunculate oak, hazel, ash, silver birch, hawthorn, dog rose, rowan, wild cherry, dogwood, holly, guelder rose and elder.</p>							
41n	2.35	Oak (sessile)	2010	Wood establishment	Sensitive habitats/species on or adjacent to site	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt

<p>Sub-cpt 41n occupies 2.33 ha and gently slopes down from the hedge on its western boundary onto level ground. Formerly arable land, the ground was cultivation and sown with grass seed in September 2009 to create a suitable planting sward. In March 2010, it was planted with 4700 native trees and shrubs, put in the ground without protection across three large planting blocks, two of which continue into sub-cpt 41o. Species planted include sessile and pedunculate oak, ash, small-leaved lime, hazel, silver birch, rowan and dog rose. Those in block ii were planted at 1.5m spacing (4444 trees/ha) whilst those in blocks i and iv were planted at 2.0m spacing (2500 trees/ha). Open ground consists of wide grass rides covering approximately 0.24ha or 10% of the sub-cpt area.</p>							
41o	2.33	Ash	2010	Wood establishment		New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41o occupies 2.35 ha of level ground between the River Wear and sub-cpt 41n. Formerly arable land, the ground was cultivation and sown with grass seed in September 2009 to create a suitable planting sward. In March 2010, it was planted with 4800 native trees and shrubs, put in the ground without protection across three large planting blocks, two of which continue into sub-cpt 41n to create a uniform design on the ground across both sub-cpts. Species planted include sessile and pedunculate oak, ash, rowan, silver birch, hazel, hawthorn, dog rose and elder. Those in block ii were planted at 1.5m spacing (4444 trees/ha) whilst those in blocks iii and iv were planted at 2.0m spacing (2500 trees/ha). Open ground consists of wide grass rides covering approximately 0.22ha or 9% of the sub-cpt area.</p>							
41p	0.75	other willows	2010	Wood establishment	Management factors (eg grazing etc), Mostly wet ground/exposed site	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
<p>Sub-cpt 41p occupies a narrow strip of riverbank next to the River Wear that becomes wider further south where the Rivers Browney and Wear meet. Although covering 0.75 ha, only 0.22 ha or 30% at its southern end was planted in early 2010 with 500 native alder, crack willow and osier at 2.1 m spacing (2250 trees/ha) and protected by 0.75m Tubex shelters to create a stand of wet woodland to help stabilise this part of the riverbank. The remaining 0.53 ha or 70% includes a stand of mature sycamore and ash to the west of the new plantings and open riverbank alongside sub-cpt 41o containing a scattering of mature sycamore and willow trees.</p>							
41q	2.23	Oak (sessile)	2010	Wood establishment	Archaeological features	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt

Sub-cpt 41q occupies 2.21 ha of former rough pastureland situated between Oakmead House and sub-cpt 41p and slopes gentle eastwards the River Wear. In March 2010, 1.11 ha was planted with 2500 native broadleaved trees and shrubs protected by 0.75m high Tubex tree shelters across three planting blocks. Species planted include sessile and pedunculate oak, ash, silver birch, rowan, hawthorn, hazel and elder. Planting blocks i and iii were planted at 2.0m spacing (2500 trees/ha) but block ii was planted at 3.0m spacing (1100 trees/ha) in irregular sized groups because of the remnant ridge and furrow surviving in this location. The remaining 1.10 ha or 49% of sub-cpt 41q consists of grass rides and a large bank that runs diagonally through the sub-compartment.

41r	1.25	other oak spp		High forest	Sensitive habitats/species on or adjacent to site	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
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Sub-cpt 41r covers 1.25 ha situated between the River Browney and Oakmead House. Its northern end is occupied by a fine stand of mature oaks whilst the remainder of the sub-cpt consists of scrub and riverbank. A permissive path runs through this area linking the land north of Oakmead House with sub-cpt 41s to the south.

41s	1.09	Ash	2010	Wood establishment	Site structure, location, natural features & vegetation	New Native Woodland	Area of Landscape Value, Conservation Area, Green Belt
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Sub-cpt 41s covers 1.09 ha and forms the southern end of Low Burnhall located south of Oakmead House and sub-cpt 41r. The River Browney forms its southern and eastern boundaries and the A167 it's western. Formerly pastureland, 0.53ha was planted in March 2010 with 1200 native trees and shrubs in 0.75m high Tubex tree shelters at 2.1m spacing (2250 trees/ha) across two planting blocks. Species planted include sessile and pedunculate oak, ash, rowan, wild cherry, hazel, hawthorn, dog rose and elder. The remaining 0.56 ha or 51% of 41s consists of open ground made up of a glade, riverbank and grass rides.

## 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.