



# Hillhouse Wood

## Management Plan 2012-2017

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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>	Hillhouse Wood
<b>Location:</b>	West Bergholt
<b>Grid reference:</b>	TL946279, OS 1:50,000 Sheet No. 168
<b>Area:</b>	13.56 hectares (33.51 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, Tree Preservation Order

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

A mosaic of different woodland types makes this site particularly interesting. It has two ponds and two streams running through, but volunteers have been busy creating footbridges and drying out the path edges. A carpet of bluebells in Spring.

### 2.2 Extended Description

#### BACKGROUND

Hillhouse Wood lies on the slopes of the River Colne valley near Colchester, within a rural and predominantly agricultural landscape. It is an important landscape feature when viewed from the Essex Way Long Distance Footpath. The public footpaths that run through the wood are well used, especially by the people of the nearby village of West Bergholt. The 'Friends of Hillhouse Wood' was set up in December 1994 to organise workdays and events at the wood. Many of the Friends were important to the fundraising campaign to purchase the site. The Colchester Natural History Society support the group in a number of ways plus organise events such as fungal forays.

#### MANAGEMENT HISTORY

Locally Hillhouse Wood has a reputation of being a coppice wood with a woodman/hurdle maker in residence within the memory of some older residents. Field evidence indicates that the wood has

not been worked to any significant extent as coppice for some considerable time. For example: the coppice stool density of the 'better' stands is about a third one would expect in a wood that had history of sustained management. In all likelihood management work in more recent times was of an adhoc nature, cutting odd bits of wood as required, but not at any scale. Some of the 'neglected' or 'stored' coppice forms an aesthetically attractive woodland stand type of some conservation value, e.g. the valley Alder Carr and Hazel stands. Coppicing these are likely to result in woodland much poorer in conservation terms that is also much less visually attractive. Recent conservation coppicing has had mixed success due to deer and rabbit damage and too heavy an over storey being left. The killing of whole hazel coppice stools, given the initial low stocking density, means that worked areas will tend to be more open longer if not permanently given the expanding deer population. At present a no-coppicing policy is being implemented.

Local resident Mr Gordon Kennet remembers that Mr Hoare the previous owner of the wood used to drive a 'bushwhacker' round the open areas of bracken and bramble to keep them open, especially the bluebell areas which he tackled in Feb to keep them clear. Elsewhere storm damage and elm disease has created additional gaps. Large open-grown oaks in cpt 4 and 2 indicate that the open ground has been a part of the wood for some considerable length of time and, given the surrounding woodland structure the open area was previously more extensive than it is now. At present these areas are largely dominated by bracken and bramble.

Part of the distinctiveness of the bluebell show at Hillhouse Wood is the significant area of bluebells in open glades. Without annual work to control encroaching bracken and wood vegetation this distinctive character would soon be lost. Historic management appears to have emphasised the protection and enhancement of the Bluebells through, for example control of the spread of bracken and brambles. Under the ownership of the WT this work has continued to the present day through the volunteer work parties hosted by the Friends of Hillhouse Wood and supported by contractors with bushwhacker machines. In 2010 the scale of glade cutting was reduced following concerns about the lost of edge scrub habitat and the possible effects on species such as nightingale.

## WOODLAND DESCRIPTION

### Woodland

Hazel stands: forms a number of almost pure stands across the Wood but notably along the valley bottom by the stream. Elsewhere it can be found in mixtures typical of the area. The veteran stands of hazel along the stream, particularly, are a notable feature of the wood. These have created discrete and important woodland communities that have not been coppiced or managed in any significant way for probably 100 years or more. While the canopy in the veteran hazel stands is full the density of the individual hazel coppice stools is roughly a third of what one find in a hazel coppice that had been worked regularly. Introducing coppicing to the veteran hazel stands is likely to result in a fundamental change in the character of these stands. Some of these changes will be beneficial for some species but not for others. With the added concerns of significant and increasing deer browsing pressure and the availability of less 'sensitive' scrub and previously coppice areas that can be worked to sustain a scrub structure it is considered that at present there is no case for extending coppicing into the veteran hazel stands. Occasional minor works may be required to remove invasive species such as sycamore and possibly native successional species such as Ash and Oak so as to sustain the overall dominance of hazel.

Suckering Elm (*Ulmus agg*) and Wych Elm (*Ulmus Glabra*) are to be found in occasional stands and individual trees across the wood, especially on the edges. These have all suffered from the depredations of Dutch Elm Disease. The uncommon butterfly, White letter hairstreak, which is dependant on Elm for part of its life-cycle is found in Hillhouse wood. To sustain this uncommon butterfly colony it is essential that Elm is maintained in the wood and surrounding area. The butterfly has traditionally been thought dependent on mature elms however more recent research in the west of Britain indicates that younger elms do appear to support colonies as well.

Rhododendron: Some non-native and potentially invasive Rhododendron species are present. Unchecked Rhododendron can cause the loss of much native woodland flora through, for example, it changing the light and soil conditions. The spread of the Rhododendron has been effectively curtailed in the past by regular cutting by local volunteers. Rhododendron is also a host of the pathogen *Phytophthora ramorum* which is an increasingly significant plant health risk

Deer: Over the last few years' damage by deer to both young coppice shoots and the woodland flora has been an increasing reality. The Friends have undertaken measures to protect key plants, such as Early Purple Orchids, which are attractive to deer. Similarly brushwood has been piled on cut coppice stools to provide them with some protection from browsing damage, however this has not prevented the complete killing or serious damage to more recently coppiced areas. Initial field visits by a deer specialist indicate that the browsing damage at Hillhouse Wood is significant and advised that coppicing was not viable at Hillhouse until such time as the deer browsing damaged can be reduced. Subsequent annual surveys have not shown any reduction in the deer presence.

Streams and ponds:

The western boundary of the wood is formed by a substantial stream, a tributary of the River Colne, originating several miles to the north in the parish of Wormingford with a feeder originating in the parish of Fordham. Bluebells and Wild Garlic frequent the banks along its length and it has been suggested otters may frequent it.

Two other streams pass through the heart of the wood from north-east to south-west and a third forms the southern boundary of the wood, all three originating as field ditches about a half a mile outside the wood to the north-west of West Bergholt Hall.

The most northerly of the three flows into the western stream at the south-west corner of the wood and is a shallow stream with Alder bordering much of its length. There is a typical flora of wet and boggy ground with opposite-leaved golden saxifrage growing on both sides of the stream for most of its length and scattered brooklime, cuckoo flower and wavy bittercress. Yellow pimpernel grows in abundance on the borders of the stream and narrow buckler fern and thin-spiked wood sedge has been recorded.

The central stream is much less diverse. It initially runs through a deep-sided ditch and is overhung by rhododendron. As the stream reaches the lower ground towards the southern boundary it becomes shallower and divides, creating many boggy areas. Alder and other large trees heavily shade it. Some opposite-leaved golden saxifrage, wavy bittercress, buttercup and red campion has been recorded. This stream joins the third stream outside the wood boundary via an underground pipe.

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The third, southernmost, stream originates near Stitching Wood beyond the Hall and flows largely through the extremely boggy bottom part of Hillhouse Wood in private ownership, before joining the River Colne south of the wood.

There are two ponds within the wood that have been de-silted and the surrounding woody vegetation cut back in recent years. Reedmace dominates the 'top pond'. There are no records of Great Crested Newts in the ponds. Unusual plants found include: Fine-leaved water dropwort and goldilocks' buttercup growing on the banks.

### Community Involvement

The 'Friends of Hillhouse Wood' was set up in December 1994 to organise workdays and events at the wood. Many of the Friends were important to the fundraising campaign to purchase the site. The Friends have a membership of around 100 local households and are generally recognised as the local contact for people interested in the wood. The Friends have a formal constitution; monthly committee meetings and an AGM open to all members. The WT officer for the area is an ex-officio member of the committee.

The Friends of Hillhouse produce a regular newsletter that includes wildlife reports and commentary on current issues relating to the wood. The WT has no involvement in the production of the newsletter and the comments are specific to the Friends of Hillhouse. Newsletters are free to all members and a copy is usually posted in appropriate prominent public places.

The Friend's workdays are central to the successful management of the wood. They operate under the auspices of the WT's insurance and volunteer support systems. There have been substantial changes in the nature of the insurance market for volunteer work groups and a general tightening of Health and safety regulations with regard to Forestry workers generally and volunteers specifically. The WT in implementing these changes provoked significant unhappiness amongst many key Friends and the breakdown in trust ultimately resulted in work parties being postponed throughout 2004. In 2005 a 'management system' was agreed which allowed most key tasks to be undertaken with the following general proviso's:

- \* All tasks undertaken have been agreed through the annual work programme produced by the WT in conjunction with the experts from the Friends and CNHS;
- \* All tasks are covered by a risk assessment which the WT will produce in conjunction with representatives from the Friends;

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there



Hillhouse wood is situated in a remote rural area on the outskirts of West Bergholt and is accessible only via three public footpaths. These can be wet and difficult to use in winter months and after rain. The wood is however well worth visiting with some of the best shows of Bluebells in the area and also a regular annual population of singing nightingales.

Access by public transport is via the no 66 First Bus from Colchester Town Hall Street Stop no 4. No freely open public toilets in the area other than in pubs in th village of West Bergholt. Car can be parked near the old church where you then walk down the track in westerly direction to enter wood on northern edge.

### 3.2 Access / Walks

## 4.0 LONG TERM POLICY

Management of the wood will focus on the following key themes:

**Bluebell glades:** The management of the open bluebell glades will be maintained to encourage the spring flower displays. Scrub development will be encouraged on the glade margins and some previously cut glades will be allowed to develop naturally to woodland as part of work to increase scrub habitat within the site

**Minimal intervention:** Management of the woodland stands will focus on maintaining the existing composition and structure of the stands. Some minor work on margins will be considered to encourage edge scrub development

**Community Involvement:** The presently largely community led management of the woodland by the Friends of Hillhouse Wood will be sustained and encouraged. WT support to the local primary school will be maintained to help encourage them to use the woodland independently for educational purposes.

## 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 Community Woodland Group

#### Description

The 'Friends of Hillhouse Wood' was set up to help acquire Hillhouse Wood in 1993. Since then management of the wood has largely been community led with support provided by the Woodland Trust. Regular work parties and events are organised by the Friends of Hillhouse Wood.

Hillhouse Wood is well used by locals, particularly dog walkers and naturalists amongst whom it is well known locally.

The local Primary School regularly uses the wood and in 2011/12 support material is being prepared to help them better access and use the wood.

The main routes running through the wood are public footpaths. There is an information board at the main entrance on the northern boundary and another at the south-east entrance where there is a kissing gate. Footbridges have been constructed over the streams and ditches and several seats have been installed.

#### Significance

Significant community and personal ownership of the woodland. The local school values and use the woodland as to local people amongst who it is well known for its spectacular displays of spring flowers.

#### Opportunities & Constraints

O1: To get more users involved in volunteer tasks on site.

O2: To build the woodland into educational activities of the school.

#### Factors Causing Change

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

Well maintained path network inviting visitors to explore the woodland.

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

Maintain open ride edge scallops in compartments 1 and 4 by clearing any bracken and bramble annually.

Cut back edge of path by 1 - 1.5 metres along main path in cpt 2 & 3 annually.

Ensure paths generally are open and accessible.

Ensure footbridges, entrances, gates, seats and signs are in good working order annually.

## 5.2 Open Ground Habitat

### Description

Local resident Mr Gordon Kennet remembers that Mr Hoare the previous owner of the wood used to drive a 'bushwacker' round the open areas of bracken and bramble to keep them open, especially the bluebell areas which he tackled in Feb to keep them clear. Elsewhere storm damage and elm disease has created additional gaps. Large open-grown oaks in cpt 4 and 2 indicate that the open ground has been a part of the wood for some considerable length of time and, given the surrounding woodland structure the open area was previously more extensive than it is now.

Recent management has continued the practice of Mr Hoare with great success. Contractors cut the bracken and bramble with bushwhacker and the Friends then rake up the arisings. In 2010 following concerns about the extent of the cutting and the impact on species such as nightingales the extent of the work was curtailed slightly

### Significance

In order to preserve and enhance the biodiversity of the site, it is important that these areas are managed. Historically they are important and they also provide a significant aesthetic pleasure to visitors.

### Opportunities & Constraints

C 1: The need to encourage marginal scrub vegetation to the open glades

C2: The ongoing cost of the work and and the time required by the volunteers.

O1: To create a popularly acknowledged spectacular spring flower display

O2: There is an opportunity to see the open ground flora re-established by controlling the bracken and bramble and managing the open ground to favour a more diverse composition.

### Factors Causing Change

Lack of resources - volunteers or finances for contractors

### Long term Objective (50 years+)

Permanently open areas with a diverse ground flora managed within the context of a mainly high forest woodland. Bracken and bramble controlled.

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

Cut bracken and remove cuttings from glade in cpt 4 annually.

Start to cut bracken and brambles from glade in cpt 3 in 2003 and cpt 2 in 2002 and annually thereafter.

Spray areas of cut bracken with Asulox in early August each year until it is not regenerating.

## 5.3 Pond

### Description

The western boundary of the wood is formed by a substantial stream, a tributary of the River Colne, originating several miles to the north in the parish of Wormingford with a feeder originating in the parish of Fordham. Bluebells and Wild Garlic frequent the banks along its length and otters and mink are known to frequent it.

Two other streams pass through the heart of the wood from north-east to south-west and a third forms the southern boundary of the wood, all three originating as field ditches about a half a mile outside the wood to the north-west of West Bergholt Hall.

The most northerly of the three flows into the western stream at the south-west corner of the wood and is a shallow stream with Alder bordering much of its length. There is a typical flora of wet and boggy ground with opposite-leaved golden saxifrage growing on both sides of the stream for most of its length and scattered brooklime, cuckoo flower and wavy bittercress. Yellow pimpernel grows in abundance on the borders of the stream and narrow buckler fern and thin-spiked wood sedge has been recorded.

The central stream is much less diverse. It initially runs through a deep-sided ditch and is overhung by rhododendron. As the stream reaches the lower ground towards the southern boundary it becomes shallower and divides, creating many boggy areas. Alder and other large trees heavily shade it. Some opposite-leaved golden saxifrage, wavy bittercress, buttercup and red campion has been recorded. This stream joins the third stream outside the wood boundary via an underground pipe.

The third, southernmost, stream originates near Stitching Wood beyond the Hall and flows largely through the extremely boggy bottom part of Hillhouse Wood in private ownership, before joining the River Colne south of the wood.

There are two ponds within the wood that have been de-silted and the surrounding woody vegetation cut back in recent years. The 'top pond' was desilted by digger in 2011 to attempt to restrict the extensive reedmace. There are no records of Great Crested Newts in the ponds. Unusual plants found include: Fine-leaved water dropwort and goldilocks' buttercup growing on the banks.

### Significance

The ponds and streams are important for the biodiversity of the site. They add interest for wildlife and visitors and contribute to the internal landscape of the wood.

### Opportunities & Constraints

C1: N American mink are a significant threat to indigenous birds and animals.

C2: Culverts and bridges need to be maintained across the numerous paths crossing the streams

C3: The soft ground condition makes management work in these areas tricky and problematic.

C4: Reedmace has proven a significant problem on the top pond

O1: There is an opportunity to manage the wetland features and provide valuable habitats for wetland species.

O2: To link the wetland management wider catchment activity to promote Water vole and otter conservation and

O3: To test 'coppicing' of the overstood Alder along the Western boundary as part of tree safety and scrub enhancement works

### **Factors Causing Change**

Drought, Flooding

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

Valuable wetland habitats of benefit to wildlife, pleasing to visitors and contributing to the internal landscape of the wood. Maintain ponds as open features with coppice around them. Gradually open sections of the streams up in the long term.

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

Coppice 1/4 of willow and other trees around ponds every other year.

Reed mace in pond in cpt 1 by managed to ensure that no more than 1/3 - 1/4 of the pond is colonised.

## 5.4 Ancient Semi Natural Woodland

### Description

Hillhouse Wood is an Ancient Woodland. The wood is shown on the Estate Map of 1771 with boundaries similar to those of today. In 1843 the wood was in the ownership of John Round and the tithe map of 1843 shows that the profile of the wood had altered little since 1771. In 1843 James West was the tenant of Hillhouse Wood and of many neighbouring woods. He was a hurdle-maker and had a cottage and garden (the remains of which can still be seen) on the left-hand side of the track leading from the old church. Local people recall that a hurdle-maker still lived in this cottage and worked the wood until the time of the Second World War. More recently the previous owner undertook adhoc cutting of the hazel.

Overall the wood is dominated by three broad stand types:

Hazel coppice with occasional ash, oak and field maple.

Valley alder carr

Former open woodland with mature oak, ash and Sweet chestnut now reverting to woodland.

A fourth significant 'stand type' is the Wych Elm in the wood which supports a population of White Letter Hairstreak butterflies.

The ground flora is diverse reflecting the relatively wide range of habitats and soil types of the wood. Colchester Natural History Society Surveys in 1994 found 125 flowering plant species. Nine of these were locally rare in NE Essex. The wood harbours an impressive assortment of mosses and liverworts, including the only records in Essex for two species and the first record in 100 years for a third species. The most interesting area is towards the SE corner where several old Elders harbour good populations of *Zygodon conoideus* and *Metzgeria fruticulosa* and smaller colonies of *Platygyrium repens*. Old Elders such as these are now quite uncommon in Essex.

### Significance

As well as a number of rare Bryophyte species the wider than average range of woodland habitats as a result of previous management and natural conditions, make Hillhouse Wood more important as Biodiversity resource.

### Opportunities & Constraints

The Wych Elm is dying and needs active management. The veteran elders are being outcompeted through natural succession to woodland with few recruits that some of the rarer bryophytes risk extinction.

Access to and within the wood is very poor for woodland machinery and restricts the type of operations generally possible.

Good opportunity to restore the former diverse structure across the wood with work to restore the open condition, promote veteran scrub such as Elder and minor coppicing of hazel.

### Factors Causing Change

Natural Succession To woodland, Elm disease, Grazing by deer



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

A structurally diverse woodland with significant open ground areas maintained to favour a diverse ground flora. Discrete area of hazel coppice managed by annual cutting and occasional patches of Wych Elm retained to polestage but cut on an adhoc basis to prevent further decline in abundance from Elm disease. Elsewhere the wood will be left to develop naturally except for some minor works to promote ecological continuity between similar areas in different parts of the site.

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

Rotational cutting of Wych Elm initiated;

Annual coppicing of small coupes of Hazel;

Former open grounds areas restored by cutting and spraying of Bracken.

Veteran Elders identified and maintained to secure their continued vitality, new recruits identified.

Former Storm damaged area in Cmpt restocked through natural regeneration and planting site native trees.

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## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	1.90	Oak (pedunculate)		High forest		Ancient Semi Natural Woodland, Community Woodland Group, Pond	Ancient Semi Natural Woodland, Tree Preservation Order
<p>The main entrance to the wood is along the northern boundary. A track running from the church to this entrance is the route for management purposes and the Trust is required to make good any damage caused to it. The land slopes gently from the western side of the compartment to the stream along the eastern edge where the soil is heavy and wet with patches of exposed clay. The species present include coppiced hazel, ash, oak and field maple. In recent years the hazel has been re-coppiced in blocks to the east of the path and around the pond. Some regrowth from the coppice stools have been browsed and stools killed by deer browsing, assessment of the browsing is an on-going priority.</p> <p>There is a diverse flora with wood anemone, dog's mercury, moschatel, primrose and wood sorrel, patches of early purple orchid and the male and broad buckler ferns. Muntjac deer are increasingly heavily browsing bluebells along with other ground flora species.</p> <p>Just to the west of the path there is a large pond dominated by Reedmace. In the past local volunteers pulled the reedmace by hand with more recently a digger used. However the reedmace quickly recolonised the cleared sections. Woody nightshade, cyperus sedge, goldilock's buttercup and fine-leaved water dropwort are known to be in and around the pond.</p> <p>To the south and west of the pond, the woodland is impenetrable with bramble, scrub and mature trees including wild cherry. The ride edges have been scalloped in sections by cutting back bracken, bramble and blackthorn.</p>							
2a	2.60	Oak (pedunculate)	1600	High forest		Ancient Semi Natural Woodland, Community Woodland Group, Pond	Ancient Semi Natural Woodland, Tree Preservation Order

This compartment has a second stream crossing it, less diverse than the more westerly one, overhung by rhododendron in parts and heavily shaded by alder. The compartment generally has light, free-draining acid soils. Much of it has a high forest structure of ash, oak, sweet chestnut and alder but there are also significant open areas with large open grown oak trees and opportunist species such as birch, bramble, bracken, elder and hawthorn which shade out the bluebells and other ground flora. The path which runs along the southern edge of the compartment has been maintained by cutting back up to 1.5 metres in the autumn along certain sections. Wych elm growing along the northern boundary of the wood, just to the west of the main entrance, is now in a state of decline and should be felled in sections. There are number of old elder in this compartment which support some regionally important moss and liverwort species.

3a	3.80	Ash		High forest		Ancient Semi Natural Woodland, Community Woodland Group, Pond	Ancient Semi Natural Woodland, Tree Preservation Order
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There are several large open areas within this compartment where well established bluebells are being smothered by invading bracken. The surrounding woodland has a high forest structure with standards of oak, ash, field maple, sweet chestnut, birch and regenerating elm. Along the edges of the two streams, there are large stands of alder which have been coppiced in the past. Along the southern boundary there are several boggy areas. There are number of old elder in this compartment which support some regionally important moss and liverwort species. The path which runs along the northern edge of the compartment has been maintained by cutting back up to 1.5 metres in the autumn along certain sections. Wych Elm along the southern edge of the main ride supports the white-letter hairstreak butterfly.

4a	5.40	Oak (pedunculate)	1600	High forest		Ancient Semi Natural Woodland, Community Woodland Group, Pond	Ancient Semi Natural Woodland, Tree Preservation Order
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Along the northern boundary there is an area of hazel coppice with scattered oak, ash and sweet chestnut standards. This was recoppiced in 1998. There is an open area to the north of the pond, where dead elms were removed in the 1980s. Bracken has invaded smothering the bluebells and ground flora. In recent years the bracken has been cut and sprayed in an attempt to control it and promote the regeneration of trees. Seeds collected from the wood and grown on may also be planted here. The remainder of the compartment is high forest with oak, ash, sweet chestnut and alder on the wetter ground. The pond in the south-eastern corner has been cleared out and de-silted in recent years. Surrounding trees have been coppiced to allow light in. The shallow stream which runs along the eastern boundary of the compartment is bordered by alder and supports typical wet flora including opposite-leaved golden saxifrage, yellow pimpernel, narrow buckler fern and thin-spiked wood sedge. The ride edges have been scalloped in sections by cutting back bracken, bramble and blackthorn.

## 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.