WOODLAND TRUST

Thwaitestones

Management Plan 2019-2024

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MAPS

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Thwaitestones
Location:	Angram, Swaledale
Grid reference:	SD893990, OS 1:50,000 Sheet No. 98
Area:	14.92 hectares (36.87 acres)
Designations:	Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest, Tree Preservation Order

2.0 SITE DESCRIPTION

2.1 Summary Description

Thwaitestones is one of only three substantial semi-natural ancient juniper woodlands within the Yorkshire Dales National Park. A designated Site of Special Scientific Interest, it also features a small hay meadow and limestone pothole.

2.2 Extended Description

Thwaitestones is one of only three substantial semi-natural ancient juniper woodlands within the Yorkshire Dales National Park. Situated on the impressively steep scree covered south-west facing slopes of Kisdon Hill, this 15 hectare woodland is characterised by a dense stand of common juniper. The woodland is a remnant of the once widespread glacial tundra vegetation that occupied these moors and valleys, and has survived due to the inaccessible terrain it now occupies, ancient juniper woodland on this scale being a nationally rare habitat. The site should always be seen within the wider countryside in this location towards the head of Swaledale, surrounded as it is at the higher elevations by large areas of unimproved grassland, historically used for sheep grazing.

The geology of the site is carboniferous limestone with very shallow loamy, upland, mostly humous soil, associated with very steep slopes, extensive bare rock, crags and scree. The ground flora is dominated by ling (Calluna vulgaris), bilberry (Vaccinium myrtillus) and wavy hair grass (Deschampsia flexuosa) along with a diverse bryophyte cover. Bracken is continuing to encroach -

particularly on the lower and middle slopes. The middle slopes do have scattered groups of native broadleaves, particularly birch and rowan, which are commonly associated with juniper habitat. Areas of the lower slopes adjoining the streamside are dominated by alder with patches of wetland/ seasonal water-logging associated with a spring line. Within the site to the North is a small unimproved upland pasture/ hay meadow and associated single storey barn, which would have traditionally been used for summer grazing/ hay. There is a limestone pothole on site at the southern end of the meadow close to the spring - Hooker Mill Hole, which has an entrance mostly blocked by earth and rocks, 15m long with a maximum vertical depth of 18m. To the east of the hay meadow is Hooker Mill Scar, a high limestone crag, the lower slopes of which have been planted with larch woodland. These small plantation woodlands are typical of those planted during the late 19th century across the Yorkshire Dales. Often small, they are planted on otherwise unusable land - in this case the very steep, scree covered ground. Planted with larch in the hope of providing some timber in the long term whilst providing shelter for stock on the adjacent fields. The scar is developing a native woodland cover through regeneration of aspen, yew, juniper and hawthorn, where grazing pressure is restricted, particularly the near vertical cliff faces. Approximately 80% of the site (excluding the area of Hooker Mill Scar and the upland meadow) within the Trust ownership has been designated as a Site of Special Scientific Interest due to its scarce juniper population. Prior to Woodland Trust ownership the site was degraded through grazing - both sheep and cattle, which still graze surrounding land which is rough grazing land and pasture, with conifer plantation to the east and open moorland to the west.
Due to the importance of juniper both regionally and nationally, the woodland received additional Forestry Commission grant aid through the Woodland Grant Scheme Challenge Fund in 2001- Providing New Native Woodland in National Parks, a competitive application, this allowed restoration of the boundary wall, along with wall top netting to prevent unauthorised sheep grazing, which is one of the major influences on regeneration along with rabbit damage, which will also be controlled.

To the south and east, areas of open grassland and heath bordering the dense stands of mature Juniper, (an area that has been without juniper since at least 1987 when the site came into Woodland Trust ownership), were planted with 30-45cm local provenance common juniper in November 2001 in shrub shelters, and replanted in spring 2005 following almost complete losses through extreme wind conditions followed by rabbit/ sheep damage during an extended period of heavy snow during late February and March 2006. Following repeated losses of the juniper through the attention of sheep and rabbits, the area was again replanted in April 2006 at variable spacing, within 4 small rabbit fenced enclosures of approximately 200m2 each. This was replanted in December 2007 following 100% losses through extreme drought conditions of summer 2006, followed by 100% losses in April 2007 due to deliberate vandalism. No juniper restocking has been undertaken to date since April 2007. Due to these repeated losses the management of the site from May 2009 will concentrate on maintaining the current population of mature juniper on site.

Lower slopes which have an increasing area of bracken cover have been planted with native broadleaved species (initially in November 2001, and subsequently replanted in 2006 and again in 2007 following severe losses, due to a combination of sheep and cattle damage, deer browsing and from severe dry summer weather, with additional stocking in 2010-2013). Tree species include birch, rowan, aspen and alder. The planting is at variable spacing's due to the difficult ground conditions (vegetation covered scree), averaging 3 metre spacings, to achieve 1100 trees per hectare. All plants are of local provenance, and maintenance of the trees, including weeding, beat-up and maintenance will be continued until suitably established.

There is no public access to site but a public footpath runs close to the western boundary in the valley bottom. The site is highly visible throughout this part of the valley and forms an incredible backdrop (which appears in almost every promotional picture for the valley) for the village of Thwaite, made famous by the pioneering wildlife Photographers, brothers Richard and Cherry Kearton.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

There is no public access to the site, as none was agreed at the rime of purchase. Being limited to management access by a single route, although a public footpath does run along the valley bottom , with excellent views of the woodland. Due to the conditions on the site and its ecological importance, no provision for pedestrian access will be made in the future.

3.2 Access / Walks

4.0 LONG TERM POLICY

As a Site of Special Scientific Interest and Ancient Semi Natural Woodland of such value within the context of Swaledale and the Yorkshire Dales, the long term intention is to maintain and enhance the current population of native juniper woodland on the site (whilst it is still necessary to look to establish the next generation of juniper in this even aged and mature stand, so far all efforts have been unsuccessful and at present this action is on hold, pending finding a successful and sustainable method of establishment and management.)
It is also a long term aim to increase and enhance the area of native broadleaved woodland on site, and once the areas of new planting have been succesfully established, then the whole of the wooded area will be managed as minimum intervention, allowing native species on site to maintain and hopefully increase in area through natural regeneration, allowing the most natural succession of woodland possible within the site.
Mature non-native larch woodland will also be managed under minimum intervention, allowing the developing understorey of aspen and thorn on Hooker Mill Scar to dominate as the larch continues to senesce.The upland meadow will be retained and managed through seasonal grazing in conjunction with neighbouring fields outside the Woodland Trust boundary Due to the adverse terrain throughout the site and its high ecological importance, no provision for pedestrian access will be made in the future.

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

Steep boulder strewn south-west facing slope, vegetation cover a mixture of dense common juniper, with birch, rowan willow and alder on the lower slopes,Ground flora dominated by ling heather (Calluna vulgaris), bilberry (Vaccinnium myrtillus) and wavy hair grass (Deschampsia flexuosa), with a luxuriant bryophyte cover. Limestone outcrops on the upper slopes support limestone grassland. Areas of Juniper planting on the upper slopes undertaken between 2001 and 2007 with 100% losses, areas of broadleaved planting on the lower slopes originally undertaken during November 2001 and replanted in 2008 following losses due to weather and animal browsing.

Significance

Significant remnant stand of post-glacial common juniper, one of only three remaining in Swaledale. Juniper being confined to Swaledale and Ingleborough, within the Yorkshire Dales National Park. Also classified as SSSI, Semi-Natural Ancient Woodland, of which there is very little throughout the National Park. In addition this SSSI is of further importance due to its positioning adjacent to a large area of unimproved calcareous grassland, found at high elevations within Swaledale.

Opportunities & Constraints

The whole area is designated SSSI and as such any operations on site should be agreed with Natural England prior to commencement. The broadleaved woodland creation areas will require a high level of maintenance during the first 10 years or until established . All establishment and maintenance work, including tree weeding, beat ups and fencing has been ordered throught the Estate Management Contract. There is no public access to the site. The vast majority of the site is under minimum intervention to allow natural processes, and there is scope to extend the site and/ or encourage sensitive management of adjacent juniper poulations on non-Woodland Trust land. There are a considerable number of management constraints, especially the difficult and steep access, which combined with the severe weather conditions and exosed south west facing site, make the timing and undertaking of works very difficult. The terrain within the site is suitable only on foot, having no vehicular access, and is composed mainly of loose scree. Rabbits and deer are a considerable problem to any new planting and to the existing woodland cover during periods of harsh weather, along with sheep seeking shelter and food.

Factors Causing Change

Occasional uncontrolled Grazing - access via open gates and wall damage, Rabbit Damage, Bracken encroachment, Deer damage, Uncontrolled grazing during periods of heavy snow, High and exposed location

Long term Objective (50 years+)

Maintain a stable population of juniper and native broadleaves on site, allowing natural processes to regenerate the woodland.

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

The management of the juniper areas in the current plan period (2019 - 2024) will concentrate on management to maintain the existing population of mature juniper, through an annual programme of control of rabbits and deer throughout the site. Unauthorised access by sheep will also continue to be managed through ensuring site boundaries are secure. Bracken control will be continued throughout the compartment due to the levels of encroachment, which will have a detrimental effect on the possibility of any woodland regeneration on site as well as a reduction in the ground flora associated with the exposed site and screes including heather, bilberry, mosses, lichens and other less vigorous ferns. Six gengards will be fitted on areas of significant birch regeneration to help protect them from rabbit and deer browsing and help the areas of regeneration establish successfully.

5.2 Mixed Habitat Mosaic

Description

High limestone scar, scree and lower slopes planted with larch (estimated as p.1900), naturally regenerating understorey of apsen, yew, juniper and hawthorn, especially across the rock faces.

Significance

The woodland although planted is characteristic of the upland conifer plantations of the late 1800's planted across the Yorkshire Dales. Most often planted on otherwise unusable land as in this case, in order to provide cover for stock and a future timber resource. The woodlands now form important landscape features and are important in the history of farming and forestry in the Yorkshire Dales, an area with very little existing woodland cover.

Opportunities & Constraints

Opportunity for the regeneration to develop and replace the planted conifers with a native woodland/ scrub cover, providing grazing pressure is reduced. Conifers providing additional overmature and deadwood habitat over the next 50 years

Factors Causing Change

Occasional uncontrolled Grazing - access via open gates and wall damage, Rabbit Damage, High and exposed location, Deer damage, Bracken encroachment, Uncontrolled grazing during periods of heavy snow

Long term Objective (50 years+)

Creation of native woodland cover across the scar and scree slopes through natural regeneration.

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

Minimum intervention approach, maintaining the larch on long term retention, providing standing deadwood and shelter for the regenerating native species. Rabbit and deer control will be essential. Bracken control will be continued throughout the plan period.

5.3 Semi Natural Open Ground Habitat

Description

Small upland pasture/ hay meadow. Unimproved limestone pasture with a very rich and diverse ground flora - especially visible in spring and early summer when bluebell and primrose abound.Some bracken encroachment from the south and east. Walled to the north west and south, and bounded by Hooker Mill Scar to the east. The site also contains a small single storey stone barn.

Significance

Unimproved limestone hay meadows are an increasingly scarce resource within the Yorkshire Dales National Park, especially in conjunction with an adjacent SSSI of such scarcity as juniper. The unimproved grassland is part of a much larger area of unimproved grassland and grazing land extending along Swaledale, especially at the higher elevations.

Opportunities & Constraints

Opportunity to retain and enhance this upland meadow through a formal grazing regime. The site appears to have had a combination of grazing and hay cutting. Grazing animals will have to be prevented from accessing the regenerating woodland around the Scar, and the barn may need maintenance and repair. Bracken will almost certainly need control - by cutting to prevent further encroachment onto the meadow. Opportunity to work in partnership with other interested agencies in retaining these features of the site

Factors Causing Change

Occasional uncontrolled Grazing - access via open gates and wall damage, Rabbit Damage, Bracken encroachment, High and exposed location, uncontrolled grazing during periods of heavy snow

Long term Objective (50 years+)

Maintain the unimproved upland meadow as an integral part of the site through seasonal grazing, along with the associated stone barn.

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

Secure the meadow boundary throughout the plan period, a formal grazing regime is unlikely to be required as the rabbit population keeps a reasonably close cropped sward year round. Bracken and rabbit control will be essential as part of the management of the juniper and existing woodland adjacent.

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	1.50	Other	1800	Non-wood habitat	No/poor vehicular access to the site		National Park
Upland pasture / hay meadow situated on a south-west facing slope. Unimproved grassland, floristically rich, including bluebells. Occasionally grazed for short periods by escapee sheep from adjacent pastures and heavily grazed year round by a high rabbit population. A small single storey stone barn with stone flagged roof is situated in the centre of the field. A pothole (Hooker Mill Hole) is present on the southern boundary of the site but with no clear entrance. Enclosed by drystone walls with stock netting on top to the north and west and by stock fencing to the east and south, and bounded by unimproved pasture to the north and west, and by juniper woodland (2c) to the south and larch plantation (3a) to the east.							
2b	2.60	Mixed native broadleaves	2002	Wood establishment	Mostly wet ground/exposed site, No/poor vehicular access within the site, Very steep slope/cliff/quarry/ mine shafts/sink holes etc		National Park, Site of Special Scientific Interest
Open grassland, moorland and heath type composition on the lower slopes of the woodland (west) bordering the main central dense stand of mature Juniper. Originally planted in April 2002, and subsequently replanted in 2006 and again in 2007 following severe losses through extreme wind conditions followed by heavy snow and rabbit/ sheep damage, with further planting and restocking undertaken in 2010, 12 and 13. Planted with 30-45cm local provenance broadleaves including rowan, birch, alder, willow and aspen, at variable spacings in 1.2m guards, to average 3.0m across the area. This planting forms a buffer to the existing juniper and extends the existing small areas of birch/ rowan/ alder/ willow woodland. The compartment has no public access and is on a very steep south-west facing slope at between 1000 and 1400 feet. Bounded to the south and west and north by rough unimproved grazing land.							

2c	6.69	Juniper	1935	High forest	No/poor vehicular access within the site, Site structure, location, natural features & vegetation, Very steep slope/cliff/quarry/ mine shafts/sink holes etc		Ancient Semi Natural Woodland, National Park, Site of Special Scientific Interest
Dense stand of common juniper, aged on average 70-100 years, although some specimens are likely to be much older, with very occasional scattered broadleaves of birch and rowan. Situated on a very steep west facing slope, between 1000 and 1700 feet. The slope is predominantly scree with very shallow pockets of earth and with moorland/ heath type vegetation between the juniper, including heather bilberry, ferns and bracken. Birch regeneration is starting to develop close to the existing main stand of birch with some protected in gengards. Currently predominantly bounded by unimproved grassand to the north, south and east No public access exists on site.							
3a	1.40	Mixed conifers	1900	Min-intervention	No/poor vehicular access within the site, Very steep slope/cliff/quarry/ mine shafts/sink holes etc		National Park
South-west facing limestone Scar - Hooker Mill Scar, planted with a substantial mature larch stand dated to approximately 1900, rich ground flora under the stand and along the outcrop, which also includes a large population of aspen with occasional yew, hawthorn and juniper established in the rock face. Bounded to the west by upland meadow (1a), with further unimproved grassland to the north and east and juniper woodland (2c) to the south.							

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.