



Higher Knowle Wood

Management Plan 2017-2022

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THE WOODLAND TRUST

INTRODUCTION

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

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

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

PLAN REVIEW AND UPDATING

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

Site name:	Higher Knowle Wood
Location:	Lustleigh, Bovey Tracey
Grid reference:	SX792808, OS 1:50,000 Sheet No. 191
Area:	10.15 hectares (25.08 acres)
Designations:	Ancient Semi Natural Woodland, National Park

2.0 SITE DESCRIPTION

2.1 Summary Description

This prominent Ancient Semi Natural Woodland (ASNW) is conspicuous from much of the local area, being situated at the southern end of the Wray Valley, on the south east side of Dartmoor National Park. The wood has a west facing aspect, descending from a small plateau downhill towards the Wray Brook and the River Bovey, and is typical of the Dartmoor National Character Area (NCA150/NE519).

2.2 Extended Description

This prominent Ancient Semi Natural Woodland (ASNW) is conspicuous from much of the local area, being situated at the southern end of the Wray Valley, on the south east side of Dartmoor National Park. The wood has a west facing aspect, descending from a small plateau downhill towards the Wray Brook and the River Bovey, and is typical of the Dartmoor National Character Area (NCA150/NE519).

Exposures of granite occur throughout the site, especially on the slopes, and are a feature typical of Dartmoor woods. The wood is of a mature high forest structure, which sits prominently with the local landscape, and with occasional areas of coppice along the rides, boundaries and beneath the canopy. The species make up is predominantly oak with beech and birch forming the canopy and holly, hazel, rowan and sycamore forming an understory where light levels permit. The community is sub-montane W17 showing characteristics of W16 with lichen and bryophyte communities present on mature trees and a variable ground flora, which can be rich where light levels allow. Historically the site is believed to be derived from wood-pasture or a wooded common, with old boundary features present within the wood as well as along its outer boundaries. Over stood hedges and large coppice stools still exist along these boundaries, with some mature standards showing veteran features of interest.

Subsequent planting of Douglas Fir, Scots Pine and Japanese Larch were made sporadically across the site. A small block of Larch was removed from the south eastern corner in 1999 and restocked with a native broadleaved mix, which has subsequently been restructured by coppicing.

The surrounding land is a mixture of residential housing and low intensity pasture, with connecting hedgerows linking it to other small woods in the area. Higher Knowle is located between several of the Trust's other woods, notably Shaptor Wood, East Wray Cleave and the Bovey Valley Woods, which all follow the same geographical features but lacks any direct connection to these other woods.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

Two points allow access to Higher Knowle Wood. Both are on the public footpath network with the southern entrance opening directly onto the public highway. This entrance comprises of a management gate and a pedestrian gate allowing public access. Parking is extremely limited with the entrance on the junction of the metalled highway and a BOAT (with an uneven and rocky surface) following the boundary down towards Lustleigh. Once inside the woods the path surface is a natural and unmodified and can be uneven in places. The main linear Public Footpath route is fairly level. A permissive footpath exists, which forms a minor circular route from the main public footpath. At the northern end of the public footpath access is also via a pedestrian gate. There is no access for horse riding or mountain bikes within the wood.

By Bus: The nearest bus stop is in Union Square, Fore Street, Bovey Tracey, approximately 2 miles from Higher Knowle Woods. There is a service from Bovey Tracey to Moretonhampstead although this runs infrequently with no official stops between the two towns.

Further information about public transport provision is available from Traveline - www.travelinesw.com or by phone on 0870 608 2 608. May 2017.

3.2 Access / Walks

A public footpath crosses the eastern side of the wood and an informal path exists off of this to create a small circular walk.

4.0 LONG TERM POLICY

In 50 years' time, the Ancient Semi-natural Woodland of Higher Knowle will be a habitat of predominantly native broadleaved species, featuring a structural diversity that will maintain a continuous cover approach whilst promoting a rich ground flora and assemblages of lower plants such as lichens and bryophytes. Conifer regeneration will be controlled but large, significant species shall be retained as these mature trees provide valuable wildlife habitat and will continue to do so as they age and decay. There will be regular management to maintain the light and air conditions for rare lichens and other species characteristic of Dartmoor woods to thrive, through the control of shade bearing species such as holly, coppice along ride/ track edges and the layering of boundary hedges. This will also create space and light for veteran boundary trees to develop and for the lower plant community they support to thrive.

Past invasions of non-native species such as Laurel and Rhododendron have been eradicated from the wood but any remnants or re-invasions will be removed as they occur.

Informal public access will be maintained, allowing visitors to explore the wild nature of this wood both through the public footpath and the permissive path, the course of which may alter over time.

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 Ancient Semi Natural Woodland

Description

Semi Natural Ancient Woodland, which probably has an early origin, derived from scattered bushes and trees in a wood-pasture setting. This is supplemented by secondary woodland infill and further bolstered by late 19th Century plantings of specimen conifer and beech. The wood is an example of a mature, long unmanaged plantation with semi-natural components and sits prominently within the local landscape.

Most of the wood consists of mixed oak, beech, birch, sweet chestnut and some ash on dry ground. There are some scattered mature Scots pine and Douglas fir. The understory consists mainly of holly with hazel and some sycamore regeneration in places. The trees consist of a wide range of sizes and species.

The major feature of interest is a geological formation which gives rise to much richer soils than those found in the main Bovey Valley. The Wooleigh Grits are conglomeratic rocks that are part of a fluvial series associated with the Oligocene clays of the Bovey Basin. They are preserved here on a platform eroded in the margin of the Dartmoor Granite.

There is evidence of historical coppicing within the wood, both along the boundaries and beneath standards with much of this now over-stood. Mature trees, some with veteran features, occur along the historic boundaries, along with remnants of old hedges.

Where sufficient light comes through the canopy, the wood contains rich areas of ground flora including bluebells, yellow archangel, wood anemone, primrose, dog's mercury, wood avens and bugle. These are mostly confined to ride/ track edges, old areas of coppice, boundaries and gaps created in the canopy through wind-blown trees due to the closed canopy and heavy shade created by holly and beech.

The site is prone to wind throw at the break of the slope and this creates good opportunities for deadwood and the associated invertebrate fauna and fungi.

The neighbouring land use is a mixture of residential housing and low intensity pasture. The wood is directly connected to Loxtor Copse to the north and many other small woods in the area via a network of hedgerows, including Slades Copse to the east.

Significance

Higher Knowle is designated as an Ancient Semi Natural Woodland and falls within a Priority area for Ancient Woodland (for both the Forestry Commission and the Woodland Trust). The conservation of Ancient woodland being one of the primary objectives of the Woodland Trust, protecting native trees, woods and their wildlife for the future. The site helps to achieve national, regional and local biodiversity and habitat action plan targets, including fulfilling multiple objectives in the Dartmoor Habitat Action Plan for Woodland. Evidence of the site's wood pasture heritage can be seen in the stone walls that border the wood along with internal walls that would have formed two small fields within the wood. This change in land use is typical of many Dartmoor woods and shows a rich cultural heritage and landscape value. The wood has many mature trees, supporting a rich array of lower plants, including lichens and bryophytes, some species of which fall into the Biodiversity Action Plan for Devon.

Opportunities & Constraints

Opportunities: A low impact management approach will allow this wood to gradually mature, develop and naturalise over time. Some input would be required to ensure the long-term removal of invasive species and the management of light levels within the wood in order to promote and to maintain and increase the ground flora present. Much of the wood falls into tree safety zones and therefore creates potential opportunities for breaks in the canopy and increasing light levels for ground flora and lower plant assemblages.

Constraints: Some ground is steep and rocky which limits the practicalities of woodland management operations. High visibility within the local landscape must be considered during design of any required operations. The potential for lichen communities to colonise mature holly and reduce the opportunity for holly control in order to increase light levels.

Factors Causing Change

1. Deer and Squirrel damage - signs of both are present and may limit natural tree regeneration and ground flora but allow more light for lichens.
2. Premature felling in TS zones - may limit the potential area of maturing trees. But may improve light levels around maturing trees
3. Declining light levels - affecting lichens typical of Dartmoor woods, ground flora and broadleaf regeneration.
4. Phytophthora or Sweet Chestnut Blight - mature Chestnut trees are present on the northern part of the site.
5. Chalara fraxinea - Ash of varying ages is present in the wood, including along the boundary banks.
6. Conifer regeneration - limited on the site but still present.
7. Invasive species - Rhododendron and Laurel have largely been removed from the site but continued control is needed.

Long term Objective (50 years+)

Mixed predominately native broadleaved woodland of varied age and species structure and with representative ground flora and lichens throughout. Mature trees growing on into senescence with subsequent restocking to occur by natural regeneration. On-going management may be required to maintain light levels and remove undesirable species.

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

1. Ancient woodland flora will be present across the site and whilst variable in distribution should be Dominant to Frequent. This will require the management of light levels through the control of light inhibiting species, such as holly, and the continued coppicing of ride/ track edges.
2. Presence of invasive Laurel and Rhododendron will continue to diminish
3. Regeneration of native broadleaves through the methods set out in objective 1. Browsing should be monitored through impact assessments, and deer management undertaken if necessary.
4. Maintain boundary hedges through coppicing and layering to vary structure, free up mature/ veteran trees and increase light levels.
5. Increase levels of fallen and standing deadwood across the site where safe to do so as part of thinning, coppicing and tree safety works

5.2 Informal Public Access

Description

The wood is open for quiet informal recreation on foot primarily via a public footpath that follows the one main track as it winds through the upper wood between Brookfield (Lustleigh) to Hatherleigh. This is mostly used by local walkers, as is the BOAT that runs outside the eastern boundary and connects Lower Knowle Road to Hatherleigh Lane. The path is level but unsurfaced and passes through a restocked area at the Hatherleigh end and into a mature oak/ beech wood in the direction of Brookfield.

Additionally a circular loop path which was created in the 1990s to provide an obvious circular route and avoid desire lines through the wood. This path is smaller used less than the public footpath but takes the walker through more variety of woodland, including scots pine and regenerating glades formed from blown trees. A richer ground flora is present in places, with a patchy covering of bluebells in the spring. This path is undulating and twisting.

Significance

Public access and increasing people's enjoyment of woodland is one of the Woodland Trusts key Objectives and is met here by providing a local amenity.

Opportunities & Constraints

Constraints: Increasing amounts of dead wood and tree instability along the current permissive loop path may limit its continued use.

Opportunities: To enhance visitor experience by re-aligning the permissive loop path into a younger and more stable area of woodland, this would be easier to maintain in the longer term and allow fallen material to be left in situ and the wood to develop naturally.
loop path into a younger and more stable area of woodland.

Factors Causing Change

1. Tree mortality/ instability - requiring more path maintenance into the future
2. Premature felling in TS zones - may limit the potential area of maturing trees.

Long term Objective (50 years+)

Informal public access available on a network of public and permissive paths: a simple circular path looping from the public footpath that is accessible in most ground conditions and provides an enjoyable woodland experience. No further access encouraged in compartment 2 or near the House.

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

1. Ensure access provision is in keeping with access and entrance guidelines and network is appropriate to level of usage.
2. Manage existing accesses, furniture and facilities appropriate to level of use
3. Manage tree safety
4. Coppicing along track/ path edges to increase access provision as well as enhance the ASNW.

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	9.09	other oak spp	1830	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Ancient Semi Natural Woodland, National Park
<p>Woodland predominately consisting of mixed broadleaved trees but includes some specimen conifers. Numerous open grown trees exist throughout the wood with significant specimens nearer the boundaries. These are generally mature trees: Oak, Beech Sweet Chestnut (P1830- 1870) there are also areas of open grown Birch (P1900) and regenerating Sycamore and Beech (P1950) in gaps created by storm damage. Flora and understorey is variable and often poor, being dominated in parts by Holly and remnants of Rhododendron and Laurel. An important exposure of rocks (Woolley Grits) occurs throughout the northern part of the wood.</p> <p>An area of 0.60ha in the north eastern corner (formally separated into compartment 1b) was restocked in 1999 following the removal of a Larch block. A mixture of Oak, Ash and Cherry were planted and a few mature Oaks have survived. This area has matured well and now supports a good ground flora, which was previously lacking. These sub compartments have been combined as the management is now synonymous.</p>							
2a	0.95	other oak spp	1860	High forest	No/poor vehicular access within the site	Ancient Semi Natural Woodland, Informal Public Access	Ancient Semi Natural Woodland, National Park
<p>Small area of High Forest: principally Oak and Beech (P1860) with some conifers, understorey varied including Holly, Sycamore and invasive Laurel and Rhododendron. An area (0.4ha) of poor quality, overstood Hazel coppice lies parallel to western (lane) boundary and is over shaded by the main canopy. Ground flora throughout is generally poor and rare, localised pockets of a more diverse (W14) community exist but have been severely modified by non-native and invasive species.</p>							

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.