



# Warren Farm

## Management Plan 2011-2016

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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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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) 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.

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## 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>	Warren Farm
<b>Location:</b>	East Ewell
<b>Grid reference:</b>	TQ232629, OS 1:50,000 Sheet No. 187
<b>Area:</b>	21.55 hectares (53.25 acres)
<b>Designations:</b>	Open Space Recreation 1 (Local Authority designation - Nov. 1994)

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

This large area of open grassland and planted areas of wood is an important landscape feature in a largely urban environment. It has good views across the site and towards Ewell and also adjoins Nonsuch Park to the north. The young woodland and scrub on the site provide good habitats for flora and fauna that are not generally found in suburban areas. It is well used by local people and has an excellent network of paths.

## 2.2 Extended Description

Warren Farm covers 21.5 hectares (53 acres) in the old Parish of Cuddington, now part of East Ewell in the Borough of Epsom & Ewell.

The Woodland Trust was given Warren Farm in 1994 following a public enquiry on the housing development now to the west of Warren Farm. The developer, Cala Homes, transferred the 53 acres to the Woodland Trust after significant local concern (led by Nonsuch Watch) that the unique rural character would be lost through the development of Warren Farm. The Warren Farm area was farmed from the 1680's until 1988 (mainly hay and arable) and was the subject of many planning proposals for housing developments in the late 20th century.

Warren Farm is an important landscape feature for local residents. The site is an area of countryside in an otherwise largely suburban part of the Greater London conurbation with fine views across the site and to Ewell to the west and the backdrop of mature trees in Nonsuch and Cheam Parks to the north and north-east.

Warren Farm is unique, being undeveloped former farmland within a very suburban landscape. The site is largely open grassland with several areas of planted native broadleaved trees, natural regeneration and some more mature trees forming a wooded fringe to the site. Problems are still being experienced from an invasive plant-Canadian goldenrod (*Solidago canadensis*). This suppresses native flora in the open spaces and is steadily spreading across the site. The young woodland and scrub is now a good habitat for songbirds such as linnet, willow warbler and whitethroat. The site is also of importance for providing suitable habitats for other flora and fauna not generally found in suburban areas, such as skylark.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

Warren Farm is located in the southern suburbs of London in the borough of Epsom and Ewell. The site is east of Ewell and west of Cheam and is immediately south of Nonsuch Park. Two access points are available from the surrounding suburban roads - Seymour Avenue and Bramley Road. The Seymour Ave entrance has a wide kissing gate suitable for wheelchairs and pushchairs; the entrance point at the end of Bramley Road is a wide open access which goes under a railway tunnel and is suitable for all. Both these entrances lead onto surfaced all-weather tracks with stoned finish. There is approximately 700m of surfaced path through the site. The surfaced paths are also Public footpaths (fp) Nos. 130 and 131). Fp 131 is also part of the 150 mile London Outer Orbital Path (London Loop) which is intended to provide a circular walk around the Capital.

There are also a number of entry points on the north side which directly link to Nonsuch Park, across a non-motorised double concrete trackway, and these entrances are open wide gaps. One of these entrances leads onto the surfaced path network of the site, the others onto unsurfaced paths. As well as the surfaced paths there are a variety of non-surfaced paths around Warren Farm.

There is not a car-park at the site but there is limited street car-parking close to the site on Seymour Ave, Bramley Road and surrounding roads, which link to the entrances via tarmac paths. The nearest public car-park is at Nonsuch Park, which is approx 400m away.

The nearest bus stop is on Cheam Road, at the entrance to Nonsuch Court Ave (which leads onto Seymour Ave). The bus stop is about 700m from the entrance to the site at Seymour Ave. The service No is 470 and buses run every 1/2 hour Mon-Fri. Two train stations are nearby - Ewell East is the nearest and is within 1km. Cheam railway station is a little more than a 1 km, and also has the nearest public toilet (but does not have a designated disabled toilet).

Further information on public transport is available from Traveline - [www.traveline.org.uk](http://www.traveline.org.uk) or phone 0870 608 2608.

### 3.2 Access / Walks

## 4.0 LONG TERM POLICY

Warren Farm has three key features consisting of an open area habitat, secondary woodland and informal access features which will be managed for the next 50 years. The long term policy for Warren Farm is to eradicate the golden rod from the open area habitat and secondary woodland. Scrub will be allowed to develop naturally on the margin between the open grassland and the planted woodland. This will continue to create a shrub edge to the woodland, which is known to be a rich habitat for wildlife.



## 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 Open Ground Habitat

#### Description

The open ground makes up approximately 12ha, about 80% of the site. The open area is classified as compartment 1a but has been divided up into 13 (1-6, 7A & 7B, 8-12) distinct sub compartments that were defined by a survey conducted (Allison, 2015). The 13 compartments were surveyed for plant species, grassland diversity and Canadian goldenrod (*Solidago canadensis* sp.) density.

Canadian goldenrod has been an invasive to Warren Farm for several years now (10 years +) and has had different management regimes to control it, i.e. cut and leave, pulling, tree establishment on edges. More recently, the management of goldenrod has been by cut and collect in 9, 10 and 11 compartments with the remaining compartments (1-6, 7A, 7B & 12) being cut and arisings left, the coverage of goldenrod is between 60% and 85%. Compartments 9, 10, 11, 12 and 5 have seen a huge effort by pulling by volunteers for several years now, where the density of goldenrod is now between 5-25% coverage.

The top 15 plant species recorded in Warren Farm from highest to lowest is as follows (Allison, 2015):

- False Oat Grass
- Canadian Goldenrod
- Ribwort Plantain
- Yellow Rattle
- Hedge Bedstraw
- Agrimony
- Wild Carrot
- Hawkweed Ox-tongue
- Yorkshire Fog
- Red Clover
- Kidney Vetch
- Rough Hawksbeard
- Common Bent
- Common Knapweed
- Pyramidal Orchid

#### Significance

Current estimates suggest that up to 41,000 hectares of lowland calcareous grassland remain in the UK. The major concentrations are on the chalk downs of Wiltshire, Dorset, Kent and Sussex, but there are also some significant areas in the Chilterns, Mendips and Cotswolds. The Ministry of Defence's Salisbury Plain is the largest calcareous grassland site in Europe.

Warren Farm is located in a very built-up area and has potential to become an example of a lowland calcareous grassland habitat. In the survey conducted by Allison (2015) there has been a total of 97 plants recorded, more notably Downy Oat-grass (*Helicotrichon pubescens*), Field Scabious (*Scabiosa pratensis*) and Bladder Campion (*Silene vulgaris*) which has been recorded this year for the first time which are three (of the many) indicator species for calcareous grassland habitat. Ribwort Plantain (*Plantago lanceolata*) has increased in the past 5 years since Girvan (2010) report which is a key component of calcareous grassland.

It should be noted that peach-leaved bellflower (*Campanula persicifolia*) has been recorded for the first time which is a garden escapee.

Yellow rattle (*Rhinanthus minor*) has seen an increase by 50% since Girvan (2010) which should be noted as it can act as a parasite on grass as it takes out the nutrients out of the grasses, therefore it may impact on the species diversity in places. Black cherry (*Prunus serotina*) has been recorded which is the first recording (Allison, 2015) which is a non-native invasive currently found in heathland habitats in Sussex and Kent.

Hedge Parsley (*Torilis japonica*) was also recorded for the first time (Allison, 2015).

Lowland calcareous grassland also provides feeding and breeding habitat for a number of threatened birds such as stone curlew and skylark. Allison (2015) recorded 35 bird species on site, of which 6 are on the Red Data List (Herring Gull; House Sparrow (Linnet); Skylark; Song Thrush & Starling) and 6 are on the Amber List (Dunnock; Green Woodpecker; Kestrel; Stock Dove; Whitethroat & Willow Warbler).

Butterflies on site have been recorded through transects in 9, 10 and 11 for several years now (I don't know how long this has happened!!) which has seen the increase of the small blue butterfly. This has suffered years of decline and it now occurs on less than 15 sites along the North Downs and a few other sites in the London Boroughs of Sutton and Croydon.

### Opportunities & Constraints

#### Constraints

The Canadian goldenrod is suppressing much of the grassland species  
Yellow rattle in high abundance and Black cherry could change the diversity of grassland habitat.

#### Opportunity

To encourage the local community to assist with the management of the site by pulling Canadian goldenrod  
Further survey and monitoring of grassland structure, invertebrates and bird survey.  
Increase butterfly capacity on site.

### Factors Causing Change

Canadian goldenrod/ ash dieback/ invasion of other non-native species such as black cherry and invasion of yellow rattle

### Long term Objective (50 years+)

To allow the open area habitat to become a good example of calcareous grassland habitat rich in species biodiversity, with a slow growing shrub edge with the eradication of invasive species.

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

It is intended that in the next 5 year management plan that the open ground habitat will be controlled of goldenrod by the following prescriptions:

- Annual cutting and removing arisings in compartments 1-6, 7A & 7B, 8-12 in the last week of August, to be left to decompose in allocated areas in the woodland area (MAP REF 1);
- Volunteer hand-pulling regime in compartments 1-6, 7A & 7B, 8-12 every May to August in two year cycle rotations (MAP REF 2)

2016- 5, 6, 12

2017- 3, 4

2018- 9,10, 11

2019-- 5, 6, 12

2020- 3, 4

2021- 1,2

2022- 7A, 7B and 8

Followed by raking September to October every year after cut by contractor.

- Experiment plots: 10 small scrapes (minimum 2m sq.) in compartments 7A, 7B and 8 to monitor recolonisation of the flora.

This work can be carried out by volunteers October- December 2015 with monitoring by M. Allison in plant survey 2016 onwards.

These compartments have the highest density of goldenrod and can enable education to the public on through what recolonises here.

Also a map of specialised plant species will be supplied by M. Allison on locations so the scrapes will avoid these sensitive areas.

(MAP REF 3)

- Fixed point photography south facing every May and August 2016–2020 (MAP REF 4)

One in compartment 10

One in compartment 7B

One in compartment 6

North facing fixed point photography every May to August 2016-2020 (MAP REF 4)

One in compartment 1

One in compartment 2

One in compartment 8

- Surveys (MAP REF 5)

Wintering bird survey October 2015 to March 2016 and gain report.

Repeat full bird survey April to July 2016 and gain report

Butterfly transects continue during the plan period in compartments 9, 10 and 11

Goldenrod density map (MAP REF 6) to be resurveyed in every year end of July to compare the density cover, the % are based on the Domin scale

## 5.2 Secondary Woodland

### Description

There is approximately 9ha of woodland present on site has belts of mixed broadleaved trees, mainly around the edges of the site in compartment 2a, containing oak, ash, field maple and hazel. Most of these woodland belts were planted in 1995 and are now established. There are also a few small clumps of mature trees which contain oak, sycamore and elm. There is a fringe of scrub/natural regeneration expanding out from the planted/mature woodland belts containing oak, sycamore, ash and hazel. Within the woodland areas goldenrod is now in high % and in some places up to 90% of the ground flora especially in the north section of the site.

### Significance

The woodland is providing a valuable habitat for wildlife, such as nesting songbirds and invertebrates. Mature trees are providing other valuable habitats such as deadwood. The areas of transitional scrub are highly valuable habitats especially important for invertebrates and songbirds. The woodland also helps the Trust to meet its corporate objective of protecting native woods, trees and their wildlife for the future.

### Opportunities & Constraints

#### Constraints:

There is a substantial amount of Canadian goldenrod amongst the trees, which is inhibiting regeneration and ground flora.  
The ash existing may succumb to ash dieback as it is in the region.

#### Opportunities:

In section beside railway line, opportunity to scallop to let in more light- could be carried out by Nonsuch Vols.  
Scything by volunteers of goldenrod in woodland areas.

### Factors Causing Change

Maturing Woodland.  
Loss of ash through 'ash dieback'.  
Browsing by squirrels or rabbits.  
Goldenrod suppressing regeneration.

### Long term Objective (50 years+)

A broadleaf woodland that is rich in biodiversity, with a wide range of species present throughout the wood, a varied age structure and with no invasive species present. A wood edge habitat will be present along the fringes.

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

In this plan period 2015-2020 the woodland areas will continue to develop into mature woodland and be monitored for tree health.

- The Canadian goldenrod will be reduced in the north woodland area significantly by hand pulling/trimming/scything annually before seeding, from May to August every year of the plan period. (MAP REF A).
- The hazel area parallel to the railway to be coppiced by 30metres in length, north east of site (MAP REF A).
- Carry out tree inspections in Zone A woodland areas (beside railway and behind houses at Seymour Avenue), alternating summer/autumn inspections.

### 5.3 Informal Public Access

#### Description

There is network of approximately 4.5km of paths through Warren Farm which are wide and easily accessible.

Warren Farm is situated in Ewell Borough Council and borders Epsom council which has approximately 75,000 people living in the area. There are many public open spaces for walking, namely bordering Nonsuch Park (Epsom/Ewell council owned) where approximately 120 people visit daily.

Many circular walks are possible and much longer walks, including the London Loop connect through this well established network. The site is increasingly popular with casual walkers including people exercising dogs as well as people wishing to enjoy an area of relatively undisturbed open space.

The harder surfaced paths are suitable for people who are less-abled and who require wheeled access; cyclists, people with children in pushchairs, buggies and prams.

The perimeter path is around 2 km in length and the other paths make walks of several kilometres possible within the site.

#### Significance

Warren Farm provides an area of open space for recreation purposes in a built area. There is a good path network, welcoming signs and well-kept entrances all help to enhance the enjoyment of visitors and encourage the site's use by the public.

#### Opportunities & Constraints

##### Constraints

Unsociable use of the site - motor cycles, dog fouling and vandalism to signs and trees detracts the value of this site for informal public access.

##### Opportunities

As it is in a built up area, it provides an area for local people and for people from closer by (mainly from London) to use the site due to the transport links in place close to the site. The nearest train station is in Banstead that is less than 2km away.

Education and providing information on site to users regarding Canadian Golden Rod through interpretation on site.

#### Factors Causing Change

Fly tipping, Anti-social behaviour and fires.

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

Warren Farm should continue to offer the local residents and surrounding area with a well maintained site: path network, entrances and on site interpretation regarding management of the site.

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

During this plan period the short term objective is to provide a high quality experience for a range of pedestrian visitors which is safe and enjoyable. This will be achieved through the following prescriptions (MAP REF B);

- A renewal of signage at all entrances on site- 7 'welcome' signs;
- Renewal of post and rail at Seymour Avenue- 4 bays of post and rail with cutting back of vegetation at the same time;
- An A3 information panel with renewed poster board x2 at two locations; Seymour Avenue and entrance leading from Nonsuch Park;
- Annual management of approximately 4.5km of paths and all entrances, through two path cuts- May and August;
- Annual tree safety inspections of Zone A and every 3 years Zone B, alternating summer and autumn;
- Monitoring will take place within a month of upgrade of site and during this plan period to assess any threats occurring as result of public access improvements, e.g. anti-social activities.

## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
2012	LC - Fly Tipping	Clear up fly-tip within the wooded area on the northern part of the site.	10/02/12
2012	WC - Site Maintenance	Remove and safely dispose of tree shelters where applicable	31/05/12
2012	AW - Visitor Access Maintenance	First path cut as indicated on attached plan.	26/06/12
2012	AW - Visitor Access Maintenance	Second path cut. Full width to be cut.	28/08/12
2012	NWH - Maintenance Work	Cut all open areas indicated on EMC map and remove cuttings from site.	25/09/12
2013	AW - Visitor Access Maintenance	First path cut as indicated on attached plan.	26/06/13
2013	WMM - General Site Management	Cut back hedge that is growing through the fence on Seymour Avenue.	30/06/13
2013	AW - Visitor Access Maintenance	Second path cut. Full width to be cut.	28/08/13
2013	PE - Events - Contractor/Provider	To provide a deer spit roast for 90 people with rolls, salad, condiments and a vegi option. It will be cooked on British woodland charcoal, the deer will be Hampshire Roe, Fallow or Sika (shot and dressed by yourselves), all the salad will be British organic. Also to provide some bushcraft activities such as shelter building and fire lighting maybe some craft work for the children. The date for the event is saturday 27th July 2013. All work must adhere to our General Conditions of Contract Work, attached with this order. A full risk assessment for the event must be provided prior to any of the work taking place, which must include first aid provision.	13/09/13
2013	NWH - Maintenance Work	Cut all open areas indicated on EMC map and remove cuttings from site.	25/09/13
2013	AW - Visitor Access Maintenance	To replace the post and rail fencing along the Seymour Avenue entrance.	30/11/13
2014	AW - Visitor Access Maintenance	First path cut as indicated on attached plan.	26/06/14
2014	WMM - General Site Management	Cut back hedge that is growing through the fence on Seymour Avenue.	30/06/14



2014	WMM - General Site Management	Cut back hedge that is growing through the fence on Seymour Avenue.	30/06/14
2014	PE - Events - Contractor/Provider	To organise and run volunteering events to pull the goldenrod	31/07/14
2014	PE - Events - General	Bushcraft/goldenrod pulling events for local schools. Ask Suriuse Bushcraft to organise it all	31/07/14
2014	AW - Visitor Access Maintenance	Second path cut. Full width to be cut.	28/08/14
2014	WMM - General Site Management	Cut back hedge that is growing through the fence on Seymour Avenue.	30/08/14
2014	PE - Events - General	Cost for Hog Roast at a public Goldenrod pulling day to be held during the summer	13/09/14
2014	NWH - Maintenance Work	Cut all open areas indicated on EMC map.	25/09/14
2014	NWH - Maintenance Work	To remove the grass cuttings from the top field as previously discussed and pile them out of sight, within the woodland area.	30/11/14
2015	WC - Shelter Supply / Erection	Remove tree shelters - allow two man days plus disposal costs	31/03/15
2015	PE - Volunteer on site activity	80 Gloves for volunteer group at Warren Farm, small, medium and large. 3 first aid kits	30/04/15
2015	AW - Visitor Access Maintenance	First path cut as indicated on attached plan.	26/06/15
2015	CS - Ecological Survey & Assessment	Survey to include the following:  1. site visit x two days 2. plant survey of grassland areas at Warren Farm 3. prepare map showing areas supporting different grassland habitat types, including good quality grassland habitat 4. map showing areas where Canadian goldenrod is present at high density 5. report to include maps, assessment of grassland habitat types, recommendations for management including specifically control of Canadian goldenrod.	30/06/15

2015	CS - General Consultancy	Bird Survey/Botanical Survey of entire site 6 site visits	30/06/15
2015	PE - Events - General	Environmental Fair- Carshalton Stall for the Day.  EcoLocal Services Ltd The Old School House Mill Lane Carshalton Surrey SM5 2JY	31/07/15
2015	AW - Visitor Access Maintenance	Second path cut. Full width to be cut.	28/08/15
2015	NWH - Maintenance Work	Cut all open areas indicated on EMC map. Remove cuttings from chalk grassland area at eastern end of site.	25/09/15
2015	PE - Events - General	Leaflet for Warren Farm on volunteer activity.  Description: Warren Farm Volunteer Leaflets - 7252 (One Side) No. of Pages: 1 Finished Size: A4 - 297mm x 210mm Colours: Printed 4 colour process, single sided Paper: 130gsm Silk Art Repro: Compatible artwork supplied on disk/E-Mail/FTP Proofs: PDF proofs included Finishing: Trimmed to finished size Packing: Packed suitably Delivery: Standard service to 1 UK mainland address Quantity: 1000 £92.00 Schedule: To be agreed	30/09/15
2015	PE - Volunteer on site activity	Volunteer Task days two a month. 10.am to 1pm pulling Goldenrod in compartments 2a	30/09/15

2015	PE - Volunteer on site activity	<p>Experiment plots: 10 small scrapes (minimum 2m sq.) in compartments 7A, 7B and 8 to monitor re-colonisation of the flora.</p> <p>This work can be carried out by volunteers October- December 2015 with monitoring by M. Allison in plant survey 2016 onwards.</p> <p>These compartments have the highest density of goldenrod and can enable education to the public on through what recolonises here.</p> <p>Also a map of specialised plant species will be supplied by M. Allison on locations so the scrapes will avoid these sensitive areas.</p> <p>(MAP REF 3)</p>	18/12/15
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2015	PE - Volunteer on site activity	<p>The hazel area parallel to the railway to be coppiced by 30metres in length, north east of site (MAP REF A). JF to mark up and estimate volume removed from site- 5 stems.</p> <p>Nonsuch Vols to carry out coppicing of 5 hazel stools- marked with a pink dot. Stack the brash in a dead hedge at the rear of the compartment, not visible from the path Sycamore trees x 7, from approx. 10-15cmDBH, 5m height fell and stack into habitat piles at the rear of the compartment, not visible from the path.</p> <p>Carried out by Nonsuch Volunteer Group.</p> <p>Risk Assessment EA Certificates Insurance Hazard Report of Site</p> <p>Remove tree guards and litter where appropriate.</p> <p>Nonsuch Vols to give at least one weeks notice to carrying out work. Health and Safety precautions:  Posters detailing coppicing Boundary to be barrier taped Path closures where necessary</p>	31/12/15
2015	CS - Ecological Survey & Assessment	<p>Report on comparison of plant species and habitat differences from 1988 to 2015.</p> <p>Bird Survey: 6 visits between October and March to record wintering birds.</p>	31/12/15

## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	12.36	Open ground	1930	Non-wood habitat		Informal Public Access	
<p>The open ground makes up approximately 80% of the site. Within the open ground there are two distinct areas.</p> <p>1- This is the north eastern section whereby the invasive species Canadian goldenrod is low, comprising of mainly chalk grassland. The grassland species present on the site include pyramid orchid and kidney vetch. 20%</p> <p>2- This is the remaining open ground on site which where Canadian goldenrod is in abundance . 60%</p> <p>During the summer months, much of the area is covered in Canadian goldenrod, an invasive species that is outcompeting much of the native flora.</p>							
2a	9.10	other oak spp	1995	Min-intervention		Informal Public Access	Other
<p>A thick belt of planted native broadleaves extends around the northern and western boundaries with scrub encroaching from the edges. The tree belts were planted in 1995 and contain oak, ash, field maple and hazel and the scrub contains oak, hawthorn and sycamore together with suckering elm and blackthorn. There is a small clump of mature woodland towards the east side which has developed from an outgrown hedgerow.</p> <p>The western and southern edges have screens of scrub and trees that are gradually spreading into the compartment, but very slowly.</p>							

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## Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2016	2a	Coppice	0.50	100	50

## 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.