



# Kinclaven Bluebell Wood

## Management Plan 2018-2023

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## THE WOODLAND TRUST

### INTRODUCTION

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

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

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

### PLAN REVIEW AND UPDATING

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

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## WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland. Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website [www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk). Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
- 10 Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

## SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site - their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

## 1.0 SITE DETAILS

<b>Site name:</b>	Kinclaven Bluebell Wood
<b>Location:</b>	Stanley
<b>Grid reference:</b>	NO139376, OS 1:50,000 Sheet No. 53
<b>Area:</b>	81.02 hectares (200.20 acres)
<b>Designations:</b>	Long Established Woodland of Plantation Origin

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

Previously known as Ballathie Bluebell Wood, this oak wood is well known locally for its extensive carpet of bluebells in spring. The wood and adjacent fields were acquired in July 2017 thanks to a generous legacy from a supporter.

### 2.2 Extended Description

#### NAME

The Trust originally called this wood Ballathie Bluebell Wood, but after local consultation soon after acquiring the wood, we asked people what they knew the wood as, and it was decided to change the name to Kinclaven Bluebell Wood. This was a combination of the two most frequently used names. It is known on the Ordnance Survey maps as North Wood.

#### LOCATION

The land is situated in Kinclaven, Perthshire, and is approximately 11 miles north of Perth, 7 miles SW of Blairgowrie, 3 miles east of Murthly and 4 miles NE of Stanley.

Kinclaven lies in the middle of a bend of the River Tay, between 1 and 2 miles away on its northern, eastern and southern sides.

The wood bounds the southern edge of the minor Murthly to Kinclaven Bridge road, and the eastern edge of the minor narrow road connecting this road to Woodend Farm. The Kinclaven to Stanley

Road is not far to the south of the fields.

Adjacent land uses are arable and pasture fields, forestry and housing.

#### PHYSICAL GEOGRAPHY

The land gradually rises from the road to the north at about 50m above sea level, up to 82m above sea level at the highest point in the fields known as Court Hill, and back down slightly steeper to about 50m towards the southern edge. The land is formed of a ridge, orientated in a South-West to North-East direction. This gives the wood a NW aspect and the Court Hill fields a SE aspect.

The underlying bedrock consists of Old Red Sandstone of the Devonian period (dating from c.400 million years ago). The solid geography in the area is however obscured by a considerable depth of unconsolidated drift deposits from the late glacial period (c 12,000 - 15,000 years ago). The glacial meltwater deposits, consisting of sand and gravels, give the characteristic mounds and hummocky topography.

The soil type is mineral podzols in the Corby series, described as freely drained, and gravel derived mainly from Highland rocks. The climate conditions in the area is characterised by low annual rainfall and high sunshine hours.

#### WOODLAND DESCRIPTION

##### Oak Woodland

The oak wood is one of the largest areas of Oakwood in Scotland (50 hectares) and is well known locally for its extensive carpet of bluebells in spring.

The oak is planted in origin, predominantly with pedunculate oak (*Quercus robur*), and lacks much structural diversity. There is some regeneration of birch within the deer fenced area and there is scattered oak regeneration within the wood, but this is being browsed by deer and often in areas where there is a lack of light for seedlings to establish.

There is a good proportion of over mature trees and dead trees, mostly standing but also as fallen trees and branches.

Within the oak wood, there are some characterful veteran beech trees, mostly lining the old paths. These are believed to be have been bundle planted (many trees planted together as one group) which gives the multi-stemmed trees. Other species are occasionally present in the oak wood, particularly at the southern and western edges, including Scots pine, Douglas fir (at the edge of the wood), yew (planted in small groups to west of wood), birch (on southern edge), rowan, holly and elder. There are also a few older oak in the western part of the wood, including one believed to be around 300 years old.

There is an understorey of *Rhododendron ponticum* at the western side of the oak wood, and bracken dominates the ground flora throughout after the bluebells have finished flowering.

The oak wood provides an ecologically rich habitat for a range of flora and fauna.

The wood is classified in the Ancient Woodland Inventory (Scottish Natural Heritage) as Long Established Woodland of Plantation Origin. Ancient woodland has important biodiversity and cultural values by virtue of its antiquity.

The Native Woodland Survey of Scotland classes the oak wood as native oakwood with 100% semi-naturalness and 80% canopy cover. There is very high herbivore impact and between 0 - 25% invasives.

The National Vegetation Classification for the oak wood is classed as one of the woodland communities "mixed deciduous and oak/birch woodlands" group, with both W10 (*Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland) and W11 (*Quercus petraea* - *Betula pubescens* - *Oxalis acetosella* woodland).

There is also a narrow strip of mature trees in the fields, consisting of oak, beech and Scots pine. This is believed to be the edge of the old woodland on Court Hills, which was felled in the 1940s / 1950s. This area is as of 2017 being grazed and there is no structural diversity or understorey.

#### Conifer Secondary Woodland

The conifer plantation on the north-western edge of the wood is first shown on the second edition Ordnance Survey Map of 1899 as mixed woodland. By 1959, the Ordnance Survey map shows this area to be all coniferous.

The species are predominantly Norway spruce, with some Sitka spruce, and 2 strips to the north with hybrid larch and Scots pine. The wood has been thinned recently and there are occasional groups of windblown trees.

There is little structural diversity or understorey, apart from a little elder. There are a few trees regenerating and the presence of the invasive non-native Himalayan balsam.

#### Secondary Native Woodland

There are two young plantations in the Court Hill fields of native broadleaved trees and shrubs planted in the 2000s, which were stock fenced and planted in tree tubes. Broom provides limited understorey in the southern area.

There is also a group of mature birch growing on a slope and 4 individual mature Scot's pine trees growing at the eastern edge of the Court Hill fields.

#### OTHER HABITATS DESCRIPTION

There are a number of fields, a small arable field to the NW of the wood, a small pasture field to the SW of the wood, and the main area of pasture fields to the south of the wood (partly known as Court Hill). The Court Hill fields used to be woodland as shown on the 2nd edition Ordnance Survey map of 1899, but had been felled by the 1959 revision (1st series 1:25,000 OS map). The fields are predominantly unimproved pasture and as of 2017 are being grazed with cattle and sheep (except the NW field).

There is a stone built cairn to the east of the Court Hill fields which is a memorial to those that served in the 2nd world war. This is fenced off to protect it from stock.

#### WILDLIFE & FLORA

There is a varied population of birds including woodpecker, crossbill, cuckoo, linnet, nuthatch, pied wagtail, redpoll, siskin, spotted flycatcher and tree creeper. Mammals include roe and fallow deer, rabbits, pine martin, and red squirrels.

There are a variety of woodland and grassland plants. In the oak wood, bluebells dominates in the spring and bracken dominates throughout the rest of the year.

#### SITE HISTORY

The wood and fields were bought by the Woodland Trust in July 2017 from Ballathie Estates, with a

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legacy from a generous supporter.

The following is a summary of Preliminary Notes on North Wood, Ballathie by Christopher Dingwall, July 2017 (full details in reference file).

There is map evidence that the area has been wooded a very long time. Timothy Pont's map in c.1595 shows three tree symbols to the west of Kercock, but due to the sketchy nature and crude draughtsmanship of Pont's maps it is difficult to equate the planting with present day features. The map also includes the names 'Kincleuy', 'Balathy' 'Kerkock'.

John Adair's Manuscript Map of 1685 shows a detached block of woodland to the north of 'Balathe' and to the west of 'Kinclevin'. The woodland is again shown on John Adair's Printed Map of 1723, and in 1783 on Stobies Map of Perth & Clackmannan, and in more recent Ordnance Survey maps. However the area is not shown as wooded on Roy's Military Survey of Scotland in 1750. The woodland may have been missed or the wood may have been felled at that time (and not marked on the map as not suitable for concealing men).

The New Statistical Account of Scotland for the Parish of Kinclaven (1843) describes many thriving and valuable oak coppices which are cut down every 20 or 25 years.

The older maps show the wood to be of mixed broadleaved and conifer trees, right up to the Ordnance Survey National Grid Plan in 1973.

Significant changes occurred between 1899 and 1959, when the Court Hill wood was felled and returned to grazing.

The whole of the woodland area is marked as 'Court Hill' on the First Edition Ordnance Survey map (1864), but divided into two separate sections on the Second Edition Ordnance Survey map (1890) named 'Court Hill' and 'North Wood'.

A long concrete structure is shown on the OS 1973 map for the first time. Local intelligence suggests that this concrete base was used as a cattle feeding area.

There is a historical path which goes to Kinclaven Church and may have been a drove road with banks along the path visible in places.

## PUBLIC ACCESS

There is a circular earth path route around the wood, and an additional path at the west end, which in total are approximately 1 mile in length. There are also minor paths from the roadside into the wood at several locations. The paths are generally flat with a slight rise at the east and west ends. The circular path is signed as part of the core path network, and connects to the path to Kinclaven church at the south-east corner.

There is a car park at the north-west side of the wood, with room for 30 cars, plus several informal laybys to the north and west of the wood. There are several entrances from the north and west, plus there is a little used entrance from the Kinclaven church core path to the SE. Locals from Kinclaven Green can also access the fields from a path at the SE of the property. There is no fence along the road side, so access is gained freely.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there



Directions by car (nearest postcode is PH1 4QL):

From the west

From the B9099 on the south side of Murthly, turn off east onto Station Road. Cross over railway line and follow this road for approximately 2.4 miles. The wood is to the south of this road, just after a narrow minor road to the right. The car park is on the right (south side) with a height barrier (2.05m).

From the east

From the A93, just to the north of the bridge over the River Isla (south of Meikleour beech hedge), take the minor road signpost for Kinclaven, Murthly and Stanley. Go over bridge over River Tay and follow this road for approximately 1.6 miles. (Go straight on at junction following sign to Kinclaven Church and Murthly). The wood is on the south of the road. Drive past the informal laybys and the car park is near the end of the wood on the left (south side). There is a height barrier at the entrance (2.05m).

By public transport

The number 34 bus (route - Perth, Luncarty, Stanley, Spittalfield, Blairgowrie), operated by Stagecoach, goes past the western side of the wood. There is no official bus stop but look at "(opp) The Knapp" on timetable. There are only a few buses a day and none on Sundays. Visit traveline for more information on 0871-2002233 or [www.travelinescotland.com](http://www.travelinescotland.com)

The nearest train station is Perth, and then take the bus 34 (see above).

On foot

The roads to the north and west are both narrow with a national speed limit and no pavement.

The nearest public toilets are in Perth, Dunkeld or Blairgowrie.

### 3.2 Access / Walks

Access to the circular path around the wood is through squeeze gaps in fencing / boulders or direct from the road. The minor "desire line" paths from the road are rough earth paths with roots, and there is a slight bank along the road to the north.

## 4.0 LONG TERM POLICY

The oak woodland will be a valuable habitat with abundant bluebells, and plenty of standing and fallen deadwood. There will be a slight increase in the structural and species diversity, but with oak being the dominant species.

The existing veteran beech trees will be retained as long as it is safe to do so.

There will be no invasive non-native plants (rhododendron and Himalayan balsam), and little non-native regeneration.

The conifer wood will be retained as long as possible and will be gradually converted to a native wood (including Scots pine) as it becomes vulnerable to wind damage.

The new woodland will develop into an attractive wood of mixed native species and open ground, for the benefit of people and wildlife. Once the woodland is established, the deer fences will be removed.

The woodland will be a popular place to visit for quiet informal recreation and the visitor facilities will be improved to facilitate a welcoming experience. Paths will be kept as natural earth and grassy paths, unless they become excessively muddy.

## 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 Connecting People with woods & trees

#### Description

The wood is well loved by both local people and those from further afield, especially when the bluebells are in bloom. Oak woodland of this size is not common in Perthshire and the veteran beech trees are a real feature. Although there is only a small community near the wood, (Kinclaven Green and individual houses), walkers travel from surrounding towns and villages, including Perth which is a 30 minute drive away.

There is a circular earth path route around the wood, and an additional path at the west end, which totals approximately 1.7 mile in length. There are also minor paths from the roadside into the wood at several locations. The paths are generally flat with a slight rise at the east and west ends.

The circular path is signed as part of the core path network (STAN/111 & STAN / 124), and connects to the path to Kinclaven church at the south-east corner.

There is a car park to the NE of the site (built in 2018) with space for 30 cars, and there are also lay-bys on the northern and western sides.

The main entrance is from the car park, with other minor entrances on the northern and western roads. There is also a little used entrance from the Kinclaven church core path to the SE of the wood. Locals from Kinclaven Green can also access the fields from a path at the SE of the property. There is no fence along the road side, so access is gained freely.

At present, walkers do not tend to access the fields as there are ample opportunities for walking within the wood, and there are sheep and cattle grazing the fields currently.

There is a stone built cairn in the field with good views to north and south. The dedication plaque says:

Parish of Kinclaven  
Erected  
By the people of this parish  
in thanksgiving for victory  
in the war  
1939 - 1945

As this is a new site, signage is currently limited. However new signs and an information board will be a key priority.

A number of practical volunteer events have been held in the wood since the Trust acquired it, to clear up old pheasant feeding equipment and old fences, pull Himalayan balsam, and protect young trees from browsing with tree shelters. These have been enthusiastically attended and given us the opportunity to engage with the local community.

There are many primary schools in the area but it is not yet known if any use the woodland for outdoor learning. The Stanley Development Trust use the wood for group led walks and they have a leaflet which includes the circular walk in the wood. Other groups may also use the wood.

## Significance

The wood is really popular place to visit during the bluebell season, with only one other smaller bluebell wood in the area near Blairgowrie. This is one of the best bluebell woods in Scotland with the woodland floor being carpeted with bluebells. The attractive nature of the oak wood and the veteran beech trees means people will travel a distance to walk in it, out with the bluebell season too. People also come to the wood for the ornithological and fungi interest, dog walking and it is popular with photographers.

There are other core path networks nearby, but apart from the link to Kinclaven church, the paths here do not connect with other paths. There is a historical path which goes to Kinclaven Church and may have been a drove road with banks along the path visible in places.

The veteran beech trees are of special interest and are believed to be bundle planted (many trees planted together as a bunch). They may be of a similar age to the nearby Meikleour beech hedge (1745).

There is a much loved rope swing, enjoyed by many.

The Trust aims to inspire everyone to enjoy and value woodland and trees.

## Opportunities & Constraints

There are opportunities to involve the local community, schools and corporate partners with the work at the site, including tree planting in the fields. From initial searches, there are many local primary schools nearby - including Murthly, Stanley, Glendelvine, Royal school Dunkeld, New School Butterstone, Newhill, Rattray, Auchtergaven, Luncarty, Guildtown, Collace, Burrelton, Coupar Angus, and Kettins.

There was good interest in the practical volunteer events that were held in the wood and a Woodland Working Group is being set up to undertake volunteer tasks. There is also an opportunity for volunteer experts to carry out further surveys on insects.

The lack of car parking space particularly during the bluebell season is a major constraint. There is an opportunity to create a car park in the NW field, which will reduce conflicts with traffic on the narrow roads, and provide a safer place for people and dogs to access the wood. There is the opportunity to install entrance signage and an information board and benches to welcome visitors. There is also the opportunity to install a natural play trail to encourage more families and younger visitors (considered in the next plan period). These additional visitor facilities would be restricted to the fields to be sensitive to the special nature of the wood, and will be considered in the next plan period.

Bracken growth is limiting for access but this does have the benefit of keeping people to the paths and limiting trampling.

There is an opportunity to celebrate the bluebells with the local community through events. The increased promotion and creation of the car park may increase footfall and there is a risk of trampling of the bluebells. There is an opportunity to use the bluebells to educate visitors to respect the ground flora.

Tree safety inspections have identified a need for management of a number of trees along roads and paths with decay fungi and options are being considered. Work may involve some felling, dead wooding, pruning or slightly re-routing some paths for people's safety.

There is an opportunity to plant some wild flowers to add to the existing grassland flowers in the fields for people's enjoyment and to increase biodiversity. This possibility will be considered in the next plan period, after gaining a better understanding of existing flora.

There are other core paths in the area that do not link directly with the wood (including one from Stanley). Any possibilities for extending paths to the wood should be considered.

There may be an opportunity to develop visitor facilities from the south in conjunction with the old cafe (which is currently for sale), or with Ballathie Hotel.

### **Factors Causing Change**

Wetter climate and more people using the paths, which may cause them to become muddier.

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

The site will provide a place for quiet informal recreation for local users and visitors from further afield.

The main paths will be maintained in a safe, usable and natural condition - free from obstacles and encroaching vegetation, excessive muddiness and litter. Access provision will be in keeping with Woodland Trust Access Guidelines and access coding B (moderate usage site), and main entrances will be welcoming with Woodland Trust signs.

A car park will provide a safe and welcoming place to park.

Community involvement will continue with volunteer activities. Interested people will be consulted regarding the future management of the site and be encouraged to engage with the Woodland Trust. Members of the public will be encouraged to connect with the woodland and nature, and events will be held to attract and involve visitors. The bluebells will continue to attract a lot of interest.

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

#### Paths

Paths in the wood will be kept free of encroaching vegetation, with edges cut (or bracken bashed to reduce vigour) if needed (cpt 1a, 1.7 mile, annually). Grass paths in the fields will be mown once grazing has stopped (cpts 2a, 3a, 4a, 4b, approximately 1.9 miles, up to 6 times a year from 2018). Trees along the path and roads will be regularly inspected for safety purposes and any work carried out as necessary (cpt 1a as per safety inspection timetable). The logs and branches from any tree safety work will be left in the wood as deadwood habitat.

A number of the veteran beech trees have been identified as requiring major surgery work to safeguard people using the path, with evidence of rot fungus and a history of dropping limbs. Rather than carry out any works to these special trees, the path will be rerouted away from the high risk zone (cpt 1a by end 2018), but people will still be able to admire the trees from a safe distance. The metal pipe ends along the concrete base will be removed or cut down below the ground level (cpt 1a by end 2018).

Stiles will be removed to increase accessibility (cpt 1a, 4a, 4b by end 2020).

#### Entrances and Infrastructure

The main entrances will be improved and Woodland Trust signage added to make them welcoming (ladder boards x 4, wooden signs x 1 and small plastic signs x 3 at minor entrances). An orientation / interpretation board will be situated near the new car park. (Cpt 1a, 1b, 2a & 4d by end 2018).

The collapsing dyke at the western entrance will be demolished, with large stones or logs placed to stop vehicular access, and new gate installed. (cpt 1a by end 2018).

Benches will be installed along mown paths in the fields (3 in cpst 2a & 4a by end 2020).

#### Car Park and Parking

A new car park for 30 cars will be constructed in the field to the NW of the site. There will be a stoned (hard-core) main car parking area for around 15 cars with an overflow grassy extension area (with a grid for strength) for a further 15 cars. The car park will be visible from the road to reduce anti-social behaviour and there will be a height barrier at the entrance to stop caravans and camper vans. Landscaping around the car park area will be with native shrubs and local heritage fruit trees. (cpt 2a by end summer 2018).

The existing laybys to the north and west of the wood will be retained. The laybys to the west of the wood are muddy with deep potholes and will be upgraded by leveling and surfacing with stone (cpts 1a & 1b by May 2018). This will also allow cars to pull fully off the road and not make it difficult for other traffic to pass. If issues arise as a result of parking in other locations, we will consider

discouraging parking (e.g. posters or blocking off).

### People

Schools in the area will be invited to tree planting sessions and community planting days will be held to engage local people, supporters and corporate partners in creating new native woodland.

(Planting November 2018 - December 2020).

Events will be organised annually to encourage interest in woodland and nature, and the bluebell season will be a great time for people to be inspired. In 2018 there will be a bluebell photography workshop. In future years, events can include making bat and owl boxes to provide additional nesting / roosting places in the wood, guided bird and bat walks, schools collecting acorns and growing on as trees before planting back in the wood.

A Woodland Working Group will be set up for volunteers to help deliver practical conservation work on the site. Regular volunteer working days will be organised to tackle tasks such as Himalayan balsam pulling, old fence removal, rhododendron cutting, tree planting, protecting regeneration with tree shelters and bracken bashing. Volunteer group leaders will organise and lead the workdays.

Volunteer Wardens will also help keep an eye on the site, monitoring, carrying out minor tasks and helping visitors with enquiries to help people get the most from their visit.

The Trust will continue to engage with the local community and partner organisations in the management of the site. An email bulletin on progress will be sent out to everyone interested in the wood (at least annually for the first 3 years).

If litter becomes a problem, we will consider installing a bin in the car park if Perth & Kinross Council will empty it regularly (cpt 2a).



## 5.2 Ancient Semi Natural Woodland

### Description

Although designated in the Ancient Woodland Inventory as Long Established Wood of Plantation Origin, there is historical map evidence that the area has been wooded since at least 1685. The tree species is predominantly oak (pedunculate oak / *Quercus robur*), which is planted in origin, with some special veteran beech trees along the circular path, some birch trees in the southern edge, and a few Scots pine, Douglas fir and yew on the western side. There are many dead and senescent oak trees which are a great habitat for wildlife, with woodpeckers being heard regularly.

The veteran beech trees are a significant feature and we believe they were mostly bundle planted which is why they have multiple stems.

There is little structural diversity with most of the trees being of similar age, and no understorey, other than the invasive non-native *Rhododendron ponticum* and a few elder bushes.

In spring time the woodland is carpeted with bluebells, and over the summer bracken dominates.

Bracken is growing extensively over the site. It can inhibit natural regeneration by depriving other species of light and it produces a deep litter which stops seeds reaching the ground. Bracken also produces allelopathic chemicals, which inhibit seed germination and seedling growth of other plants, with bluebells being the exception. There is limited regeneration under the bracken.

Other ground flora includes wood sorrel, pink purslane, dog violet, wood anemone, bugle and primrose.

### Significance

Ancient woods are our richest land-based habitat for wildlife and are irreplaceable. Woodland has been at this site for hundreds of years and the rich biodiversity of the wood reflects this. This wood is one of the biggest oak woods in the area, and with many dead and senescent trees, it provides a valuable habitat for a range of plants, birds and insects.

Ancient woodland covers only around 2% of the UK's land area.

Over 50% of the world's population of *Hyacinthoides non-scripta* can be found in the UK and are threatened by habitat destruction and hybridisation with Spanish bluebells. In the oakwood the bluebells are abundant.

### Opportunities & Constraints

There is an opportunity to diversify the age structure of the wood by encouraging natural regeneration of native trees, and to diversify the species composition by planting an understorey of native shrubs.

The opportunity to remove the invasive non-native *Rhododendron* to benefit native ground flora.

A major constraint is deer browsing natural regeneration and bracken making it difficult for regeneration to establish.

### Factors Causing Change

There are many dead oaks and others that are currently under stress.

There is some regeneration of beech and spruce, which will reduce the light level when matures and therefore limit the ground flora growing underneath it.

*Rhododendron* if it continues to spread.

### Long term Objective (50 years+)

The Oak Wood will continue to be a special place, with the dominant species being oak. There will be diversity of ages and structure in the oak, including older trees and deadwood. Other native trees, including Scots pine, rowan and birch, and an understorey of native shrubs including hazel and holly will make up the diversity of species.

No invasive non-natives will be present (rhododendron and Himalayan balsam).

Bluebells will be thriving and the wood will be a good habitat for wildlife.

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

Increase structural diversity by: protecting natural regeneration of natives by repairing the deer fence so that it is deer-proof (cpt 1a by end 2018), seeding with acorns collected locally and planting with native shrubs in bigger glades after whacking bracken annually to weaken it, (cpt 1a, 200 shrubs & 200 acorns, by end 2022). Deer fencing will be removed when young trees and shrubs have established (in 10 - 20 years' time, cpt 1a, 120m).

In the large glade at the eastern end of the wood, the bracken will be weakened by whacking (cpt 1a annually), so that in the next plan period there is an area for further regeneration and for planting native shrubs, such as holly, hawthorn and hazel to diversify species.

Non-native regeneration will be cut before it gets too big for hand tools (cpt 1a, on-going).

Rhododendron will be controlled, starting with volunteers cutting and burning and either spraying regrowth with glyphosate or digging up roots with machine (cpt 1a, 0.8ha, annually). Depending on progress and volunteer's enthusiasm, contractors may help with further rhododendron control in next plan period.

Remove remaining old fencing and pheasant feeding equipment in wood (cpt 1a, by end 2019).

## 5.3 Secondary Woodland

### Description

Secondary woodland comprises the conifer plantation to the NW of the oak woodland, two young native plantings within the fields, and the group of birch growing in the field to the eastern side.

The conifer area was first shown as wooded on the 2nd Edition Ordnance Survey 1899 map. The present crop was planted in the 1960s and the species is mainly Norway spruce, with some Sitka spruce, and a strip of Hybrid larch and a strip of Scots pine. The trees have been well thinned with enough light for some regeneration of oak, birch, beech, spruce and elder. There are a couple of pockets of windblown trees. Ground flora is mostly wood sorrel, ferns, pink purslane and mosses, with understorey being limited to the occasional broom and elder bush. There is a diverse range of fungi and the conifers offer a different habitat to the oak woodland which some species prefer such as the red squirrel. There is also a large area of the invasive Himalayan balsam growing between the western road and the main path. Regeneration is sparse with oak, holly, spruce, and beech. There is occasional lying deadwood, and rare standing deadwood.

There is a squirrel feeder box which is surveyed as part of the Scottish Wildlife Trust's Saving Scotland's Red Squirrels survey since 2010 within the Highland Line priority area (one of 4 boxes in the survey tetrad).

The mature woodland strip could be the southern edge of trees on Court Hill felled in the 1940s or 1950s, as it follows a similar line on historical maps. Trees comprise of beech, oak and Scots pine and are around 80 - 100 years old. This area is being grazed and there is no regeneration. There is a little lying deadwood from fallen branches.

The two native young plantations were stock fenced and planted in the 2000s in tree shelters. Trees are a mixture of oak, cherry, birch, Scots pine, ash, hazel, and hawthorn. In the southern block, there are a few tree shelters remaining, some broom growing as an understory, and a few rabbits present. There is a stile to access both these plantations. Ash dieback (chalara) is present in the young trees.

The area of birch trees on a slope at the eastern side of the fields are about 50 years old and are not fenced. It is not known if they were planted or regenerated.

### Significance

Secondary woodland is a valuable habitat for biodiversity and the conifer woodland provides a contrasting habitat with the oak woodland. It provides a home for the red squirrels, as well as supporting a wide range of fungi.

The big Douglas Firs along the road to the west will be retained as significant landscape trees, as long as it is safe to do so.

### Opportunities & Constraints

There is an opportunity to gradually convert the conifer plantation to a more native and varied structure over time, whilst retaining a native conifer habitat (Scots pine).

The conifer plantation will become more unstable with time, and more wind-blown trees will be expected.

A major constraint is deer browsing natural regeneration.

### **Factors Causing Change**

Wind blow in the conifers

Invasives (Himalayan balsam) continuing to spread if not controlled

Tree diseases (ash dieback) and decay fungi (*Phaeolus schweinitzii* & *Sparassis crispa*)

Non-native regeneration

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

To retain the conifer plantation as long as possible and convert it gradually to more native and mixed structure.

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

Remove the remaining tree shelters from the young native plantation (cpt 4b south, approximately 400 tubes, by end 2019).

Control the Himalayan balsam, pulling before flowering if possible, until eradicated (cpt 1b & track east of cpt 3a, 0.5ha, 2018 - 2020 and next plan period).

Protect groups of native regenerating trees with shelters in areas where there is enough light for them to succeed in the conifer plantation (cpt 1b, 100 tubes, by end 2020).

Cut any non-native regeneration before it gets too big to control with hand tools (cpt 1b by end 2022).

No silvicultural work will be carried out in the conifers during this plan period, unless large areas of wind blow occurs. At the start of the next plan period, the conifers will be thinned gradually to increase the light reaching the ground for flora and natural regeneration.

## 5.4 New Native Woodland

### Description

The fields south of the oak woodland, known as Court Hill (cpt 4), are unimproved grassland, of which more than two-thirds of the area was wooded up until the 1940s / 1950s. There are a number of internal stock fences and gates, and a management access and gate to the road. There is no boundary fence on the southern edge.

The field to the South West (cpt 3a) is improved grassland, with no boundary fence on the southern edge, and 2 vehicle gates to give access from the road and from the wood. There is a recently planted hedge along the western roadside edge which is stock and rabbit fenced.

The field to the North-West (cpt 2a) is arable, with no roadside fence, and an old fence between the field and the conifer woodland. There is also a recently planted hedge along the western roadside edge with stock and rabbit fencing.

The pasture land is currently being grazed with sheep and cattle, and this will continue until the areas are planted.

A stone built memorial cairn is situated on raised ground to the eastern side of the fields, with views to the north and south.

A thin strip of mature trees separates the fields into 2 areas and there are also two younger native plantations and a group of birch within the field areas (see secondary woodland key feature). Three individual Scots pine trees are growing in the eastern fields, and one dead fallen tree, which is said to have been hit by lightning.

An overground power line crosses the eastern side of the fields, an underground private water pipe crosses the SW field, and a phone line runs parallel with the northern road (mostly underground).

There is a mixed native hedge planted on the edge of the western fields including hazel, hawthorn, blackthorn, and a range of flowers including red campion, foxglove, black knapweed, ox-eye daisy and stitchwort.

Ground flora in the fields consists of grasses and wild flowers including meadow-grass, bent, hemp nettle, creeping soft-grass, timothy, ryegrass, clover, Yorkshire fog, buttercup, thistle, harebell, plantain, nettle, and ragwort.

Other than the newly planted hedges and a small amount of broom and gorse, there is no shrub layer. An occasional stump can be found from the old woodland.

### Significance

The UK is one of the least wooded countries in Europe. Planting trees helps to fulfil the Trust's vision of a UK rich in native woods and trees, for people and wildlife.

Open land is an important part of a mosaic of habitats, so some areas of open ground will be left unplanted.

### Opportunities & Constraints

Opportunity to create more native woodland, to expand and buffer the existing woodland, and to connect up the existing areas of wood to create a habitat network, in a location that can benefit both people and wildlife. There is an opportunity to increase the diversity of tree species, including ones that produce berries and seeds to benefit a range of different species, more oak particularly for the purple hairstreak butterfly, and more Scots pine for the red squirrel.

Constraint is deer number are high in the area, so all new planting will need to be protected by fencing or tree shelters.

Wayleaves (overhead power line and underground water pipe) run through cpts 3a, 4a and 4d.

### **Factors Causing Change**

Rank weeds spreading if left unmanaged.

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

To create a well-established new native woodland, with a diversity of species, and structural diversity through open ground and shrubs, thriving with wildlife and well-used by local people. Once the trees are safely established the deer fence will be removed.

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

Plant the new native wood with as much community support as possible (cpt 2a, 3a, 4a, 4d, approximately 18 hectares / 25,000 trees, by end 2020). Trees will be mainly a mix of oak, birch, rowan, Scots pine, hazel, crab apple, cherry, holly, hawthorn, blackthorn and they will be planted at 1600 trees per hectare.

Planting areas will be deer and rabbit fenced and trees planted in vole guards to protect trees from being eaten, except for in the NW field (cpt 2a) where trees will be planted in tree shelters. Gates will be put into the deer fenced areas for pedestrian and management access. Any deer or rabbits within the deer fenced area will need to be controlled to stop them eating the trees.

The ground will be prepared for planting by inversion mounding, to relieve compaction and enable easy planting.

#### Timings for planting

Field to NW (cpt 2a) - planted autumn 2018

Field to SW (cpt 3a) - planted spring 2019

Fields to north of woodland strip (cpt 4a eastern & western fields) - planted autumn 2019

Fields to north of woodland strip (cpt 4a middle field)- planted spring 2020

Fields to south of woodland strip (cpt 4d) - planted autumn 2020.

The young woodland will be maintained to ensure successful establishment by replacement planting of failed trees to maintain full stocking density, spot-weeded with a glyphosate-based herbicide to control competing weeds where needed, and exclusion of stock and deer through fence maintenance and monitoring (cpts 2a, 3a, 4a, 4d, 2019 - 2022).

Extensive areas of open space will be left un-planted within the fields for diversity and to benefit wildlife (cpts 2a, 3a, 4a, 4d, approximately 10 ha). The larger areas of open ground will be cut once a year after flowering and seeding has finished, and arisings removed to reduce the fertility (cpts 2a & 4a). Smaller open areas will be left to regenerate and scrub up to give a diversity of grassland (cpt 3a & 4d).

The fields will be grazed with cattle and sheep until they are ready to be planted. Any ragwort growing in or near the grazing areas will be controlled for the health of the stock. All internal stock fences will be removed after grazing stops (cpts 3a, 4a, 4d, approximately 26ha, 2018 -2020). The large area of open ground to the east of the site will be grazed with sheep in the long term for biodiversity of flowers.

The hedges on the roadside will be left to become shrubby thickets, to encourage maximum amounts of berries and seeds (cpt 2a & 3a, western edge). In the next plan period cutting may be required to stop the hedge encroaching on the road.

The pile of plastic and netting in the NW field (cpt 2a) will be removed (by end 2018).

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## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	41.85	Oak (pedunculate)	1960	High forest	Sensitive habitats/species on or adjacent to site		Long Established Woodland of Plantation Origin
<p>The oak wood is one of the largest contiguous areas of oakwood in Scotland and has an amazing display of bluebells in spring. It contains a large proportion of over-mature and dead oak trees, which are a really valuable habitat for wildlife. The dominant canopy species is pedunculate oak, which were planted and there is little structural diversity. There are also some notable veteran beech trees mostly lining the main footpaths. Along the southern edge there are some birch trees, with birch thickets regenerating inside the deer fenced area. In the west end of the wood there are some older oak (P 1900s), occasional Scots pine, yew and some mature Douglas fir. There are some Rhododendron ponticum bushes at west end. Ground flora is dominated by bluebells and bracken. Other flora includes wood sorrel, pink purslane and primrose. A deer fenced enclosure is present to the south end of the wood, but this is no longer deer proof.</p> <p>This sub-compartment includes a track with access to the south-west with open ground and few mature oak on boundary bank. There are some old log piles from previous harvesting work that are a good deadwood habitat.</p> <p>There is a large quantity of Himalayan balsam on the neighbour's woodland to the east of the track.</p>							
1b	6.82	Norway spruce	1960	High forest			
<p>Mature Norway spruce plantation with some Sitka spruce, and a band of Hybrid larch and then a band of Scots pine on the northern side. The wood has been thinned previously with enough light for ground flora - mainly wood sorrel. There is lying dead wood and the occasional hung up trees and also some windblown. There is an area of Himalayan balsam in the south-western part of the wood between the road and the path.</p>							
2a	3.05	Open ground		Wood establishment			
<p>Arable field with a mixed hedge along the western boundary. Healthy population of wild flowers as well as weeds. Access is from the road. A car park is proposed in the NE corner of this field. There is an underground telephone wire that runs parallel with the road.</p>							
3a	4.56	Open ground		Wood establishment	Services & wayleaves		

<p>Improved pasture field situated at the SW corner of the property. There is a mixed native hedgerow running along the road to the west side. As of 2017, the field is being grazed and there is electric fencing inside the stock fence. An underground water pipe crosses this field. Access is from 2 field gates to NE and NW.</p>							
4a	14.82	Open ground		Wood establishment	Services & wayleaves		
<p>Grassy pasture fields to south of the oak wood know as Court Hill. This area used to be woodland until the 1940s or 1950s. The soils are well-drained but have a high stone content and are quite compacted. There are three individually grown granny Scots pines and one dead lying pine, reportedly struck by lightning. There is a stone built memorial cairn dedicated to those that served in the second world war, which is currently fenced to protect it from grazing stock (with a pedestrian gate for access). The fields are split into 4 different fields, and as of 2017, are being grazed with sheep. Overhead power lines cross the east end of the site. There is a small area of gorse to the south of the memorial cairn on a bank.</p>							
4b	1.27	Mixed native broadleaves	2000	High forest			
<p>One group of birch trees growing on a slope (not fenced) about 50 years old and two separate areas of mixed broadleaved plantations consisting of birch, oak, rowan, ash, gean, hazel, hawthorn, blackthorn, with Scots pine. The fenced areas were planted in tree shelters in the 2000s. The northern area was planted by the scouts as a Millennium project. Most of the tree shelters have been removed but there are still a few to be taken off. Ground flora is dominated by grasses. There is no deadwood. Pedestrian access to the northern block is via a stile at the north side, and access to the southern block is via 2 stiles to the west and a vehicle gate to NW corner. There are a couple of rabbit burrows in the southern block and broom growing. There are the remains of an old dyke running north to south in the southern plantation.</p>							
4c	1.25	Mixed broadleaves	1940	High forest			
<p>Thin strip of trees which survived when the rest of Court Hill was felled. Consists of beech, oak, birch, rowan, and Scots pine. No understorey presently due to grazing. The area immediately south of the young plantation has been fenced off. Grazing will continue for a few years until the surrounding planting is carried out. Deadwood is limited to a few dead branches.</p>							
4d	7.39	Open ground		Wood establishment	Services & wayleaves		

Pasture grass fields south of the existing woodland strip. Fields are separated into several different fields and are currently being grazed by sheep and cattle. There are several water troughs. An overhead power line crosses the site to the big sheds further south, with a spur going to Kinclaven Green houses. There are a few gorse bushes near the existing woodland strip and signs of rabbits living in the field. There was an old water storage tank near to Balmain House at far western edge but this was demolished and buried in 2017 soon after acquisition.

## Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2023	1b	Thin	0.40	5	2

## 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.