

Higher Knowle Wood

(Plan period – 2024 to 2029)



WOODLAND
TRUST

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Introduction to the Woodland Trust Estate

The Woodland Trust owns and cares for well over 1,250 sites covering almost 30,000 hectares (ha) across the UK. This includes more than 4,000ha of ancient semi-natural woodland and almost 4,000ha of non-native plantations on ancient woodland sites and we have created over 5,000ha of new native woodland. We also manage other valuable habitats such as flower-rich grasslands, heaths, ponds/lakes and moorland.

Our Vision is:

“A UK rich in native woods and trees for people and wildlife.”

To realise all the environmental, social and economic benefits woods and trees bring to society, we:

- **Create Woodland** – championing the need to hugely increase the UK’s native woodland and trees.
- **Protect Woodland** – fighting to defend native woodland, especially irreplaceable ancient woodland and veteran trees; there should be no loss of ancient woodland
- **Restore Woodland** – ensuring the sensitive restoration of all damaged ancient woodland and the re-creation of native wooded landscapes.

Management of the Woodland Trust Estate

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.

The following principles provide an overarching framework to guide the management of all our sites but we recognise that all woods are different and that their management also needs to reflect their local landscape, history and where appropriate support local projects and initiatives.

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene in our woods when there is evidence that it is necessary to maintain or improve biodiversity, safety and to further the development of more resilient woods and landscapes.
2. We establish new native woodland for all the positive reasons set out in our Conservation Principles, preferably using natural regeneration but often by planting trees, 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. Where possible, we pro-actively engage with people to help them appreciate the value of woods and trees.
4. The long term vision for all our 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 natural and cultural heritage value of sites is taken into account in our management and in particular, our ancient trees are retained for as long as possible.
7. Land and woods can generate income both from the sustainable harvesting of wood products and the delivery of other services. We therefore consider the appropriateness of opportunities 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 encourage our woods to be used for 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. We maintain a network of sites for long-term monitoring and trials leading to reductions in plastics and pesticides.
10. Any activities we undertake are in line with our wider Conservation Principles, conform to sustainable forest management practices, are appropriate for the site and balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

The Public Management Plan

This public management plan describes the site and sets out the long term aims for our management and lists the Key Features which drive our management actions. The Key Features are specific to this site – their significance is outlined together with our long, 50 years and beyond, and our short, the next 5 years, term objectives for the management and enhancement of these features. The short term objectives are complemented by an outline Work Programme for the period of this management plan aimed at delivering our management aims.

Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. Any legally confidential or sensitive species information about this site is not included in this version of the plan.

There is a formal review of this plan every 5 years and we continually monitor our sites to assess the success of our management, therefore this printed version may quickly become out of date, particularly in relation to the planned work programme.

Please either consult The Woodland Trust website

www.woodlandtrust.org.uk

or contact the Woodland Trust

operations@woodlandtrust.org.uk

to confirm details of the current management programme.

A short glossary of technical terms can be found at the end of the plan.

Location and Access

Location maps and directions for how to find and access our woods, including this site, can be found by using the following link to the Woodland Trust web-site which contains information on accessible woodlands across the UK

<https://www.woodlandtrust.org.uk/visiting-woods/find-woods/>

In Scotland access to our sites is in accordance with the Land Reform Act (of Scotland) 2003 and the Scottish Outdoor Access Code.

In England, Wales and NI, with the exception of designated Public Rights of Ways, all routes across our sites are permissive in nature and where we have specific access provision for horse riders and/or cyclists this will be noted in the management plan.

The Management Plan

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3. Long Term Policy
4. Key Features
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Appendix 1 : Compartment Descriptions

GLOSSARY

1. SITE DETAILS

Higher Knowle Wood

Location:	Lustleigh, Bovey Tracey Grid reference: SX 79488 80758 OS 1:50,000 Sheet No. 191
Area:	10.15 hectares (25.08 acres)
External Designations:	Ancient Semi Natural Woodland, National Park
Internal Designations:	N/A

2. SITE DESCRIPTION

Higher Knowle Wood is a 10.15 hectare Ancient Semi Natural Woodland (ASNW) and Temperate Rainforest situated on the south east side of Dartmoor National Park among one of the most significant networks of valley woodland on Dartmoor, connecting at a landscape scale with the woodlands of the Wray and Bovey Valleys. 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.

Landscape Scale Partnership Working

The importance of this landscape for nature recovery has recently been recognised by Natural England by its designation as Landscape Recovery Area (LRA) through which support for landowners will be targeted over the next 30 years. A partnership of organisations, and private landowners within the LRA will formalise a working relationship over the initial two year development phase. Another facet of the LRA working is the potential establishment of a "Super NNR" covering the same area.

3. LONG TERM POLICY

In 50 years time, the Ancient Semi-natural Woodland of Higher Knowle will feature a diverse and resilient range of native broadleaved species, forming a highly structurally diverse habitat maintaining a continuous cover approach, while 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 for heritage and biodiversity. There will be regular management to maintain the light and air conditions for Temperate Rainforest species such as rare lower plant communities characteristic of the Dartmoor woods to thrive, through the control of shade bearing species such as holly, coppice along ride and track edges, the layering of boundary hedges and haloing of future veteran trees. This will create space and light for veteran boundary trees to develop and for the lower plant and invertebrate communities 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. Public access will be maintained, allowing visitors to explore the wild nature of this wood both through the public footpath and the permissive path and will continue to form an important part of the landscape scale recreational access in this area of the National Park.

4. KEY FEATURES

4.1 f1 Ancient Semi Natural Woodland

Description
<p>Higher Knowle Wood is a 10.15 hectare Temperate Rainforest (falling within the hyper-oceanic zone) and Ancient Semi-Natural Woodland (ASNW), forming part of one of the largest, continuous areas of ASNW on Dartmoor. The wood itself was historically a more open-spaced, grazed wood pasture type wooded habitat formed of large standards and scrub. The site also features numerous overstood coppice stools along historic wood-banks and stone-lined boundaries (which also feature numerous mature veteran trees, important for nesting woodland bats), indicating a history of coppice management. In the absence of grazing the woodland has been infilled with naturally regenerated secondary woodland (such as ash, sycamore and silver birch) and planted ornamental specimens of conifer (such as Douglas fir and Scots pine) and beech in the late 19th century. The woodland has a relatively diverse age structure, predominantly consisting 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. Preserved here on a platform eroded in the margin of the Dartmoor Granite, the site features a geological substrata known as the 'Wooleigh Grits', which are conglomeratic rocks that form part of a fluvial series associated with the Oligocene clays of the Bovey Basin, and give rise to richer soils than those found in the main Bovey Valley. The ancient woodland ground flora communities include bluebells, yellow archangel, wood anemone, primrose, dog's mercury, wood avens and bugle, the rocks and trees within the site also provide an important habitat for epiphytes such as ferns, lichens, mosses and liverworts. These are mostly confined to ride and track edges, old areas of coppice, boundaries and gaps created in the canopy through wind-blown trees, and least abundant in areas dominated by shading holly, sycamore and beech. Due to its exposed elevation and presence of large overstood trees, the site is prone to wind throw at the break of the slope and this creates good opportunities for natural glade and deadwood creation, benefiting their associated invertebrate fauna and fungi communities. The neighbouring land use features a mixture of low density residential housing and agriculturally improved commercial pasture fields. 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.</p>
Significance
<ul style="list-style-type: none">-Ancient Semi-Natural Woodland and falls within a Priority area for Ancient Woodland (for both the Forestry Commission and the Woodland Trust).-Secure, restored broadleaf ASNW contributing to the Dartmoor Habitat Action Plan for Woodlands.-Hyper-oceanic Temperate Rainforest habitat, in Plantlife's 'Important Plant Area' (Dartmoor IPA) a stronghold for rare communities of lower plant species such as Lichens, Mosses and Liverworts.-Part of DEFRA's East Dartmoor Landscape Recovery Area (LRA). One of the first designated LRAs in the country and part of the 2022 pilot scheme.
Opportunities & Constraints

Opportunities:

- Scope for site wide specialist species surveys for lower plants, i.e. lichen, mosses, bryophytes.
- Scope for a suite of species surveys including bats, invertebrates, fungi, mammals and birds.
- Possibility of underplanting the site with a range of mixed, native broadleaf trees appropriate to soil and NVC type in order to diversify species mix and counter the dominance of shading tree species such as holly, sycamore and beech.

Constraints:

- Limited size and diversity of site constraints goals in terms of biodiversity and habitat delivery and scope of management plan.
- Accessibility of site limited, particularly on southern side due to lack of parking/ management access and steep areas not accessible to machinery or vehicles.
- Lack of watercourse or significant water feature constraining wetland creation opportunities.

Factors Causing Change

- Deer and Squirrel – high numbers negatively affecting regenerating native broadleaf trees and abundance of ground flora and lower plants.
- Declining light levels – increasing proportion of shading tree species such as holly, beech and sycamore affecting lower plant communities typical of Dartmoor woods, ground flora and broadleaf regeneration.
- Tree Disease – Phytophthora, Sweet Chestnut Blight and Chalara fraxinea present affecting species proportions on the site.
- Conifer regeneration – limited on the site but still present, presenting future threat to broadleaf woodland.
- Invasive species – Rhododendron and Laurel have largely been removed from the site but continued control is needed. Cotoneaster present.
- Windblow and senescence – leading to diversification of tree age structure, physical woodland structure, glade creation and increase in deadwood volumes.
- Climate change – causing higher intensity rainfall events in winter and more likelihood of drought events in summer threatening temperate rainforest species dependent on high humidity and survival of canopy tree species vulnerable to drought stress.

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+)

Higher Knowle wood will be maintained as a healthy, balanced and ecologically thriving temperate rainforest site, forming an important part of wider complex of extensive woodland habitat within the East Dartmoor valley systems. The site will have a diverse age and vertical structure and with multiple age classes ranging from regenerating trees to veterans. Light levels will be balanced by controlling the dominance of shade tolerant species and non-native invasive species and facilitating glade creation and regeneration of a diverse and resilient range of light demanding native broadleaf species such as oak, rowan, hawthorn, hazel and elder with a focus on maintaining high quality habitat for biodiversity able to withstand shocks such as drought and disease. This will be achieved through a hybrid approach of working with natural processes such as windblow, glade creation and natural regeneration, and targeted interventions such as tree planting, deer management and selective removal of less desirable shading species. Linear features such as the boundary hedgerow and path will be maintained as structural biodiversity features. The trust will have developed an understanding of the species within the woodland through regular specialist surveys.

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

- Selective reduction of proportions of regenerating shading species such as holly, beech and sycamore to facilitate regeneration of light demanding native tree species such as oak, rowan, hazel, silver birch and willow.
- Haloing of future veteran trees.
- Mapping and removal of any non-native invasive species e.g. cotoneaster or rhododendron.
- Implement a program of deer surveying and population control to help facilitate natural regeneration and recovery of ground flora. To include ongoing maintenance of two deer enclosure plots.
- Divert Zone B path to only include public right of way through the woodland in order to avoid the need for active intervention clearing ash trees affected with ash die back, allowing for standing deadwood habitat retention.
- Continued laying of hedge along Lustleigh Byway 38
- Management of deer populations to support the healthy woodland dynamics such as natural regeneration.

4.2 f2 Connecting People with woods & trees

Description
Higher Knowle wood is bisected on its northern compartment (1a) by a public right of way footpath (Lustleigh Footpath 32), which is unsurfaced, but flat and easily accessible and bordered along its southern boundary by a Byway Open to All Traffic (BOAT) (Lustleigh Byway 38), which is a sunken Holloway with a steeper, more uneven profile, however both are popular with the local community for hikers and dog walkers accessing the surrounding landscape. Cycling is not permitted within the wood and dogs are encouraged to remain on leads from the bird nesting period March – July.
Significance
<ul style="list-style-type: none"> - Forming part of one of the largest contiguous areas of publicly accessible woodland on Dartmoor, connecting at a landscape scale with the East Dartmoor NNR woodlands, Shaptor Woods and Parke estate woodlands. - Contributing to the Woodland Trust’s organisational goal of providing accessible woodlands to people.
Opportunities & Constraints
<p>Opportunities</p> <ul style="list-style-type: none"> - Potential for improvement (safety and accessibility) of landscape scale recreational access between Bovey Tracey, East

Dartmoor NNR, Shaptor Woods, Parke Estate and wider publicly accessible greenspaces.

-Opportunity to increasingly manage the main path as a semi-open 'ride' as more large trees fall naturally over time, increasing visitor safety and drying out path.

Constraints

- Tree safety issues such as ash die back and large overstood age class of trees restricting feasibility of site wide path network and presenting challenge to management of footpath.

Factors Causing Change

- Ash die back and overstood age class of trees leading to periodic and incremental wind blow and wind snap of trees along access paths, over time creating a safer, more open canopy and creating open and naturally regenerating ride, leading to drier path conditions in winter also.

- Increasing footfall as projected visitor numbers to Dartmoor National park increase in line with changing population demographics, potential increase in number of dog walkers visiting the site.

Long term Objective (50 years+)

Public access will be maintained, with a focus on the public rights of way as safe, accessible routes. The site management will predominantly remain focused on biodiversity and nature recovery, however sensitive and proportionate improvements to public access infrastructure will be made where necessary. Higher Knowle wood will remain a well-loved and cherished accessible woodland used by locals, but increasingly by visitors to Dartmoor National Park enjoying ever improving landscape scale recreational accessibility, of which the site will form an important part.

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

-Manage tree safety through surveying, proactive felling of dangerous trees and clearing of path when blocked by fallen trees.

-Coppice and lay hedge alongside Lustleigh Byway 38 to maintain tree safety and accessibility.

-Maintain public access infrastructure to a safe and high quality standard in-line with Woodland Trust brand and infrastructure guidelines.

5. WORK PROGRAMME

Year	Type Of Work	Description	Due Date
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APPENDIX 1 : COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Designations
1a	9.09	other oak spp	1830	High forest	Very steep slope/cliff/quarry/mine shafts/sink holes etc	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, 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>						

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.

Windblow/Windthrow

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.

Registered Office:

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