

Hebblethwaite Hall Wood Management Plan 4426

Plan period: 2003 to 2008

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# **Hebblethwaite Hall Wood**

## **Management Plan**

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## Maps

## The Woodland Trust

### Introduction

The Trust's objectives and management principles guide the management of all the Trust's properties, and are described on Page 3. 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 where possible. The Woodland Trust also has available Policy Statements covering a variety of woodland management issues.

Any confidential 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. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme.

**Please contact the Woodland Trust to confirm details of the current management programme.**

There is a formal review of this plan every 5 years.

## Woodland Management Principles

We believe that our organisation and our objectives are unique, therefore, the style of management of our woods must also be unique. These principles outline our individual style of management. It is important however that these principles are not looked at in isolation.

**All Woodland Trust woods are certified by the Forest Stewardship Council.**

1. The Trust's main focus is the protection and conservation of ancient woodland. It also cares for other important habitats.
2. The Trust will identify and conserve the most important features of every site it owns, whether historical, cultural or ecological.
3. The Trust wants people to enjoy its sites. It will provide free, quiet, informal public access, primarily for walkers.
4. The Trust will take the views of local people and other stakeholders into account before making any decisions about a site.
5. The Trust will create new woods in sympathy with their surroundings.
6. The Trust recognises that woodland is a renewable and sustainable resource.
7. The Trust aims to fulfil its responsibilities and its legal obligations to its neighbours.

## Site Details

Hebblethwaite Hall Wood

Sedbergh

**Location:**

Grid reference: SD690931

OS 1:50,000 Sheet No. 98

**County / District:**

Cumbria

**Area:**

11.34 acres (4.59 hectares)

National Park

**Designations:**

Ancient Semi Natural Woodland

Other

Altitude: Max 250 (m) Min 200 (m)

Aspect: S

## Summary Site Description

Hebblethwaite Hall Wood is situated off the A683, 2 miles north east of Sedbergh, at Cautley, Cumbria. Ancient woodland flanks both sides of the Gill and continues up and down stream. The Woodland Trust acquired a 5 hectare section of the wood in 1990. This semi-natural ancient woodland, within the Yorkshire Dales National Park, is a continuous strip almost 1 km in length, varying in width from 20 to 80m. The woodland managed by the Trust follows the northern valley side of the deeply incised Hebblethwaite Hall Gill and is very steep in places. From the footpath, which runs the length of the wood, impressive views of the many small waterfalls created by the almost vertical bedding of carboniferous limestone, sandstone and shale, which outcrop at the base of the gill can be gained. These internally exposed complex rock and strata formations are designated by the Cumbria RIGS Group. The wood is almost hidden in the surrounding landscape, which is made up primarily of pasture and moorland edge. The wood supported a bobbin mill employing local people until about the 1890's, when it was abandoned. The buildings are to the east of the wood and fenced for safety. Hebblethwaite Hall itself was a busy farming complex and probably used the wood for grazing and firewood.

Wet flushes appear at various points in the wood and a number of small watercourses drain north to south. In these locations mosses, lichens, male ferns (*Dryopteris filix-mas*) and lesser celandine (*Ranunculus ficaria*) abound. In the relatively drier areas grasses, bluebells (*Endymion non-scriptus*), foxglove (*Digitalis purpurea*) and bracken (*Pteridium aquilinum*) are more dominant. Browsing by sheep, in the past has considerably reduced the floristic value of the wood.

The wood canopy is almost continuous and any small clearings are restricted to the extreme ends of the site. The canopy species are predominantly oak (*Quercus robur* and *Quercus petraea*) and ash (*Fraxinus excelsior*) but also include some sycamore (*Acer pseudoplatanus*) and beech (*Fagus sylvatica*). In some locations there is a sub-canopy formed of hazel (*Corylus avellana*) and rowan (*Sorbus aucuparia*). Regeneration exists

only in those locations where the ground is too precipitous to allow access by sheep in the recent past.

Attempts have been made in the past to plant oaks and hazel in some small areas in the south of the site but these are heavily protected by tree-guards and only approximately 30% appear to be still alive (August 2002).

Red squirrels were until recently resident in the woodland. Their current status is unknown. Local volunteers control grey squirrel within the area.

The wood can be entered from the public right of way crossing the site north-south and then along the permissive paths through the woodland. Users can traverse the length of the wood but must return by the same route. The terrain is picturesque but in places steep making walking difficult. Management work to the extensive path network of over 650m, included the benching of paths and the provision of footbridges, and has done much to improve the ease of access.

## Summary Description of Access Provision

Access to Hebblethwaite Hall Wood is via Hebblethwaite Hall Lane from the A683 Sedbergh to cautley Road. From Hebblethwaite Hall cross the field using public right of way to meet the wood at the stile. The public right of way immediately descends to the gill bottom where it crosses the stream via a handrailed footbridge and leaves the Trust holding. This section is maintained by the Yorkshire Dales National Park. Permissive paths run east and west from the boundary stile. Upstream the path follows the shoulder for approximately 100m and then descends to the old bobbin mill in the gill bottom via a benched track. To the west the path follows close to the field boundary for approximately 200m providing excellent views of the steep valley below. The path then descends to the gill bottom at the downstream extent of the site. The walker then must return by the same route.

## Public Rights of Way

Type of ROW	Description of route
Footpath	A public footpath crosses the property southwards from field No. 1828 and utilises the footbridge erected by the Yorkshire Dales National Park. the footpath number is 568077 and is administered by the YDNP.

## Facilities available

Facility	Yes/No
Woodland Trust car park at site	No
Parking nearby	No
Local parking difficult	Yes
Good views	Yes
Waymarked walk	No
Information board	No

Free leaflet available	No
Well worth a visit	Yes

## Long Term Intentions

Hebblethwaite Hall Wood, on the edge of the Yorkshire Dales National Park, is designated 'semi natural ancient woodland'. In England & Wales ancient woods are defined as those that have been continuously wooded since 1600 AD (Spencer & Kirby 1992). Generally semi-natural stands consist of predominantly native trees and shrubs and have not obviously been planted but have arisen from natural regeneration or coppice regrowth. At some time in the past sycamore and beech have been planted at Hebblethwaite. In the recent past the relative significance of beech and sycamore has been reduced and, although some specimens remain, the wood displays the characteristics of upland oak woodland with hazel coppice understorey. Regeneration is evident in the upper section of the wood but in the lower, section, which has suffered from sheep grazing in the past, intervention in the form of group planting was undertaken to establish succession.

It is the Trust's objective to manage this semi-natural ancient woodland in such a way that the landscape and conservation value of the site is maintained, as well as to increase people's awareness and enjoyment of this ancient habitat. This is in line with the outcomes in the Trust's Action Plan 'Keeping Woodland Alive'.

The Trust aims to maintain the overall high forest continuous-cover structure of this oakwood, whilst accepting and encouraging succession and the development of a naturally regenerating understorey; maintaining and enhancing the conditions in which the ancient woodland communities can flourish and become more robust. Thereby maintaining the variety and character of this ancient woodland and sustaining the landscape value of a continuously wooded system by adopting silvicultural techniques to promote maturity and uneven aged structure within the woodland.

The Trust aims to enhance the biodiversity of the ancient woodland characteristics by conserving old growth both native and non-native, deadwood communities, mosses and lichens by adopting working practices that do not impact adversely on the integral environment; thereby protecting and promoting the ecology of the ancient woodland for all species. It will be important to ensure that the boundaries remain stock-proof and further monitoring will be necessary to ensure continuity of succession. Species regeneration and development of the understorey will be observed and management techniques to promote regeneration and succession will be employed if necessary. Non-native tree species within the woodland will be monitored and if an increased proportion is causing habitat change or threatening the loss of species control to maintain the current approximate proportion of 25% within the canopy will be considered.

The Trust will maintain the informal access to the woodland on some 650m of permissive paths and provision of two entrances with welcome signs. Public access will be encouraged with paths, stiles and footbridges maintained and improved where necessary and open access encouraged so that local users and visitors can continue to share in the wood's beauty, gain an understanding of the woodlands importance in the landscape and it's rich wildlife habitat, which is irreplaceable and of the historical

features intrinsic to the wood. Public information and promotion of the woodland both nationally through the Trusts publications and directory's and locally will be enhanced where possible and posters will be used to inform and involve visitors with the woodland.

It is anticipated that this approach will safeguard and enhance the existing environmental value of the wood and maintain and enhance the level of public access in the woodland.

## Compartments and Sub-compartments

(Compartments are permanent subdivisions marked by permanent boundary features such as ridges, streams etc. Sub-compartments are divisions of compartments and are not necessarily permanent units; their boundaries may change as a result of management or natural processes.)

Sub Cpt No.	Sub Cpt Area Ha	General Description	Management Regime	Management Constraints	Key Features Present	Designations
1	4.95	<p>For the purposes of this management plan the whole wood is treated as one sub-compartment although there are some variations in the species composition and canopy structure across the site. The northern, eastern and western boundaries are fenced. The southern boundary is Hebblethwaite Hall Gill to the south of which is grazed woodland.</p> <p>In the upper part of the gill, to the east of the footbridge, the canopy is comparatively open and is composed of mature oak (<i>Quercus robur</i> and <i>Quercus petraea</i>), ash (<i>Fraxinus excelsior</i>) and beech (<i>Fagus sylvatica</i>) with an understorey of hazel (<i>Corylus avellana</i>) and hawthorn (<i>Crataegus monogyna</i>). There are areas of open grassland particularly to the immediate south of Hebblethwaite Hall. The woodland ground flora is diverse being mainly bluebell (<i>Endymion non-scriptus</i>), foxglove</p>	<p>The aim is retain a continuous canopy cover of this mature upland woodland and it is anticipated that this will require little silvicultural or other management and will develop into self-sustaining systems, shaped by natural processes alone. Mature native and non-native tree species will be retained for their old growth and landscape value. In particular, the non-native beech and sycamore are a naturalised part of this woodland and integral to the functioning ecosystem. Non-native species will only be controlled where it is</p>	<p>Gullies/Deep Valleys, No Vehicular Access Within The Site</p>	<p>Semi Natural Ancient Woodland -W10, Informal Public Access</p>	<p>National Park, Ancient Semi Natural Woodland, Other</p>

<p>(Digitalis purpurea), wood sorrel (<i>Oxalis acetosella</i>), herb Robert (<i>Geranium robertianum</i>), dog's mercury (<i>Mercurialis perennis</i>), herb bennet (<i>Geum urbanum</i>) and meadowsweet (<i>Filipendula ulmaria</i>). In this section, which was not unduly affected by the grazing of sheep, regeneration of hazel, oak, birch, beech and ash was identified.</p> <p>To the west of the footbridge, where the site is narrower and the gill more deeply incised, the canopy is almost continuous but composed of the same species but now including some sycamore (<i>Acer pseudoplatanus</i>). The sub-canopy is now limited to hazel coppice and as a consequence of lower light levels the ground flora now includes male fern (<i>Dryopteris filix-mas</i>).</p> <p>considered they are threatening habitat loss. Natural succession of the woodland will be monitored to ensure that regeneration is occurring and advancing and that grazing pressure is controlled through active boundary management.</p> <p>Management techniques to promote regeneration and succession will be employed if felt necessary over the long term. The entrances and paths will be maintained, with the paths enhanced where necessary. Litter will be removed and tree safety inspections completed at defined intervals with standing and fallen deadwood retained where safe to do so, imperative to the promotion of ancient woodland communities. The old mill buildings will be retained and made safe to the public by barrier fencing.</p>	
	<p>In the lower section of the gill the canopy is again discontinuous but now almost entirely oak and the open areas are composed of grasses and bracken (<i>Pteridium aquilinum</i>). It is this area which was most affected by the grazing of sheep in the recent past.</p> <p>100 oak and hazel trees were planted in 1994 in 9 small groups, following tree safety felling. These were protected by tubes and supported</p>

		by stakes. A small number are now getting away but only approximately 30% have survived. These may be sufficient to assure continuity.

## Key Features

(The Key Features of the site are identified and described in the table below. They encapsulate what is important about the site, and which site management is aimed at conserving.)

Key Feature Name	Ref. No.	Key Feature Description	Constraints and opportunities	Evaluation - Why is it important?	Cpt No.
Semi Natural Ancient Woodland - W10	f1	This 5 hectare semi-natural ancient woodland, within the Yorkshire Dales National Park, is a continuous strip almost 1 km in length, varying in width from 20 to 80m. The wood follows the northern valley side of the deeply incised Hebblethwaite Hall Gill and is very steep in places. Ancient woodland flanks both sides of the Gill and continues up and down stream. In the upper part of the gill, to the east of the footbridge, the canopy is comparatively open and is composed of mature oak ( <i>Quercus robur</i> and <i>Quercus petraea</i> ), ash ( <i>Fraxinus excelsior</i> ) and beech ( <i>Fagus sylvatica</i> ) with an understorey of hazel ( <i>Corylus avellana</i> ) and hawthorn ( <i>Crataegus monogyna</i> ). There are areas of open grassland particularly to the immediate south of Hebblethwaite Hall. The woodland ground flora is diverse being mainly bluebell ( <i>Endymion non-scriptus</i> ), foxglove ( <i>Digitalis purpurea</i> ), wood sorrel	The grazing of sheep is a significant problem affecting regeneration and ground flora. There was a concern that the status of the wood was being adversely affected by the increasing prominence of both beech and sycamore. This problem was addressed in the 1990s and although some mature stems remain the woodland now has the overall character of oak woodland. Additionally a number of oaks were planted in small groups in gaps in the canopy in the lower section of the site. There was a concern of inadequate survival but there appear to be sufficient to ensure continuity although the situation will need to be monitored during the period of the plan. At present the woodland is mature with few canopy gaps and typical of upland oak wood has little diversity among the trees and shrubs and there is limited regeneration. Where browsing has been less evident regeneration is occurring so it is felt that	Hebblethwaite Hall Wood is one of a number of semi-natural ancient woods, which clothe the deeply incised gills that descend from Baugh Fell and other similar uplands in the area. Ancient woodland flanks both sides of the Gill and continues up and down stream. Although it is not the only wood along the Gill, the core area of woodland is very small it represents an important refuge for woodland dependant species. The woodland is designated as ancient on the NCC register and has been wooded for many, many years. Sites of ancient woodland provide a continuous habitat for our native species. Many of these species can live nowhere else. Some plants and animals have very	Whole Site

<p>(<i>Oxalis acetosella</i>), herb Robert (<i>Geranium robertianum</i>), dog's mercury (<i>Mercurialis perennis</i>), herb bennet (<i>Geum urbanum</i>) and meadow sweet (<i>Filipendula ulmaria</i>). In this section, which was not unduly affected by the grazing of sheep, regeneration of hazel, oak, birch, beech and ash was identified.</p> <p>To the west of the footbridge, where the site is narrower and the gill more deeply incised, the canopy is almost continuous but composed of the same species but now including some sycamore (<i>Acer pseudoplatanus</i>). The sub-canopy is now limited to hazel coppice and as a consequence of lower light levels the ground flora now includes male fern (<i>Dryopteris filix-mas</i>).</p> <p>In the lower section of the gill the canopy is again discontinuous but now almost entirely oak and the open areas are composed of grasses and bracken (<i>Pteridium aquilinum</i>). It made local control no longer feasible or sustainable.</p> <p>A number of oaks and hazel were planted in 1994 in 9 small groups. These were protected by tubes and supported by stakes.</p> <p>succession should occur when gaps appear as long as browsing is controlled. Although open areas tend to become bracken dominated. The rockier and steeper ground offers more diversity in associated vegetation. There may be opportunities to encourage regeneration through the creation of gaps, scarification and individual tube protection of regeneration but it is hoped that natural processes will shape continuity and that intervention will not be necessary.</p> <p>In the period 1998-2001 grey squirrels were controlled in the area as part of the Cumbrian Red Alert Project aimed at protecting the native red squirrel. The current status of any resident red populations within the wood is unknown. If this work continues throughout the area by the Red Alert Project there is an opportunity for Hebblethwaite Hall Wood to be part of the project. However it is possible that the now widespread gains by the grey's has made local control no longer feasible or sustainable.</p> <p>specialised requirements and spread very slowly, if at all, into new woods, making protection of the habitat vital. The woodland with other habitats such as flushes, running water and grassland is essential for those birds and invertebrates, which require a number of habitat features to complete their life cycle. Upland oakwoods are recognised internationally as being important and have been given national priority through the English Forestry Strategy (Forestry Commission 1998) and the UK Biodiversity Action Plan (1995). This is followed through in local area action plans and the work of the Yorkshire Dales National Park.</p>
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	A small number are now getting away but only approximately 30% have survived.  These may be sufficient to assure continuity.		
Informal Public Access	<p>Access can be gained across the field from Hebblethwaite Hall using Public Right of Way to a stile. The footpath immediately descends to the Gill bottom where it crosses the stream via a handrailed footbridge and leaves the woodland. The visitor can leave the public footpath and take the permissive path through the woodland, traversing the length of the wood but returning by the same route. The permissive paths run east and west from the boundary stile. Upstream and downstream the path follows the shoulder for approximately 100m and then descends to the old bobbin mill in the gill bottom via a benched track. The bobbin mill is securely fenced and presents little hazard. To the west the path follows close to the field boundary for approximately 200m providing excellent views of the steep valley below. The path then descends to the gill bottom the terrain is steep in places.</p>	<p>Management work to the extensive path network of over 650m, included the benching of paths and the provision of footbridges, and has done much to improve the ease of access and provide the visitor with better opportunities to enjoy the wood. Further work can be done to improve access, gill scrambling activities. Access can be improved in collaboration with the Yorkshire Dales National Park footpath team that manage the public rights of way and maintain the bridge across the Gill and increase the level of use locally. Use of the wood is constrained as there are no circular loops within the wood and the only external link is with the public footpath crossing north-south. There is an opportunity to work with neighbouring landowners to see if permissive links could be created. There is an opportunity to inform the public of management practices and the history, geology and botanical interest in the wood through posters and local leaflets.</p>	<p>Hebblethwaite Hall Wood provides whole site informal recreation opportunities for the local community and visitors to the surrounding countryside and is used regularly by Longrigg Residential Centre for gill scrambling activities. Increasing enjoyment of woodland is one of the Trust key outcomes and a cornerstone to the vitality of the woods. Encouraging access to this wood can be particularly instructive given the rich and varied habitats and features within the ancient woodland and the importance of its habitat on both a local and national scale. The industrial history and the woods intrinsic qualities make it an important local resource to the nearby conurbation of Sedbergh and an educational resource for visitors and organised groups. Public appreciation of ancient woodlands is good for the well being of those visiting the wood</p>

			and ultimately, good for the wood itself through increased public understanding of the plight of ancient woodlands.
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## Management Objectives for each Key Feature

Section 7 provides a concise non technical statement of the overall long term intentions for the whole site. In this sub section are the long and short-term objectives applying to each key feature.

Key Feature Name	Ref. No.	Vision	Factors causing change	Prediction / Short term objective
Semi Natural Ancient Woodland - W10	f1	The long term aim is to maintain the diversity and richness of this SNAW and the ground flora and bryophyte community presently associated with the continuously wooded canopy by maintaining the canopy cover and accepting and monitoring succession. The aspiration is to promote continuity of this well-developed predominantly native woodland, retention of old growth with robust ancient woodland communities.	Uncontrolled Grazing, Squirrel Damage	<p>It is hoped that this wood will require no silvicultural management and that the integral self-sustaining systems will be shaped by natural processes. Other management to achieve the vision set out are to:-</p> <ul style="list-style-type: none"><li>. Maintain all boundaries to stock proof condition to prevent grazing by domestic stock threatening the continuity of the well-developed shrub and ground flora.</li><li>. Observe and record the diversity of species, monitor succession and the impact of any factors causing change</li></ul>

Informal Public Access f2	<p>The Trust will maintain the informal access to the woodland on some 650m of permissive paths and provision of two entrances with welcome signs. Public access will be encouraged with paths and stiles maintained and improved where necessary to encourage further access so that local users and visitors can continue to share in the wood's beauty, gain an understanding of the woodlands importance in the landscape and it's rich wildlife habitat, which is irreplaceable.</p> <p>Public information and promotion of the woodland both nationally through the Trusts publications and directory's and locally will be enhanced where possible and posters will be used to inform and involve visitors with the woodland. The Trust will continue to promote the woodland amongst people in the region and members nationally so long as the primary objective of 'no further loss of ancient woodland' (in terms of</p> <p>Low usage ausing paths to become overgrown</p> <p>Cut back encroaching vegetation and strim to pedestrian width the network of footpaths identified on the map, taking care to strim where necessary for use and safety, clearing any encroaching branches and fallen timber from the footpath. Maintaining the path network to the Woodland Trusts Maintenance Specifications. Footpath improvements to include 15m of boardwalk, 2 sleeper bridges and a more defined route establishing through the bracken. Maintain and repair access points (x2), welcome signs, steps and access structures to Woodland Trusts Maintenance Specifications. Undertake regular tree safety inspections at defined intervals. Inform Yorkshire Dales National Park of the significant rot in their bridge that crosses the Gill and establish any opportunities for external footpath links.</p>
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	both quality and quantity) is not compromised.

## 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.