WOODLAND TRUST

Penn Wood

Management Plan 2020-2025

MANAGEMENT PLAN - CONTENTS PAGE

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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:	Penn Wood
Location:	Kings Stanley
Grid reference:	SO821024, OS 1:50,000 Sheet No. 162
Area:	29.12 hectares (71.96 acres)
Designations:	Ancient Semi Natural Woodland, Ancient Woodland Site, Area of Outstanding Natural Beauty, Planted Ancient Woodland Site, Regionally Important Geological and Geomorphological Sites, Registered Seed Stand (FC), Tree Preservation Order

2.0 SITE DESCRIPTION

2.1 Summary Description

Penn Wood is part of a cluster of Woodland Trust owned woods in close proximity on the Cotswold Scarp. The Woodland Trusts ‘Cotswolds Woods’ (Penn Wood, Stanley Wood, Coaley Wood, Laycombe Wood) are made up of 4 individual woods totalling 138.22 Ha. All 4 sites connect and link into the wider wooded landscape which defines the Cotswold scarps. The Cotswolds hosts a significant ancient woodland resource which strengthens ecological and landscape connectivity, with beech a nationally important feature, particularly along the scarp and incised valleys. The Woodland Trusts Cotswold Woods are managed with cohesive conservation and public access objectives that fit with those of the Cotswold landscape.

The Woodland Trust’s sites are all part of the National Character Area 107: Cotswolds, and are all within the Cotswolds Area of Outstanding Natural Beauty (AONB). The woodlands on the Cotswold escarpment are identified as an important landscape feature in the Cotswolds AONB Management Strategy. The Cotswold beech woodlands are of high conservation value due to the landscape mosaic of deciduous woodland with rides and open semi-natural habitat and permanent pasture. All are within an area designated a Special Landscape Area and lie within the Greater Cotswolds Natural Area 69.

Penn Wood is a 29 ha broadleaf site which is predominately ancient semi-natural woodland with a beech dominated canopy, and some smaller areas of secondary woodland and previous Plantation on Ancient Woodland (PAWS) areas. It adjoins the Woodland Trusts Stanley Wood (38 ha) to the south west, and the sequential compartment numbers reflect this boundary with both sites referred to as Penn and Stanley Wood on site signage. Both sites are situated just south west of Stroud.

Penn Wood is bordered on the north east by Selsey Common Site of Special Scientific interest (SSSI) which is 34 ha and was notified for its lowland calcareous grassland and a geologically important quarry which is situated in the southern end. This is the best site in Gloucestershire to show the complete exposure of the Cotswold Scarp. Selsey Common is managed by Stroud District Council. It sits just below the villages of Middleyard and Kings Stanley, bordered by farmland pasture to the north and west.

The Woodland Trust’s Cotswold Woods are not served by any official WT car parks, but as with much of the Cotswold ridges, parking is available in many formal and informal lay-bys and pull-ins directly connected to the sites. One large public car park at Coaley Peak Picnic Site, managed by Gloucestershire Wildlife Trust (formerly Glos Council), provides parking for much of the area and the network of recreational space along the Cotswold Scarp. The Cotswold Way, a National Trail, runs through various parts of Penn and Stanley Woods as part of the central Cotswolds region, and all woods are serviced by an extensive PROW and permissive path network.

Cotswolds bat populations are a particularly significant species group and are important in a national context. The range of species includes pipistrelle, Daubenton's, Brandt's, noctule, brown long-eared, Natterer's, and whiskered, and barbastelle. Of particular significance are the breeding and hibernating populations of greater horseshoe lesser horseshoe bats.

The geology of woodlands across the Cotswolds scarps is diverse, with a variety of geological horizons from the top to bottom. Within Penn Wood are previously worked large scale quarries - now fenced; and sunken tracks and lanes all exposing these variations. Penn Wood has part of a Regionally Important Geological Site (RIGS) called Selsley Gully.

2.2 Extended Description

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3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

Penn and Stanley Woods sit on the Cotswold scarp close to Stroud, just below the villages of Middleyard and Kings Stanley. Selsley village lies a mile to the north east and Woodchester the same to the east.

Parking is available along several large laybys and pull-ins on the B4066, in Middleyard and Kings Stanley to the north and west, or on Selsey Common. Or at a formal car park owned by Gloucestershire Wildlife Trust at the neighbouring Coaley Peak Picnic Site and Viewpoint to the south. Public transport services currently link Stroud with Nympsfield via the road adjacent the site. The nearest stop is located at The Bell; Selsley Common located 2km away to the north east. www.traveline.info

The site is easily accessed at multiple entrances from the adjacent B4066 between Stroud and Dursley, and from the village lanes and footpaths of Middleyard and Kings Stanley.

The Cotswold Woods form part of the central Cotswolds in the AONB guide https://www.cotswoldsaonb.org.uk/wp-content/uploads/2018/12/Explore-Booklet-2018-web.pdf

There are no known public toilets close to the woods. Public toilets are located in Stroud, Stonehouse, and Wooton-under-Edge. Stroud District council publish a list of the services open to the public which can be accessed at https://www.stroud.gov.uk/community-and-living/public-toilets

3.2 Access / Walks

There are many Public Rights of Way (PROWs) throughout Penn and Stanley woods. All public footpaths have steep sections except the Cotswold Way National Trail (entering the North of the site and exiting to the West). While the PROWs are not surfaced they are freely draining and naturally stony. PROW and permissive path entrances are either open or kissing gates.

Public bridleways cross parts of the site, and a permissive bridleway adjacent to the B4066, surfaced by the Woodland Trust in 2002, provides a flat, well surfaced linear route through the sites. This route links Selsley Common, Penn and Stanley Woods and Coaley Peak. Entrances on the bridleway routes are open or with bridleway gates.

4.0 LONG TERM POLICY

In fifty years-
Ancient Woodland Site:
A diverse and continuous mixed broadleaf woodland canopy will exist across all of the ancient woodland and secondary woodland areas, broken occasionally by semi-natural glades, rides and open space to provide associated habitats. Areas of Plantation on Ancient Woodland (PAWS) will have been restored through a gradual restoration approach to a predominantly broadleaved composition. ASNW and PAWS areas will be managed seamlessly with good vehicle access through a Continuous Cover Forestry (CCF) approach, utilising selective thinning interventions to create and maintain an irregular woodland structure with a diverse range of predominantly native broadleaved species supporting the highest levels of biodiversity. Deer populations will be managed at levels enabling natural regeneration processes to occur unimpeded by browsing. Open space will be created and maintained through a network of rides and small glades promoting transitional woodland habitat and associated species. Both standing and fallen deadwood will provide a significant habitat. Existing and future veteran trees will be protected and actively managed for as part of the adopted silvicultural strategy, using halo and selective thinning as appropriate.

Connecting People:
The Welcoming Site Programme will lead to a series of lasting upgrades that will improve the visitor experience and will likely increase the number and range of visitors to this complex of outstanding woodland. An attractive and serviceable network of tracks, paths, and parking areas will further encourage the appreciation of the woodland complex both on the site and in the locality. The complex of sites will be managed to meet the required high standards of the Welcoming Site Programme and will provide welcoming, well-maintained entrances, access furniture, signage and other infrastructure to better facilitate use by a wider range of visitors. Interpretation will bring the sites together and promote the interests and key features of the complex as a whole and in context with the wider local landscape. The site will be a truly valued resource in the local community and well respected.

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 Woodland Site

Description

Penn Wood (Cpts 1-4) is a 29 ha broadleaf site which is predominately ancient semi-natural woodland with a beech dominated canopy, and some smaller areas of secondary woodland and Plantation on Ancient Woodland areas (PAWS). The central section of Penn Wood is owned and managed by the Penn Wood Scouting Activity Centre. The soils at Penn Wood are thin and calcareous with exposed scree in places. The underlying geology is Jurassic Oolithic limestone and the wood houses a large quarry and part of a Regionally Important Geological Site (RIGS) called Selsley Gully.

The majority of the woodland across the 'Cotswold Woods' management unit is ancient semi-natural in composition, with a good majority most closely resembling NVC W12 Fagus sylvatica – Mercurialis perennis (Beech- Dog's Mercury) woodland, with large areas of mainly secondary ash and sycamore developing where beech is lacking in dominance. This is largely interwoven with occasional areas more closely resembling NVC W8 Fraxinus excelsior – Acer Campestre – Mercurialis perennis (Ash – Field Maple – Dogs Mercury), with ash, oak, elm, sycamore and whitebeam. Holly, field maple, Whitebeam and hazel are all present within the understorey . There are some large mature beech also on the upper slopes of Penn and Stanley Woods. In some areas where larger trees have been felled and pioneer species such as birch and sallow have colonised well. Young beech, ash and sycamore are growing well almost everywhere and should ensure the woodland remains a broadleaf high forest.

The ASNW, PAWS and Secondary woodland features throughout all four woods is intricately mixed as a result of the successes of the many management processes undertaken during the 1950s and 60s, including thinning, felling and restocking: in some areas this consisted of pure conifer planting; while in others cleared areas were restocked with beech in mixture probably with a pine or larch nurse crop. Some areas appear to have regenerated naturally, are the result of failed plantation, or suffered severe windblow during the Great Strom of 1987. Either-way, all have led to the current mixture of regenerating beech, ash and other native broadleaves. Native species have continued to regenerate resulting in a mosaic of non-native and native plantations, intermixed with semi-natural features and native broadleaved natural regeneration, with prolific ash growth.

Seemingly, the ancient woodland inventory has struggled to cope with this complex array of historic plantings and coniferisation, and has for the most part classified much of the woodland incorporated within the management unit plan as Ancient Semi Natural Woodland (ASNW) or Plantation on an Ancient Woodland Site (PAWS). ASNW covers the east half of Penn Wood (1a, 3a, 3b); the remainder of the management unit to the west is classified as Plantation on an Ancient Woodland Site (2a, 4a, 4b). There are records of Cpt 4 in 1882 maps having previously been open fields, and there are also clear areas of secondary woodland at Penn Wood classified as PAWS. While much of the woodland is now dominated by a semi-natural composition be it plantation or remnant ASNW,

areas of conifer remain, but overall stands are still relatively permeable for biodiversity through light availability.

Previous management has often resulted in an even age broadleaf structure, with tall, leggy stems particularly in secondary growth of ash. The shallow soils on the steep scarp slopes cause shallow root systems and present a risk of windthrow. This is in stark contrast to mature trees (especially large beech) which likely grew in much more open conditions and thus have a far more developed root system anchoring themselves into the steep slopes. In 2017, ash dieback (ADB) was first reported across all 4 sites, and in 2019 was apparent in much of the ash across all four sites, particularly within the woodland centres. The speed of dieback in ash will dramatically affect much of the woodland composition over the coming years.

Open space
Open space is largely achieved through a small number of open glades mixed with a narrow ride network lining many of the tracks. Ride edge habitat has developed a mix of herb communities of locally typical ancient woodland indicators and species characteristic of limestone grassland.

Species
-Woodland flora is abundant in many areas complementing the NVC type notably Ivy, Dogs mercury, Sweet woodruff, bluebell, spurge laurel, yellow archangel, sanicle, Herb Robert, hemp agrimony, wild strawberry, wood spurge as well as a number of ferns.
-Greater Horseshow bats are known to hibernate at the close by Woodchester Park SSSI which is known to have a breeding roost.
-Deer are present across the woodland areas, notably roe and muntjac, and fallow are likely.

Management Access
In general management access to the woods is good with a network of tracks, but throughout most woodland areas vehicle access is limited due to the steep slopes. There is a large main entrance and track (leading to the Scout area) at Penn Wood which could be used as a turning and stacking area, and this links well to Stanley wood which has a number of good made tracks traversing the slopes. There is also a surfaced entrance further north at Penn Wood leading to a private residence, and steep narrow entrances from Middleyard village. Some areas are inaccessible to forestry machinery and are likely to remain so.

Management history since WT ownership:
-Extensive windblow occurred at Penn and Stanley Wood during 1987 resulting in a dramatic increase in structural diversity across the site. Natural tree regeneration has been prolific across all areas of the wood and does not show significant levels of browsing or squirrel damage.
-PAWs restoration activities pre2000

Ash dieback is widespread within the Cotswold Woods in 2019 with significant mortality. Along the Zone A boundaries, ash will need to be annually surveyed as part of site risk assessment, and resultant future safety felling will need to be managed carefully due to the high level of ash. The B4066 road boundary is a fast moving busy country road linking Stroud and the surrounding area, although it has a fair proportion of ash present, there is also a fair proportion of other species, as does the few select property boundaries neighbouring the woods. The Zone B network of paths may need to be rationalised with restricted access on some, and safety felling on main paths, to avoid large scale safety felling due to dangerous trees, as the steep slopes and complex network of

PROW running along the contours of the scarp mean many will be with reach of the tree safety zones.

Significance

The Woodland Trust is committed to the protection and restoration of ancient woodland sites and believes that semi natural ancient woodlands are irreplaceable.
-The woodlands making up the management unit form an important BAP habitat within the Cotswold area providing not only a refuge for wildlife but also facilitating wider ecologically functioning and connectivity within the landscape.
-The woodland forms an important landscape feature of the Cotswold escarpment within the Cotswold Area of Outstanding Natural Beauty (AONB)
-The woodland hosts a number of important Biodiversity Action Plan (BAP) and European Protected Species, notably Greater and Lesser Horseshoe bats and dormice.

Opportunities & Constraints

-Restructure even-aged stands (notably in Stanley Wood) highly susceptible to windthrow in order to protect wider canopy cover both from a connectivity perspective as well as landscape
-Carry out feasibility study for entrance and track improvements to facilitate access for forestry machinery and timber extraction and transportation
-Investigate significance of bat population throughout scarp woodlands (likely with other partners) -Restructure even-aged stands highly susceptible to windthrow in order to protect wider canopy cover both from a connectivity perspective as well as landscape.
-Investigate significance of bat population throughout scarp woodlands (likely with other partners).
-Opportunities of joint working with NT and GWT across Cotswolds woodlands and landscape.

Constraints:
-Poor accessibility to some areas.

Factors Causing Change

-Ash dieback is likely to have a major impact across the Cotswold woods. Much will depend on the required pre-emptive interventions required for health and safety purposes, which is likely to affect all roadside boundaries and public rights of way. This is likely to create an opportunity for alternative species to regenerate and create structural diversity, as long as the local deer population can be kept low enough to ensure natural regeneration opportunities can develop unhindered. There will likely be a major impact on species obligate to ash although this process will occur over time.
-Deer browsing remains a threat to successful natural regeneration
-Windthrow is likely to become an increasing issue where stands of even-aged trees have been unthinned on shallow soils, this will increase notably if large areas of ash also start to fail
-Squirrels damage on SY and BE will continue to be a threat for young pole stage trees, becoming increasingly significant if the proportion of ash reduces over timer due to ash dieback

Long term Objective (50 years+)

In fifty years-
Ancient Woodland Site:
A diverse and continuous mixed broadleaf woodland canopy will exist across all of the ancient woodland and secondary woodland areas, broken occasionally by semi-natural glades, rides and open space to provide associated habitats. Areas of Plantation on Ancient Woodland (PAWS) will have been restored through a gradual restoration approach to a predominantly broadleaved composition. ASNW and PAWS areas will be managed seamlessly with good vehicle access through a Continuous Cover Forestry (CCF) approach, utilising selective thinning interventions to create and maintain an irregular woodland structure with a diverse range of predominantly native broadleaved species supporting the highest levels of biodiversity. Deer populations will be managed at levels enabling natural regeneration processes to occur unimpeded by browsing. Open space will be created and maintained through a network of rides and small glades promoting transitional woodland habitat and associated species. Both standing and fallen deadwood will provide a significant habitat. Existing and future veteran trees will be protected and actively managed for as part of the adopted silvicultural strategy, using halo and selective thinning as appropriate.

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

- Initiate regeneration felling to widen main network of rides along PROW within ASNW and secondary wood areas (Penn Wood 1a, 2a, 3a and 3b) to diversify structure, promote natural regeneration, maintain temporary open and edge habitat, and increase light levels reaching ground favouring native ancient woodland flora. To include halo thinning around veteran trees where accessible, and also to increase levels of standing and fallen deadwood.

- Ash dieback tree safety assessments and subsequent felling of dead or dangerous ash along Zone A and B areas as per WT ash dieback guidance on manging ash dieback on the estate. Annual inspections, and safety works with pro-active felling where necessary. Rationalisation of non PROW permissive paths will also be needed with closure of some paths with high density of dangerous or dying ash trees.

- Creation and maintenance of new deer exclosures to monitor deer impact.

- To carry out a deer impact assessment and maintain programme of deer control accordingly.
Works.

- Commission (European Protected Species) EPS survey in Cotswold Woods to inform future management.

5.2 Connecting People with woods & trees

Description

Penn Wood sits on the Cotswold scarp south to Stroud, just below the villages of Middleyard and Kings Stanley. Parking is available along several large laybys and pull-ins on the B4066, in Middleyard and Kings Stanley to the north and west, or on Selsey Common. A formal car park owned by Gloucestershire Wildlife Trust at the neighbouring Coaley Peak Picnic Site and Viewpoint to the south is the main base for most walkers in the area with PROW linking all the Cotswold Woods and The Cotswold Way national trail. Public transport services currently link Stroud with Nympsfield via the road adjacent the site. The nearest stop is located at The Bell; Selsley Common located 2km away to the north east. www.traveline.info

The site is easily accessed at multiple entrances from the adjacent B4066 between Stroud and Dursley, and from the village lanes and footpaths of Middleyard and Kings Stanley. PROW and permissive path entrances are either open or kissing gates. There are many Public Rights of Way (PROWs) throughout Penn and Stanley woods. All public footpaths have steep sections except the Cotswold Way. While the PROWs are not surfaced they are freely draining and naturally stony. Public bridleways cross parts of the site, and a permissive bridleway adjacent to the B4066, surfaced by the Woodland Trust in 2002, provides a flat, well surfaced linear route through the sites. This route links Selsley Common, Penn and Stanley Woods and Coaley Peak. Entrances on the bridleway routes are open or with bridleway gates.

The Cotswold Woods form part of the central Cotswolds in the AONB guide https://www.cotswoldsaonb.org.uk/wp-content/uploads/2018/12/Explore-Booklet-2018-web.pdf

There are no known public toilets close to the woods. Public toilets are located in Stroud, Stonehouse, and Wooton-under-Edge. Stroud District council publish a list of the services open to the public which can be accessed at https://www.stroud.gov.uk/community-and-living/public-toilets

Access/Infrastructure
Penn Wood, and the Woodland Trusts Cotswold Woods are not served by any official WT car parks, but as with much of the Cotswold ridges, parking is available in many formal and informal lay-bys and pull-ins directly connected to the sites. One large public car park at Coaley Peak Picnic Site and managed by Gloucestershire Wildlife Trust (formerly Glos Council) provides parking for much of the area and the network of recreational space along the Cotswold Scarp. The Cotswold Way connects much of the surrounding countryside with a national trail, as well as many footpaths and bridleways, both designated and permissive. Public transport is good with bus services connecting many of the area's Cotswold villages, with larger towns such as Stroud. The Cotswold Woods form part of the central Cotswolds in the AONB guide https://www.cotswoldsaonb.org.uk/wp-content/uploads/2018/12/Explore-Booklet-2018-web.pdf

General Communication Drivers
The sites lend themselves to visits by both the local community and visitors to the area via the Cotswold Way. The local population is made up of several large and small towns in the immediate area including: Stroud, Cam & Dursley, Wooton-under-Edge, Stonehouse, and Nailsworth; and many other neighbouring villages, mean the sites are in easy reach of a relatively large population. The neighbouring Coaley Peak Picnic Site and Viewpoint is managed by Gloucestershire Wildlife Trust and provides a large free public car park and picnic site, and along with neighbouring

Woodchester Park (National Trust) are both popular visitor attractions in the area.
The sites contain some of the best examples of publicly accessible woodland habitat available in the area, with many neighbouring woodlands in private ownership. Beech woods within the Cotswolds are nationally important feature which strengthens ecological and landscape connectivity, and the Cotswolds hosts a significant ancient woodland resource with beech especially a particularly distinct and prominent feature. There are several prominent viewpoints from the Cotswold scarp across the area, notably at the popular GWT managed Coaley Peak. There are also quieter, but still great views across the landscape particularly at the Coaley Wood main entrance.
Current signage branding is a mixture of large and small di-bond welcome boards, and road-side signs installed in 2018 and 2019. There are no orientation boards onsite. Overall interpretation could be improved given the important habitat, and long distance trails running through 3 of the sites. Some of these contain wooden way-marker national trail posts, but many are now worn and weathered.
Events: There are currently no WT events operated within this complex of sites. It is likely that events would be popular especially in school holidays when families are likely to visit. Outside school holiday, local events may be popular for smaller interest groups, as will events on the Cotswold Way. External horse riding, cycling and running organisations run occasional events along the PROW network that pass through WT land, but are mainly coordinated from surrounding land. These are run under their own insurance and risk.
Welcome Sites: Current visitor numbers are unknown. There are no known current user groups other than the general public although the sites are likely to be interesting to conservationists, historians, geologists, walkers/ramblers and horse riders.
There are few barriers to access in general, although there is limited Woodland Trust parking and no clear way marked circular routes which may deter some visitors. Information on the terrain of walks is also limited and often many routes include long sections of steep paths/tracks, although a good network of linear tracks along the contours do provide good year round access.
Volunteering: There are currently no volunteers operating at these sites, except for several Parish Council tree wardens that help monitor the site, and report fallen trees and access issues. The Cotswold Voluntary Wardens have worked across Penn, Stanley and Coaley Wood from time to time in the past.
Schools: There are several schools near-by in the local area, predominantly based around Stroud, Dursley and Wooton-under-Edge. Currently there is no formal engagement between them and The Woodland Trust at these sites.
Forest Schools: None currently at Penn Wood. Although the scout camp area in Penn Wood adjoins the site and cubs and scouts use the woods from time to time on the public right of way network.
Wider Community Engagement: currently minimal
Horseriders – Public and permissive bridleways cross all of the sites. A permissive bridleway in Penn and Stanley Wood adjacent to the B4066 was created in 1995 with funding from the council, the British Horse Society and local funders to provide a safe, flat, well surfaced linear route through the sites, avoiding the B4066. This route links Selsley Common, Penn and Stanley Woods, Coaley Peak, and Woodchester Park, with bridleways heading north and south into neighbouring villages. Entrances on the bridleway routes are open or with bridleway gates.
Permissive bridleways at Penn, Stanley and Coaley Woods all underwent some re-surfacing work in 2002 (Penn and Stanley Wood) thanks to grant aid from the Gloucestershire Environment Trust. Use of the wrong paths and occasional building of horse jumps has damaged the terrain in places, and causes tension between different path users, inc walkers, cyclists and horse riders. Signage and gate improvements have taken place frequently in recent years.
Cyclists – Increasing numbers of mountain bikers use the permissive as well as public bridleways

within the woods, including during night-time. Use of the wrong paths and speed of travel can cause tension between different path users, inc walkers, cyclists and horse riders. Access points opening up from the along the B4066 boundary by cyclists has caused damage to the ground flora and sections of fencing were installed in 2018 to prevent this along with improved signage.

Significance

The Woodland Trusts Cotswold Woods are all within the Cotswolds Area of Outstanding Natural Beauty (AONB), and connect and link into the wider wooded landscape which defines the scarps, Beech woods within the Cotswolds are a nationally important feature.
The Cotswold Woods provides a destination for a diverse visitor base throughout the year and is popular with local people from the surrounding towns and countryside. It provides several stretches of the Cotswold Way National Trail, and is utilised regularly by walkers, specialists, locals, forest schools and more.
The sites have been selected as one of the top 250 sites owned by the Woodland Trust which are likely to see further investment in the visitor experience in near the future.

Opportunities & Constraints

Opportunities:
- To engage with a large number of people across the Woodland Trusts Cotswolds Woods, which connect and link into the wider wooded landscape;
- Improve access infrastructure to provide year-round circular walk options, with areas accessible for buggies and off-road wheelchairs;
- To refresh the entrance configuration including new interpretation boards and associated signage;
- Wider partnership collaboration across whole of Cotswolds woods/AONB and partner NGO's.
- To reconfigure the car parking lay-bys and pull-ins to enable better usage of the space available.

Constraints:
- The steeper slopes across the sites restrict access to some areas by those people with mobility limitations.

Factors Causing Change

- Possible increase in anti-social behaviour with increasing visitor numbers.
- Illegal use of PROW by motorbikes
- Use of public footpaths by horse riders and cyclists
- Ash dieback and reconfiguration of permissive path routes.

Long term Objective (50 years+)

Connecting People:
The Welcoming Site Programme will lead to a series of lasting upgrades that will improve the visitor experience and will likely increase the number and range of visitors to this complex of outstanding woodland. An attractive and serviceable network of tracks, paths, and parking areas will further encourage the appreciation of the woodland complex both on the site and in the locality. The complex of sites will be managed to meet the required high standards of the Welcoming Site Programme and will provide welcoming, well-maintained entrances, access furniture, signage and other infrastructure to better facilitate use by a wider range of visitors. Interpretation will bring the sites together and promote the interests and key features of the complex as a whole and in context with the wider local landscape. The site will be a truly valued resource in the local community and well respected.

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

- Improve the entrance configuration by installing new orientation boards and associated threshold signage that brings the surrounding sites together and promotes the interest and key features and in context with the wider local landscape;

- Maintain and improve the existing PROW and most used permissive path network in favourable condition, liaising with the Cotswold Voluntary Wardens and Cotswold AONB, GCC PROW Team, and local volunteers;

- Explore funding opportunities to implement further engagement activities in tandem with geological interpretation/activity.

- Reconfigure the car parking lay-bys and pull-ins to enable better usage of the space available.

- Maintain the site as easily accessible, attractive, well maintained and safe woodland. The path network and entrances should remain in good condition and appropriate for level and type of use and in accordance with access categories.

- Ensure visitor safety via ongoing tree and infrastructure monitoring regime and remedial works as necessary.

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	9.47	Beech	1900	High forest	Gullies/Deep Valleys/Uneven/ Rocky ground, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty, Regionally Important Geological and Geomorphologic al Sites

PW - Surrounds a lower north-facing combe with Selsley Common to the east, the main access track runs from the B4066 in the south to 'The Kennels' forming the north boundary. Throughout the slopes are steep, with the Cotswold Way running through the south of the wood. Much of the broader eastern limb (approx. 6.4 ha.) still comprises of the mature broadleaved woodland whilst the western limb (approx. 3.1 ha.) is made up of windblow and regeneration.
The mature woodland matrix is approximately 80% Beech with a typical specimen being 90 cms dbh and 23 m top height. In addition Oak and Sycamore form the canopy. The sub-canopy is diverse, comprising of Beech, Hazel, Elm, Hawthorn, Field maple and Yew. Regeneration is of Beech, Ash and Hazel.
The ground flora varies according to the light penetration through the beech canopy and includes Ivy (Hedera helix), Dog's mercury (Mercuralis perennis), Sweet woodruff (Galium odoratum), Herb Robert (Geranium robertianum) and Wood spurge (Euphorbia amygdaloides). Plus Bramble (Rubus fructicosus), Wild strawberry (Fragaria vesca), Herb bennet (Geum urbanum) and areas alongside paths of Hemp agrimony (Eupatorium cannabinum. At the bottom of the slope, in the occasional wet-flushes, there are occurrences of Field horsetail (Equisetum arvense).
The western side suffered more severely from windblow during the 1980s and 90s. In some areas the large Beeches have been lost and the former sub-canopy, particularly Yews dominate. However recent regeneration of Ash and Beech is rapidly reaching the same proportions, but much of the ash shows signs of chalara ash dieback. A limited understorey of Holly, Hazel and Yew exists amongst the tightly-spaced regenerating species. In areas where light penetration allows, the ground flora consist of grasses,) occurs particularly along the footpath margins.
There is a profusion of standing and lying deadwood.
Within this compartment of Penn Wood is a large quarry and Regionally Important Geological Site (RIGS) called Selsley Gully.

2a	3.98	Mixed native broadleaves	1980	High forest		Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site, Area of Outstanding Natural Beauty
PW - This compartment lies between the Scout enclosure and the B4066 and although elevated (207m) is relatively flat. It appears that this area was clear-felled of Larch in the 1980s and has been allowed to regenerate naturally, with some glades and scallops cut around in two phases from 2014-17. However there are a number of more mature stems along the road margin. The species which form the low canopy are Silver and Downy Birch, Beech, Ash, Oak, Sallow, Holly and Yew. Regeneration of the same species occurs amongst the closely spaced stems.. The ground flora is made up of grasses, Sweet woodruff, Ivy and bramble. The compartment is traversed north-south by the access track to the Scout enclosure and east-west by a permissive bridlepath and the Cotswold Way. Some wide scallop glades have been created along this east-west track.							
3a	4.14	Beech	1900	High forest	Gullies/Deep Valleys/Uneven/ Rocky ground, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty
PW - This compartment is made up of that part of the north-facing spur which remained comparatively unscathed by the gales of the last two decades. As a consequence mature Beeches form approximately 80% of the canopy. The remaining 20% is made up of Ash and Oak together with some localised Larch. The understorey is of Beech, Yew and Hazel and the regeneration is of Beech, Ash and Sycamore. Ivy, Wood spurge and Old Man's beard (Clematis vitalba) form the ground flora. In the south of this sub-compartment are both small and large quarries. Those which present a hazard have been fenced.							
3b	4.98	Beech	1900	High forest	Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty

PW - This sub-compartment is formed by those areas which were more radically affected by the gales. Some small areas of the original Beech survive but the bulk of the sub-compartment is made up of regenerated Ash and Beech amongst the former sub-canopy of Yew, Hazel and Holly. Much of the ash shows signs of Chalara ash dieback. There is much standing and lying deadwood. The ground layer is of Ivy, Sweet woodruff, Wood spurge and Herb Robert. Hemp agrimony occurs along the path margins. This sub-compartment includes an area which was scrapped of its surface material during construction of the Scout enclosure. Within this area is slow colonisation of tree species and ground flora although much remains sterile.							
4a	2.74	Mixed native broadleaves	1900	High forest	Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty
PW - This exposed upper west-facing slope was most affected by the gales and contains few remnants of the former Beech canopy which is now confined to the lower slopes. However it has regenerated rapidly and contains Ash, Beech, Holly, Sallow, and the occasional Wild pear and Cockspur thorn. The ground layer is made up of Ivy, Violet (Viola spp.), Wood spurge and Old man's beard. Much of the ash shows signs of chalara ash dieback.							
4b	3.95	Beech	1900	High forest	Gullies/Deep Valleys/Uneven/ Rocky ground, Very steep slope/cliff/quarry/ mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty
PW - This sub-compartment is formed by the remnant of the old Beech wood which was only marginally affected by the devastation caused to the more exposed upper slopes. Beech remains the dominant canopy tree whilst Beech, Yew and Hazel form the understorey. There are also localised occurrences of Wild privet (Ligustrum vulgare). The regeneration is of Beech, Ash and Sycamore. Ivy, Wood spurge and Old Man's beard (Clematis vitalba) form the ground flora. There is a single footpath along the lower slope running parallel to the western margin of the wood. The boundary meets a scrubby area of grazed pasture to the west.							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1a	Thin	0.80	125	100
2020	2a	Thin	3.98	10	40
2020	3a	Thin	0.80	125	100
2020	3b	Thin	2.74	11	30
2020	4a	Thin	3.95	10	40
2020	4b	Thin	4.14	16	65

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.