



# **Bovey Valley Woods**

## **Management Plan 2017-2022**

## MANAGEMENT PLAN - CONTENTS PAGE

<b>ITEM</b>	<b>Page No.</b>
Introduction	
Plan review and updating	
Woodland Management Approach	
Summary	
1.0 Site details	
2.0 Site description	
2.1 Summary Description	
2.2 Extended Description	
3.0 Public access information	
3.1 Getting there	
3.2 Access / Walks	
4.0 Long term policy	
5.0 Key Features	
5.1 Historic Features	
5.2 Connecting People with woods & trees	
5.3 Ancient Woodland Site	
6.0 Work Programme	
Appendix 1: Compartment descriptions	
Appendix 2: Harvesting operations (20 years)	
Glossary	
<b>MAPS</b>	
Access	
Conservation Features	
Management	

## 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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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.

---

## 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>	Bovey Valley Woods
<b>Location:</b>	Lustleigh, Bovey Tracey
<b>Grid reference:</b>	SX778803, OS 1:50,000 Sheet No. 191
<b>Area:</b>	86.19 hectares (212.98 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, National Nature Reserve, National Park, Planted Ancient Woodland Site, Site of Special Scientific Interest, Special Area of Conservation

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

This mix of ancient woodland and wildflower-rich wet meadows nestles in the steep-sided valley of the River Bovey in the dramatic Dartmoor landscape. Its abundance of wildlife, fascinating flora and network of walks, some of which are challenging, makes it an enticing destination all year round.

### 2.2 Extended Description

The Bovey Valley Woods lie within the valley of the River Bovey on the south east side of Dartmoor National Park. The valley is peri glacial and descends from a gorge with a significant torrent river. Exposures of granite and culm measures occur throughout. Adjacent to open moor and broadleaf woodland the area is of international conservation importance and mostly lies within the South Dartmoor Woods, candidate Special area of Conservation (cSAC) 1422ha. Much of the adjacent land is owned and managed by Natural England, including Yarner Wood and Trendlebere Down SSSIs which together with the Bovey Valley Woods forms the East Dartmoor Woods and Heaths National Nature Reserve (NNR) known as East Dartmoor NNR.

The entire area offers opportunities to manage co-operatively for conservation at a landscape scale. The rich, diverse nature of the woods is typified by the high number of stand types and variable

ground flora, ranging from dry Oak Woodland habitat to wet flushes on the valley side and bog habitats and rich alluvial meadows within the valley.

The Trust's properties: Hisley, Houndtor and Pullabrook Woods are treated as one management unit (Bovey Valley Woods) lying towards the middle and lower half of the valley system. They are a mixture of Ancient Semi Natural woodland(ASNW), Plantations on Ancient Woodland sites(PAWS) and naturalising secondary woodland and a variety of associated habitats. The river and brooks themselves not only add an important extra habitat but also help provide the humid environment required by bryophytes and ferns. The East Dartmoor Woods and Heath National Nature Reserve (NNR) currently include a small part of Hisley wood, some of which is also designated Site of Special Scientific Interest(SSSI) and Special Area of Conservation(SAC). Much of the PAWS areas were similar to this before felling and restocking with conifers in the 1960s. The intended long term conversion of these areas back to semi-natural cover greatly increases the biodiversity potential of the Woods.

Previous human intervention in the valley has left a wealth of historic features from farming and charcoal production. These activities have also created other niche habitats. Open ground of old meadows and remnant ancient trees further increase the biodiversity found here supporting a number of notable species. Where the woods are adjacent to common land (moorland), the ancient boundaries add further interest. Custom still requires that a boundary against the common is maintained and today modern fencing is required to stop the commoners animals wandering into the woods.

The site is typical of the Dartmoor National Character area (NCA150/NE519) which states 'Dartmoor's extensive upland moorland core rises above the surrounding small-scale, enclosed, predominantly pastoral landscape. Granite unites and characterises the entire National Character Area. On the moors the distinctive tors create key landscape features, interrupting otherwise unbroken skylines and ridges, and provide focal points for visitors. Isolated farmsteads and scattered villages utilise granite for buildings and walls; and the area's strong time depth and rich cultural heritage are visually evident because of the granite, which includes the largest concentration of prehistoric stone rows in Britain.

The high moors are overlaid with thick deposits of peat and support internationally important blanket bogs surrounded by large expanses of upland heathland and grass moorland. The bogs and valley mires absorb and store significant amounts of water, as well as carbon, released into the 16 rivers and 8 reservoirs that supply the surrounding urban and rural populations and industry. As rivers leave the high moor they flow through deep-cut valleys steeped in woodland - both semi-natural broadleaved and coniferous plantation. The fast-flowing rivers, strewn with granite boulders, are popular for recreation, both passive and active'

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

By bus: Bus 39 from Exeter to Newton Abbot stops in Bovey Tracey. The nearest bus stop is in Union Square in Fore Street, around two miles from the woods.

By train: The nearest train station is Newton Abbot (8km; 5 miles).

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

By car: From the A38, follow signs to Bovey Tracey on the A382. Take the second exit at the first roundabout, staying on the A382, then at the next roundabout take the first exit onto the B3387. Keep to the right where the road forks and continue to a brown road sign on the right to Bovey Valley Woods. Pullabrook car park is on your left just before the stone bridge over the River Bovey.

There is also parking south of Hisley Wood on Trendlebere Down at the start of the Old Manaton Road (grid reference SX 784 793).

(December 2016)

### 3.2 Access / Walks

The main access is from the Old Manaton Road, an ancient lane leading from Trendlebere Down to the village of Manaton. You can also access the woods from surrounding lanes and footpaths.

Bovey Valley Woods has a large network of footpaths with a combination of hunting gates and step over stiles. There are some easy walks, but many paths are steep, uneven and muddy. There is also a permissive horse riding route that runs through Pullabrook Wood to the Old Manaton Road and back through Hisley Wood to Heaven's Gate.

Hisley Round is a five kilometre (3.2 mile) flat and easy walk taking 1.5 hours. It starts in Pullabrook car park and follows the main trail onto the Old Manaton Road. It then passes the huge granite boulder known as the Pudding Stone and continues to the beauty spot of Hisley Bridge. From here, the path follows the River Bovey east passing through Rudge Meadow where you will see the large skeletal frame of the dead Rudge Oak.

## 4.0 LONG TERM POLICY

In 50 years' time, the Bovey Valley woodlands will be developing as a predominantly native broadleaved species semi natural woodland habitat with a wide age, species and structural diversity. Large areas of the previous conifer plantations will have been restored to native woodland, although this will still be an on-going process. There will be regular management to maintain the light and air conditions necessary for the rare lichens and other species to thrive, and some areas will be lightly grazed to benefit insects and flora. Tree species will be predominantly native, with some older Beech and Sycamore that support lichens and ferns still present. The SSSI/SAC areas will continue to be in Favourable status. The whole area will continue to be an important resource for education and research in Earth Sciences. The heritage of the site will be protected whilst providing further educational capital to the area.

These woodlands will continue to contribute to the quiet recreational and tourist activities that take place in this area of Dartmoor with interpretive and participative events being held at regular intervals.

Management of conifer areas will be towards restoring them to native woodland cover via regular thinning interventions to control the light levels on the forest floor and prevent coarse, smothering weeds from developing over too large an area although small areas of clear-felling with or without replanting may be appropriate in some areas such as riversides and narrow strips or isolated groups of conifer. All invasive species will have been eradicated or will be under control. Management of the semi-natural areas will be on-going to maintain the light and humidity levels that support the current large range of lichens, ferns, insects and flora. This will help to deliver the Trusts objectives of protecting native woods, trees and their wildlife for the future and to inspire everyone to enjoy and value woods and trees.



## 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 Historic Features

#### Description

The wooded landscape contains many features illustrating the past with old field boundaries including two medieval farmsteads (Boveycombe and Vinnamore) in Hisley wood. Within the ancient woodland areas charcoal hearths resulting from at least 400 years of coppice management are evident throughout. Areas of the woods were farmed or under grazed resulting in a wood pasture type habitat that now supports important lichen and lower plant communities

#### Significance

Protection of archaeological features is an objective of DNPA management plan. Consideration and management of historic features assists the Trust in achieving its aim of increasing people's awareness and enjoyment of woodland. All of the past activities shaped the current woodland structure.

#### Opportunities & Constraints

Constraints: Archaeological features throughout the valley limit on-going management and access route improvements in places.

Opportunity: creation and maintenance of new open ground areas if significant features are found, interpretation of features may increase peoples enjoyment and awareness of woodland issues.

Education may also be appropriate. LiDAR surveys will improve knowledge of features.

Assess/consider reopening walled track ways and old walking routes ie between Boveycombe Farmstead ruins and Gradner Rocks.

#### Factors Causing Change

Woodland succession via tree and root growth damaging features

Tree mortality and wind blow with uprooting damaging features

Management machinery and activities damaging ancient track surfaces and charcoal hearths throughout the wood,

Climate change/flood events affecting ancient bridges and eroding tracks.

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

All known sites and features of historic interest will be protected, with trees likely to cause damage to features managed or removed sufficiently far away to reduce risks.

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

1. Utilise LiDAR survey to identify and categorise all historic features in order to avoid all known features during harvesting and management operations.
2. Review of all features identified and ensure value is assessed in conjunction with DNPA and suitable management put in place
3. Develop pragmatic plan for long term maintenance and visitor interpretation by end plan period.
4. Work with Lustleigh PC to facilitate their Parishscapes project focused on the Vinnamore settlement
5. Encouraging and facilitating volunteer activities to explore the archaeology of the Bovey Valley.
6. Management of trees and habitats around selected features to protect and enhance the features and habitats
7. Make reference to Natural Englands, East Dartmoor Woods and Heath Management Plan dated 2010 to 2015 and ensure all operations take account of the "Summary of significant site features" described in the plan.

## 5.2 Connecting People with woods & trees

### Description

The East Dartmoor National Nature Reserve (NNR) covering over 400 hectares is made up of three adjacent, but distinctly unique sites; Yarner Wood, Trendlebere Down owned and managed by Natural England, and Bovey Valley woods. The Woodland Trust owned and managed Bovey Valley woods, is a management unit comprising of Pullabrook, Hisley and Houndtor woods.

The Bovey Valley can be accessed along many different paths and these converge and cross in a number of places allowing for a variety of circular and linear routes, many of which have been described in regional and national walking guides. There are several footpaths and a BOAT (byway open to all traffic) that link the Pullabrook / Hisley and Hound Tor woods.

The paths are often steep, uneven and muddy befitting of the wild rugged nature of the steep valleys and the open moorland of Dartmoor but provide access to some of the most dramatic and beautiful scenery Dartmoor has to offer. Along their routes they take in open meadows, a mixture of woodland types, and the Becka and Bovey rivers.

### Significance

It is a site of international importance, owing to its extensive ancient upland oak wood, heathland and mires.

A recent visitor survey of the Dartmoor National Park estimated there were 3.8 million visitor days per annum. Of these, 54% were holiday visitors (2.05 million) and 46% were day trippers from within the region (1.75 million) and of this group only 9% were from outside Devon.

A survey of visit numbers (using footfall counters) estimated that there are approx 35,000 visits per annum to the East Dartmoor NNR. Pullabrook received 11,140 visits and Hisley 13,992 visits. These figures are from new visitor counters that have been installed so that for the first time, a more accurate picture of visitor numbers (and changes in these) can be made. People counters at Pullabrook car park and Rudge Meadow both indicate similar numbers in 2010, 2011, 2012 and there is no obvious overall increase (averaging c. 11,000 - 12,000 counts per gate) over these years. Visitor developments off site are likely to have significant effects on visitor access numbers locally and some of that increase will inevitably include the Bovey Valley.

The valley has been selected as one of the Woodland Trust's Visitor Experience sites in acknowledgement of the way it helps deliver its aim of inspiring everyone to enjoy and value woods and trees.

A survey in 2013 received 181 responses from visitors and the local community (114 online and 67 on paper). This gives us a confidence level of 95% at a confidence interval of 7.5 assuming the population within 20 miles plus transient tourist population at any one time is 500,000 or less.

The East Dartmoor NNR is currently part of the "Moor than meets the eye" Heritage Lottery funded Landscape partnership running between 2015 and 2020. This project has helped fund restoration and conservation activities along with people engagement, events and volunteering opportunities to explain the value of the wildlife and heritage of this site.

### **Opportunities & Constraints**

The growing numbers of visitors throughout the year provide an opportunity to develop and communicate the value of the Woodland Trust and its aim and objectives.

The majority of the access points to the Bovey Valley are not within Woodland Trust ownership and therefore the Woodland Trust is reliant on third party access. The Woodland Trust owned Pullabrook Wood has a small car park (approx 10 to 15 cars). This is accessible down a narrow country lane and increased visitors may result in issues for local people and put visitors off using this car park.

Representatives of the local parishes of Bovey Tracey, Manaton and Hisley have all expressed concerns against the over development of this important site.

### **Factors Causing Change**

1. Erosion - increasing visitor numbers, perceived or real
2. Mountain biking - development of the Wray Valley cycle trail i.e. a trail developed on the south side of Dartmoor went from zero of over 100,000 users in 12 months.
3. Uninformed site use - loss of the special nature conservation features of the site
4. Natural England's potential development of additional car parking

### Long term Objective (50 years+)

1. To conserve the unique historic landscape and its natural habitats which tell the story of human influence over thousands of years
2. To significantly enhance physical and intellectual access to the heritage landscape for everyone to enjoy
3. To develop new ways of increasing community involvement and understanding of the historic and natural landscape and improve the ability of local people to share, celebrate and enjoy their local landscape
4. To sustain a living and working landscape by encouraging and facilitating business opportunities that capture the value of the landscape
5. To develop a well-trained and co-ordinated volunteer workforce for the area to help conserve and interpret the area's heritage both now and in future years.
6. Manage future visitor access to ensure it is adequately provided for without adversely effecting the site, habitats or NNR

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

The vision of the East Dartmoor NNR is 'To place the East Dartmoor NNR and its natural and cultural heritage at the heart of the Bovey Valley landscape, conservation work and communities.' This will be the initial catalyst and on-going support for community action to enhance and sustain their local natural and cultural heritage.

This will be achieved through the development of a package of infrastructure, training, interpretation and public engagement that gives greater access and opportunities for people to explore, enjoy and work in the Valleys and further afield. The plans for these actions are outlined in the three aims for people below:

Aim 1 Monitor visitor numbers (people counters) and manage the welcome and infrastructure as necessary without detriment to the site and habitats

Aim 2 Deepen engagement with local communities and visitors

Aim 3 Create tailored engagement opportunities for targeted audience groups such as volunteering activities, targeted conservation and heritage activities and events to demonstrate site management.

Aim 4 Make reference to Natural England's, East Dartmoor Woods and Heath Management Plan dated 2010 to 2015 and ensure all operations take account of the "Summary of significant site features" described in the plan.

## 5.3 Ancient Woodland Site

### Description

The woods of the Bovey Valley are a mixture of ancient woodland (AW), planted ancient woodland (PAWs) dating from the 1960s, naturalised secondary woodland and a variety of associated habitats. The woods contain significantly rich areas of permanent and temporary open ground, ride side margins and glades, bogs and wet flushes and riparian stretches along the River Bovey and Becca Brook and small areas of geological exposures and other earth features. Veteran trees and old growth features exist throughout, typically associated with historic boundaries and settlements supporting lower plants indicative of long term woodland cover of an open nature.

The restoration of the woodland in the Bovey and Becca Valleys has been in progress for over 20 years and the clear distinction between semi-natural woodland and PAWS is becoming increasingly less evident. The inventory estimates the following areas, Pullabrook 8.05 ha AW, 9.78 of PAWs, and 1.41 ha secondary, Hisley Wood 11.15 ha AW, 9.72 ha PAWs and 19.41 ha of secondary and Houndtor Wood 0.43 ha AW, and 26.01 ha PAWs. The ancient woodland inventory undertaken by the Nature Conservancy Council contains a number of inaccuracies which further complicate arbitrary divisions based on designations. The Bovey and Becca Valleys have been settled since medieval times and possibly much earlier, a factor overlooked by the 1988 assessment. The following is a pragmatic division between Ancient Semi Natural Woodland and PAWS. The woodland or parts of it are also designated as a Site of Special Scientific Interest (SSSI); National Nature Reserve (NNR), Special area of Conservation (SAC).

Ancient Semi Natural Woodland (ASNW) - Pullabrook 5a, 5b, 5i (JL), 5j Hisley Wood 1c, 1g, 3a Houndtor 2a, 2d, 2f

Hisley Wood (SSSI/NNR/SAC) - predominately Western Upland Oak, dominated by mature sessile oak, hazel, with ash and wet woodland types following drainage features, and streamside flood plains, ranging from NVC class W14-W7. Other species include elm, sycamore, and beech. Regeneration is present throughout but the native woodland has largely reached a sustainable state of senescence and renewal. However, widespread regeneration of holly and areas of conifer impact greatly on the favourable status of the SSSI which as a whole across East Dartmoor is in favourable condition.

Pullabrook Wood - Ancient semi-natural woodland areas have been heavily modified by former felling operations and restocking with non-native broadleaves, the best representative of native woodland is sub cpt 5a NVC W8f. One sub compartment (5b) in particular is dominated by sweet chestnut but beech and sycamore are widespread with only occasional mature oak.

Houndtor Wood - The very far western edge of Houndtor where the woodland abuts the Becca Falls SSSI woodland, is the only semi-natural part of Houndtor (NVCW11a) which was not heavily modified by 20th century planting of conifer but remains threatened by non-native species such as rhododendron. Most recent clear fell (2004) areas of sub cpts 2a, 2d are now in a regeneration phase dominated by birch, but contain widespread conifer regeneration.

Planted Ancient Woodland Site (PAWS) - Pullabrook 5c, 5d, 5e, 5f, 5g, 5h, 5i, Hisley Wood 1d, 1e Houndtor Wood 2b, 2c, 2e

Coniferised ancient woodland planted in the 1960s on land previously managed as oak coppice. Much of this woodland hosts small remnant populations of flora and fauna associated with ancient woodland.

Hisley Wood (SSSI/NNR/SAC) The areas of PAWS have been largely restored following clear fell operations and thinning, and what remains is a small area of Japanese larch planted in 1972. Coppice regeneration of hazel dominates in restored areas with sessile oak along sub cpt margins and historic boundaries.

Pullabrook Wood - Areas of PAWS (including DF/JL/SP) have been regularly thinned and DF regeneration is widespread in some sub cpts, however the where advanced regeneration of sessile oak, hazel and holly have established this is now dominant as in sub cpt 5f.

Houndtor Wood - This is the largest and most inaccessible area of conifer (DF/WRC/WH/SP) within the Bovey Valley the majority dates from the 1960s. Two thinning interventions since WT ownership have largely served to provide perfect conditions for conifer regeneration, rather than broadleaf regeneration as intended.

Secondary - Pullabrook 1.41 ha Sub cpt 5h, Hisely Wood 19.41 ha 1a,1b,1c

Pullabrook - The secondary woodland is dominated by mature conifer on the open moorland edge of Trendlebere Down.

Hisley Wood - This covers a large area of conifer dominated woodland both DF/JL but in both areas there are good numbers of veteran trees and old growth features throughout and the past management interventions has aided the development of a vibrant understory dominated by semi natural species but with some conifer regeneration present. This is former subsistence farmland abandoned in the post medieval times and more recently in the 20th Century and therefore hosts many locally native species predominantly associated with historic boundaries.

#### Species

Associated flora and fauna, particularly lichen and bryophyte communities are particularly important, the SSSI citation for East Dartmoor Woods and Heath has 9 overlapping designations and 28 notable features identify the following as part of the Bovey Valley Woodland complex

Assemblages of breeding birds - Mixed: Scrub, Woodland - Bovey Valley Woodlands SSSI

Lichen Assemblage Bovey Valley Woodlands SSSI

Lepidoptera Assemblage - Bovey Valley Woodlands SSSI

Lowland Beech and Yew Woodland Bovey Valley Woodlands SSSI

Upland mixed ashwoods Bovey Valley Woodlands SSSI

Other priority species, including, otter, salmon, and dormice

Upland Oakwood Bovey Valley Woodlands SSSI SSSI

Wet Woodland Bovey Valley Woodlands SSSI SSSI

The major driving force for the SSSI citation for Hisley Wood are the lichen assemblages.

#### Notable Lichens

Thirty-six notable taxa were recorded in the 2011 survey (Coppins, Acton - Dated Jan 2012) including: 24 Nationally Scarce, 2 Nationally Rare, 3 Near Threatened, 1 Data Deficient, 2 BAP, and 17 International Responsibility species. Two of the lichen species are of principal biodiversity importance in England. Principal assemblages are:

Graphidetum scriptae and Pyrenuletum nitidae communities of smooth, mature bark (sometimes including smooth bark plates of otherwise rough bark).

Arthopyrenietum punctiformis and Leanoretum subfuscae communities on young smooth bark (including young stems, branches and twigs).

Lobarion pulmonariae alliance on trunks and large branches of old trees, often overgrowing bryophytes.

Lecanactidetum premneae community on dry, rough old bark of old trees and old ivy stems.

Usneion barbatae alliance on well-lit branches and larger twigs in the canopy.

## Bats

10 of the UK's bat species were trapped in the Bovey/Becca Valleys in 2015, species are using the site for feeding, roosting and breeding. The most significant species is arguably the barbastelle a species categorised as near threatened at a global scale with populations still considered to be declining across Europe. The species is of such significance had the landscape not already been heavily designated to option of SAC designation may have been considered for the landscape.

## Invertebrates

There are a huge range of rare invertebrate within the Bovey Valley the following three provide a useful indicator of the habitat condition.

Notable species include the Blue Ground Beetle a very rare species restricted to ten sites in Devon and Cornwall, and for this reason is included in the UK Biodiversity Action Plan. Oil beetles have been identified as priorities for conservation action through the UK Biodiversity Action Plan - meaning urgent work needs to be done to conserve them and their habitats. Oil beetles have an intimate relationship with solitary bees and are therefore dependant on the health and diversity of wild bees. Once considered common and widespread, the Pearl-bordered Fritillary is now one of our most-threatened species. The cessation of coppicing/woodland management which resulted in the loss of suitable habitat is believed to be one of the major causes of this drastic decline. Conservation efforts have therefore focused on habitat management and there have been a number of success stories. However, this butterfly is still declining and, as such, continues to be a priority species for conservation efforts.

## Significance



The Bovey Valley woodland complex is situated entirely within the East Dartmoor Woods and Heath NNR an area of over 400 hectares covered by 9 designations. Ancient Woodland, Common land, CRoW Access Land (not RCL), National Nature Reserve, National Park, NNR meeting Public Engagement Standard, Scheduled Ancient Monument, Site of Special Scientific Interest, Special Area of Conservation. It is a site of international importance, owing to its extensive ancient upland oak wood and heathland and mires. The mix of ancient woodland, open heathland, bogs, flower meadows and streams make it a haven for a wide mix of wildlife. The mix of habitats means the site is home to a wide range of animals, insects, birds and fish. The East Dartmoor NNR has long been involved in scientific research and is a protected Site of Specific Scientific Interest (SSSI).

The site helps to achieve national, regional and local biodiversity habitat plan targets and delivers the Woodland Trusts aim of protecting native trees, woods and their wildlife for the future.

### Opportunities & Constraints

The high biodiversity value of this site and its location in the National Park provides a range of funding opportunities and access to specialist support. The intimate nature of the land holding means that land management developed in partnership with Natural England provides opportunities to extend the value of the site through partnership working and to adopt the "Lawton" principle of a landscape approach to land management. This is particularly pertinent given the recent assessment by Natural England which indicates that deep Dartmoor Valleys like the Bovey/Becca will become increasingly important "refugia" in any warming climate scenario for species at risk of decline.

The key management constraint relates to the often steep and rocky terrain and the remote location of the site. Access for woodland management is severely limited by the narrow rocky track network and constrained by sensitive river crossing points to both Houndtor and Hisley Woods. The moorland rivers are renowned for the sudden rise and fall and are described as "torrent rivers". Limited management access and the "flashy" watercourse is further complicated by the increasingly large dimensions of the conifer crops and the logistical complexities working such areas without significant impact. The very high biodiversity value of the site and its nationally renowned status as a NNR adds yet more complexities along with increasing visitor numbers and careful consideration needs to be given to any access improvements.

### Factors Causing Change

1. Climate change
2. Tree disease - in particular, *Phytophthora ramorum* affecting Japanese larch, *rhododendron ponticum*, bilberry and sweet chestnut; *Chalara fraxinea* (ash dieback) which are likely to have a short term impact, however there are a range biotic factors likely to impact the site in the long term.
2. Conifer regeneration - conifer regeneration is widespread in many sub compartment but current management of PAWs is unintentionally favouring conifer regeneration.
3. Invasive species - including, non natives such as *rhododendron*, laurel, Himalayan balsam, skunk cabbage, Himalayan honeysuckle but also native species such as holly, sycamore and beech.
4. Deer and squirrels - the impact of deer is increasingly apparent and recent trial plots have indicated the preferential browsing habitats of roe deer which appear to favour the conifer regeneration as the deer are targeting regenerating broadleaves. The impact of squirrel damage on young trees is less evident as the populations are considered to be relatively low and the recorded impact on squirrels on the breeding bird population is not deemed significant.
5. Declining light levels - the migration of lichen assemblages to the edges of the woodland indicates the standard approach to PAWs management over the past 20 years has been insufficient, in addition the development of dense understory in semi-natural areas due to a lack of management intervention and grazing has reduced light levels further .

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

Maintenance of semi-natural components of the complex associated with SAC western oak woodland habitat in a favourable condition and maintain and enhance associated flora and fauna. On-going woodland management and grazing will be necessary to maintain the complex interaction of woodland and open habitats to provide sufficient habitat niches to sustain the current range of species diversity. Areas of conifer will continue to be cyclically worked to reduce their dominance and to limit conifer regeneration with the intention of restoring these area to largely native woodland canopy over the next 50 years.

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

1. Annual programme of thinning and felling interventions targeting areas of conifer and cleaning and re-spacing conifer regeneration to maintain progress of restoration.
2. Continue to develop the on-going recording of species to avoid contravention of the law relating to protected species.
3. Maintain a programme to control invasive species including, rhododendron, laurel, Himalayan balsam, skunk cabbage, Himalayan honeysuckle and the range of non natives present at the margins of the site associated with formal gardens and visitor attractions as well as conifer regeneration triggered by the restoration works. This will be undertaken by a range of techniques.
4. Informed by the key surveys undertaken by Acton, Coppins in 2011 and the on-going annual species recording by the volunteer "Lichen Lovers" targeted management of dense holly/beechn/sycamore by felling and thinning operations, treat stumps proportionally in selected areas to reduce rate of regrowth.
5. Monitor rivers for unacceptable barriers and clear as necessary
6. Maintain riverside banks, including coppicing and layering to minimise erosion and bank collapse during flood events.
7. Management of tracks and maintenance of open areas through a combination of grazing and active management intervention to rotationally manage scrub and vegetation development.
8. Access improvements undertaken to facilitate restoration and habitat management
9. Underplanting, exclosures and deer population management undertaken as necessary to ensure restoration.
10. Management will be conscious of the need to create standing and lying deadwood habitats in areas where it is less evident eg PAWS areas, through veteranisation and harvesting.
11. Make reference to Natural England's, East Dartmoor Woods and Heath Management Plan dated 2010 to 2015 and ensure all operations take account of the "Summary of significant site features" described in the plan.

---

## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
------	--------------	-------------	--------

## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	7.60	Douglas fir	1963	High forest	No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>A stand of High Forest, Douglas Fir (P1963) of reasonably good form over a remnant, locally common, c-11a / c-8e flora. Also includes heavily selectively thinned Sitka Spruce (P1959) with rare Ash regeneration. The occasional broad leaf standard is scattered within the stand, mainly oak and silver birch. Understorey consists of occasional to rare hazel coppice becoming frequent in small areas. The sub compartment descends moderately to a flat area in the valley bottom where there is a small [0.5ha] clear fell adjacent to northern boundary which contains coarse grasses, bramble and gorse with rare regenerating rowan and DF.</p>							
1b	6.53	Japanese larch	1963	High forest		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park
<p>Secondary plantation comprising Larch (P1963) having been line and selectively thinned. Mature Oak, Ash and Sycamore (P1870) exist throughout stand principally on old-field boundaries along with ancient old coppice stools. Ash and Hazel coppice also exists within the understorey. Ground flora is generally representative of c-8e and is locally abundant. Steep SW aspect.</p>							
1c	14.60	Ash	1950	High forest		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation

<p>A varied sub compartment: Mature Ash and Hazel coppice last cut 1960, dominated with mature (P1800) Oak, Ash standards, creating a varied High Forest structure. Generally W8e with W10c in small areas towards the Southeast part of the subcompartment. In places pure hazel coppice occurs, as does Mature Oak/Ash High Forest. Sycamore occurs throughout and some mature (P1830) specimens exist on boundaries. Mature Pure Oak High Forest (P1920) occurs along the Southeast boundary, Cherry is notably common here. Groundflora is abundant and diverse. Lower plants are more common within the valley bottom. Some of the more notable Lichens are prevalent adjacent to 3a. Moderate to steep SW aspect.</p>							
1d	2.21	Japanese larch	1940	High forest		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Mixed stand of mainly European and Japanese Larch (P1972 and P1967) over a frequent understorey of coppice Hazel. 2015 proposals to fell larch within 25-30m of track at SW of sub comp to encourage hazel. Ground flora is principally c-10c and is locally occasional. A steep SW aspect.</p>							
1e	1.66	Hazel	1972	Coppice		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Formerly a mixed stand of mainly European and Japanese Larch (P1972 and P1967) over an occasional under storey of coppice hazel. A small block of Norway Spruce (P1966) has no understorey or ground flora. Larch felled leaving hazel to grow vigorously. Regenerating conifer and laurel will need to be removed. Ground flora where present is principally c-10c and is locally occasional. A steep SW aspect.</p>							
1f	0.58	Mixed native broadleaves	2004	Wood pasture		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>A small clear fell (2004) exists adjacent to Rudge Wood and contains some restocking hazel and oak with regenerating birch. The under storey is dominated by broom, gorse, and bramble. Ground flora is principally c-10c and is locally occasional. Moderate to steep SW facing slope, providing good habitat for butterflies and dormice are present in the better hazel areas.</p>							

1g	0.76	Mixed native broadleaves	2004	Wood pasture	Management factors (eg grazing etc)	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site, Site of Special Scientific Interest, Special Area of Conservation
<p>A narrow strip of clear felled (2004) conifer (SS) on the site of an old meadow adjacent to the River Bovey. Large mature broadleaf trees line the river bank and include oak, ash, sycamore, alder and birch. Some of these support notable populations of rare lichens. The occasional oak standard exists in the clear fell with areas of patchy bramble and gorse. Ground flora is varied and abundant (W8b) in the open areas. This area is well used by foraging fritillary butterflies. A flat aspect.</p>							
1h	3.70	Mixed native broadleaves	1900	High forest	Mostly wet ground/exposed site, No/poor vehicular access to the site, No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, National Nature Reserve, National Park, Site of Special Scientific Interest, Special Area of Conservation
<p>This area is known as Hisley Strip and is leased to E.N. Generally W11a-W8d-W7b communities are well represented. This narrow stand running adjacent to the river Bovey contains a coppice with standards structure, comprised of oak and ash standards with coppiced oak. The standards estimated to have been established around 1940, Mature quality sycamore (P 1840) are present in the areas of the southern section with sycamore saplings becoming locally invasive. Ancient coppiced alder are situated along the riverbank. Canopy density is poor in areas but improves towards the middle, providing better continuous cover. Hazel coppice forms the basis of the mixed shrub layer. Spindle is frequent throughout,. Hawthorn, blackthorn, elder, rowan are always present, as is bramble and various ferns. Ground flora is diverse and abundant in places under the semi-closed canopy. Rarer species of lichen and bryophytes occur in this sub compartment.</p>							
2a	2.17	Mixed native broadleaves	1962	PAWS restoration	No/poor vehicular access to the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site

<p>Formerly very dense and predominately unthinned area of Douglas Fir (p1962) of variable form with small pockets of Scots Pine (p1962). Now clear felled and gorse and scrub developing with birch and other shrubs regenerating alongside brook. Numerous rocky outcrops occur, very little Understorey. A remnant coniferised c11a community occurs around the edges of the compartment, with W8e along the brook side.</p>							
2b	9.08	Douglas fir	1962	PAWS restoration	No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Predominately Douglas Fir with occasional blocks of planted Beech and Western Red Cedar (all p1962) over a rare remnant c-11a community. Understorey is poor and square fenced exclusion zones being used to test growth of planted hazel as timber crops are gradually thinned. Some veteran broadleaved standards occur along the ride, a rare hazel/oak Understorey is present and deadwood is common throughout the middle and lower slopes. Very steep southerly aspect. This sub compartment is highly visible from Trendlebere Down.</p>							
2c	1.61	Douglas fir	1962	PAWS restoration	No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Douglas Fir (p1962) of reasonable form, with few remnant features bar a diverse W8e community along the margins of the brook This area is richer in lower plants. 2015 proposed felling of 20m strip of conifers along riverbank to open up riparian area and encourage natural regen from broadleaves along river.</p>							
2d	2.61	Douglas fir	1962	PAWS restoration	No/poor vehicular access to the site, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Douglas Fir (p1962) of poorer form with very few remnant communities, those existing tend towards c-11a, except some wetter flushes W9a, Ash-Rowan- Dogs Mercury. DF clear felled and rapid colonisation by gorse/birch scrub. DF regeneration (3-4m poles) will need to be managed. Some broad leaves on the margins and boundaries.</p>							



2e	7.69	Mixed conifers	1962	PAWS restoration	Landscape factors, No/poor vehicular access to the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Predominately a remnant coniferised c11a community with W9a on wetter slopes to the west. A patchwork of alternating Beech and Western Red Cedar occurs in distinct blocks on the upper slopes, with continuous DF(1962) on the lower slopes. Whilst most ground flora is absent occasional pockets and remnant mature broadleaf standards do occur but are rare. Spring line seepages occur throughout the western end of the subcompartment tending towards W-9a. A narrow diverse broadleaved strip runs adjacent to the brook bank, which contains massive boulders, and with numerous lower plants. Significant mature oak trees occur, many with lichen coverage, Alder Sycamore and Hazel area also common. Aspect varies from southerly to southeasterly and is generally very steep.</p>							
2f	1.07	Mixed broadleaves	1890	PAWS restoration	Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, Planted Ancient Woodland Site, Site of Special Scientific Interest, Special Area of Conservation
<p>Mixed broadleaf High Forest with an open canopy (W11a). Oak, Beech and Sycamore (P1890) occur over an abundant coppice Understorey of Hazel and Sycamore. Bramble is dominant in areas as is Rhododendron and Laurel making the sub compartment somewhat impenetrable. The area next to the river is very humid and supports many lichens and mosses on bankside mature trees, and rocky outcrops. Southerly aspect.</p>							
3a	1.59	Mixed broadleaves	1965	High forest	Mostly wet ground/exposed site, No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Special Area of Conservation

<p>A mixed broadleaf stand generally W8d, consisting of sycamore, downy birch and oak with the occasional ash (circa P1965). An abundance of sycamore at shrub and pole stage with birch and ash are locally dominant or co-dominant with alder. Understorey consists of occasional hawthorn; mature well-developed hazel coppice stools are present throughout the stand increasing in density towards sub compartment 1g. The stools form a thick understorey in some places forming the canopy layer. Ground Flora is especially rich along the riverbank. Bog mosses (<i>Sphagnum</i> spp.) are present.</p>							
4a	2.18	Alder species	1950	Coppice	Mostly wet ground/exposed site, No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Site of Special Scientific Interest, Special Area of Conservation
<p>An area of predominantly alder coppice W10e and W7b, with downy birch, ash and oak mixed in throughout the stand. The stand is estimated to have been last cut in 1950 with a proportion of the oak and ash being of a greater age, estimated to have been established around 1900. A number of very old, large, oak and ash coppice stools are situated along the external boundary adjacent to the public footpath. Understorey consists of frequent hazel coppice, with the occasional naturally regenerating ash. Ground flora is diverse and abundant and particularly attractive close to the river. Bog mosses (<i>Sphagnum</i> spp.) occur in boggy areas.</p>							
5a	3.87	Mixed broadleaves	1900	High forest	Mostly wet ground/exposed site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, National Park
<p>Mixed Broadleaves (p1900) on a NE aspect adjacent to the Lustleigh road, which has more native broadleaves in the stand composition than 5b and akin to W8f. The whole sub compartment bears little resemblance to semi-natural cover indicated by the AWI register. Previously managed as coppice, singling has taken place leaving some stems of good form. The sub-canopy contains a variety of native broadleaves which is frequent and contains silver birch, field maple, Oak, Hazel, rowan and sycamore. 2014/15 rotational coppicing of hazel, sycamore above road. Some garden escapes include laurel, buddleia.</p>							
5b	3.63	Sweet chestnut	1880	High forest	Mostly wet ground/exposed site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	Ancient Semi Natural Woodland, National Park

<p>On the highest ground in the wood this sub comp. Has a NW Aspect and is dominated by Sweetchestnut and Sycamore (p1880) with the ground flora indicating W10c. The whole subcompartment bears little resemblance to semi-natural cover indicated by the AWI register. Previously managed as coppice, singling has taken place leaving some stems of good form. The sub-canopy contains a variety of native broadleaves, which is frequent and contains silver birch, field maple, Oak, Hazel, rowan and sycamore. Dense silver birch at E end of sub comp dominates remnant ground flora. W end of sub comp dominated by sweet chestnut and sycamore and poor ground flora though patches of small (200mm) ash regen present.</p>							
5c	2.80	Mixed broadleaves	1987	High forest		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Area of Restocking (P1986) with Oak and Ash following premature clear fell of failed JL (P1965) crop. Prolific Birch regeneration has been cleaned repeatedly. The stand has a reasonably natural look and is representative of W10c. NW Aspect. 2015 further cleaning of birch, pole stage sycamore and conifer regen needed as casting shade.</p>							
5d	0.48	Douglas fir	1962	High forest		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>An attractive group of DF (1965) with good form surrounding turning bay. A remnant flora representative of c-11a exists at stand edges. The stand has high aesthetic appeal and broad leaf understorey is developing but threatened by DF regen. NW Aspect</p>							
5e	0.59	Douglas fir	1965	PAWS restoration		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Douglas Fir (p1965) over a rare hazel understorey, with some birch regeneration. There are some large oaks (p1820) adjacent to and above the sub-compartment. What remnant flora that exists suggests c-11a. Abundant DF regeneration (seedlings to 4m poles) threatening understorey and ground flora.</p>							

5f	2.63	Douglas fir	1965	PAWS restoration		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>Mostly High Forest mature conifer DF (P1965) of reasonable form at NE end of sub comp and semi mature SP (P1966) of reasonable form (thinned 2014/15), with a small element of multi-aged mixed native broadleaves towards SW end of sub comp. Dense clumps of holly also thinned 2014/15. Close to the river the communities representative of W8d elsewhere W11a. Communities are frequent at the edge of thinned conifer. Rare maiden Oaks exist throughout. NW Aspect</p>							
5g	0.49	Open ground	1964	Wood pasture	No/poor vehicular access to the site	Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park
<p>A small area of mixed conifer (p1964) cleared and now managed as a meadow. Ground flora along the edges is diverse. Broad leaves and shrubs along river bank have been cut to create windows to improve movement of butterflies. This area was unlikely to have been woodland in the past and is bounded by a wall, suggesting a history of open meadow. The sub compartment is level.</p>							
5h	3.36	Mixed conifers	1965	PAWS restoration		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site
<p>A block of Douglas Fir (p1965/6), Scots Pine (p1966) Japanese Larch (p1965). Occasional gaps in the canopy provide and opportunity for c-10c communities to flourish. There is a particularly strong community of w17d towards the lower slope adjacent to the Old Manaton road where final spacing of DF in 2014/15. A small strip of mature open grown Scots Pine (p1920) exists on the South East Boundary. Some broad leaf regen visible possibly seeded from adjacent sub comp 5f but requires more light to succeed. This area has a NW Aspect.</p>							
5i	2.34	Japanese larch	1965	PAWS restoration		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park, Planted Ancient Woodland Site

A stand of conifer on the upper slopes of the wood comprising JL (P1965) and SP (P1966) with a community c-10c. Occasional broadleaves occur and a light understorey of coppiced Hazel. Individual semi mature oaks would benefit from halo cutting. Some DF regen from neighbouring sub comp 5e. NW Aspect.

5j	0.37	other oak spp	1940	Coppice		Ancient Woodland Site, Connecting People with woods & trees, Historic Features	National Park
----	------	---------------	------	---------	--	--	---------------

Silver Birch Coppice (cut 1975) with scattered Oak standards (p1940) and in places a dominant Holly understorey. Flora varies from W11a through Vaccinum areas to Bracken dominated areas of W17b. Steep NW aspect.

## Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2017	1a	Thin	7.60	11	80
2017	1b	Thin	6.53	4	28.02
2017	1c	Coppice	4.25	5	20
2017	1d	Thin	0.40	65	25.88
2017	2b	Thin	9.08	11	95.7
2017	2c	Thin	1.61	31	50
2017	2e	Thin	7.69	10	75
2017	4a	Coppice	2.17	9	20
2017	5a	Coppice	3.83	1	5
2017	5b	Coppice	3.63	6	20
2017	5c	Thin	2.69	11	30
2017	5d	Thin	0.47	21	10
2017	5e	Thin	0.59	42	25
2017	5f	Thin	2.69	22	59.31
2017	5h	Selective Fell	3.36	22	75
2017	5i	Clear Fell	2.34	176	412
2017	5j	Coppice	0.37	27	10
2018	1a	Thin	7.60	11	80
2018	1b	Thin	6.53	12	80
2018	1c	Coppice	4.25	1	5
2018	1d	Thin	0.40	150	60
2018	2b	Thin	9.08	28	250
2018	2c	Thin	1.61	31	50
2018	2e	Thin	7.69	7	50
2018	4a	Coppice	2.17	2	5
2018	5a	Coppice	3.83	5	20
2018	5b	Coppice	3.63	6	20
2018	5c	Thin	2.69	11	30
2018	5d	Thin	0.47	11	5
2018	5e	Thin	0.59	8	5
2018	5f	Thin	2.63	4	10

2018	5j	Coppice	0.37	27	10
2019	1b	Thin	6.53	12	80
2019	1c	Coppice	4.25	5	20
2019	1d	Thin	0.40	150	60
2019	2b	Thin	9.08	28	250
2019	2c	Thin	1.61	31	50
2019	4a	Coppice	2.17	9	20
2019	5a	Coppice	3.83	5	20
2019	5b	Coppice	3.63	6	20
2019	5c	Thin	2.69	11	30
2019	5d	Thin	0.47	17	8
2019	5e	Thin	0.59	14	8
2019	5f	Thin	2.63	11	30
2019	5j	Coppice	0.37	27	10
2020	1a	Thin	7.60	11	80
2020	1b	Thin	6.53	12	80
2020	1c	Coppice	4.25	5	20
2020	1d	Thin	0.40	150	60
2020	2b	Thin	9.08	66	600
2020	2c	Thin	1.61	93	150
2020	2e	Thin	7.69	65	500
2020	4a	Coppice	2.17	9	20
2020	5a	Coppice	3.83	5	20
2020	5b	Coppice	3.63	6	20
2020	5c	Thin	2.69	11	30
2020	5d	Thin	0.47	17	8
2020	5e	Thin	0.59	14	8
2020	5f	Thin	2.63	11	30
2020	5j	Coppice	0.37	27	10
2021	1a	Thin	7.60	11	80
2021	1b	Thin	6.53	12	80
2021	1c	Coppice	4.25	5	20
2021	1d	Thin	0.40	150	60
2021	2b	Thin	9.08	9	80
2021	2c	Thin	1.61	25	40
2021	2e	Thin	7.69	10	80

2021	4a	Coppice	2.17	9	20
2021	5a	Coppice	3.83	5	20
2021	5b	Coppice	3.63	6	20
2021	5c	Thin	2.69	11	30
2021	5d	Thin	0.47	17	8
2021	5e	Thin	0.59	14	8
2021	5f	Thin	2.63	11	30
2021	5j	Coppice	0.37	27	10



## 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.