



Ladywell Woods

Management Plan 2019-2024

MANAGEMENT PLAN - CONTENTS PAGE

ITEM Page No.

Introduction

Plan review and updating

Woodland Management Approach

Summary

1.0 Site details

2.0 Site description

2.1 Summary Description

2.2 Extended Description

3.0 Public access information

3.1 Getting there

3.2 Access / Walks

4.0 Long term policy

5.0 Key Features

5.1 Informal Public Access

5.2 Long Established Woodland of Plantation Origin

6.0 Work Programme

Appendix 1: Compartment descriptions

Appendix 2: Harvesting operations (20 years)

Glossary

MAPS

Access

Conservation Features

Management

THE WOODLAND TRUST

INTRODUCTION

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

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

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

PLAN REVIEW AND UPDATING

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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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

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

WOODLAND MANAGEMENT APPROACH

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

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

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

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

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

The following guidelines help to direct our woodland management:

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

SUMMARY

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

1.0 SITE DETAILS

Site name:	Ladywell Woods
Location:	Livingston
Grid reference:	NT047684, OS 1:50,000 Sheet No. 65
Area:	8.28 hectares (20.46 acres)
Designations:	Long Established Woodland of Plantation Origin, Tree Preservation Order

2.0 SITE DESCRIPTION

2.1 Summary Description

Four separate wooded areas make up Ladywell woods, all are flat with a mix of pine and broadleaf trees and some open woodland. Informal paths link woods with local cycle and path networks. If you're lucky you may see squirrels here. Parking available locally.

2.2 Extended Description

Ladywell Woods form part of the Woodland Trust's holding in Livingston, West Lothian. There are 4 distinct woodland blocks totalling about eight hectares in Ladywell, north of Harrysmuir path and centred on Inveralmond High School. All of the blocks are adjacent to residential areas, roads or playing fields. The area is largely flat with an altitude of 130 - 140m above sea level.

The geology of the area comprises fine-grained basic igneous rock to the east and sedimentary rock from the Carboniferous period to the west. Soils are derived from a glacial till of carboniferous sedimentary sandstones and shale. They are generally brown forest soils with gleying, of the Rowanhill association and are characterised by slowly permeable clayey horizons at varying depths between 40 and 80cm. This results in seasonally waterlogged soils in the flattest areas. The climate of Livingston is described (by MLURI) as moist lowland and foothill with moderate exposure and moderate winters.

Almost all of the current woodland area is shown as woodland on the OS map of the 1860s and therefore these woods are classified as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory. However most of the area appears to have been felled and regenerated at least once since then, with only a small proportion of the canopy trees existing from around the start of the 20th century. The current woods are generally mixed plantations, comprising mature mixed broadleaves and Scots pine. In most of the woods there are significant areas which have been under planted with conifers (Scots pine, lodgepole pine, sitka spruce and larch). Elsewhere, broadleaves are regenerating naturally where there is sufficient light. Regenerating species include beech, rowan, downy birch, goat willow, sycamore and ash. Due to past management, including grazing as farm woodlands, many of these woods are not abundant with a great diversity of species typical of semi-natural woodland, but examples of ancient woodland indicator species can be found. Under dense conifers there is very little vegetation whilst in open glades brambles and grasses prevail. In areas of dappled light, ferns, such as broad buckler are common.

The conservation value of most of the woodland blocks is limited by their relatively small size and high edge effect, combined with the presence of a high proportion of recently established non-native species. The larger woodland blocks have greater potential for improvement when restored to natural broadleaf woodland. Unfortunately parts of this suffer regularly from litter, vandalism and fires. Despite disturbance and the visual impact of litter, the woodlands are still important for local biodiversity as they represent small reserves of more natural vegetation within the built environment. Larger mammals such as deer are no longer seen, but grey squirrels and a range of birds, smaller mammals and invertebrates can be expected to benefit from the woodland cover, as do a number of woodland and woodland edge plants.

The woodland belts are an important part of the infrastructure of Livingston providing screening and an attractive backdrop to the various residential developments. The belts also function as windbreaks and provide some barrier to noise.

The woodlands provide good opportunities for local recreation and contain a number of informal paths and desire lines accessed from entrance points which link to the tarmac complex of Livingston's paths and Greenways. A number of tarmac paths, including the Loan Path, also pass through or run along the edges of the various woodland blocks. There is no on-site parking but parking is available in adjacent streets.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

Ladywell Woods are located in the area of Ladywell on the northern side of Livingston, centred around Inveralmond High School. The three woodland blocks are generally accessible directly from the surrounding suburban roads and pavement network. There are numerous open entrances to each of the blocks and there is access to all areas of the woods.

Due to the layout of the woods, most routes are linear, but return routes are available on tarmac paths outwith the woodland boundaries and the paths link into a wider network of paths and Greenways throughout Livingston. A blaise-surfaced path runs through the middle of Block 21, but otherwise the paths are of a beaten earth nature, with several informal routes cutting through the woods near the school. The site is largely flat and there are some fairly muddy sections around the school.

There is no on-site parking, but parking is available in many surrounding suburban streets - there is access to all sites by floodlit tarmac pavements and Greenways.

Nearest public toilet: Carmondean Shopping Centre (Morrisons carpark), Deans, approximately 1.5km away - toilets suitable for the disabled (require a RADAR key) and open 24 hours.

Nearest bus stop: Information from Traveline Scotland website. Livingston North train station is also approximately 1.2km away along tarmac pavements & Greenways.

Further information about public transport is available from Traveline Scotland - www.travelinescotland.com

3.2 Access / Walks

4.0 LONG TERM POLICY

The woods will be managed as a sustainable natural resource to safeguard their public amenity and biodiversity value and in line with the Woodland Trust's corporate objectives of improving and enhancing biodiversity, encouraging public access and enhancing people's enjoyment of woodlands.

The long term intention is to maintain these woodlands as a diverse mix of species, including non-native conifers and broadleaves. This will be achieved through natural regeneration of species but also planting native broadleaves in gaps if needed to retain a suitable under storey.

Along housing and roadside boundaries the intention is to slowly convert woodland edges through small scale felling and thinning and replace edge trees with smaller stature species that reduce the conflict with neighbouring land uses. An increase in native tree species will help and support healthy ground flora communities and the retention of more standing and fallen deadwood will further improve the habitat for biodiversity and its potential for wildlife observation and educational use.

Livingston was developed with an extensive network of street lit, tarmac cycleways and footpaths, linking north to south and east to west. Many of the Trust's woods border these routes and this often reduces the need to improve internal woodland paths beyond their beaten earth standard.

Due to the woods location within the central belt and close proximity to large populations these woods can help us to raise awareness of the biodiversity, recreation and health benefits that woodlands provide.

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 Informal Public Access

Description

These are a very well used complex of woodlands close to the centre in Livingston. Internally there approximately 1.6km of surfaced and un surfaced paths with numerous access points. There is no on-site parking although parking is available in adjacent streets. The paths are generally straight through or cross routes that link directly onto the Greenway and pavement network of Livingston. These also provide access to long distance routes and provide for shorter circular routes using soft and surfaced paths.

Significance

The woods provide enjoyable woodland walks within an urban setting and are used by the local community for walking and running. The site provides a chance to promote access to a safe natural environment close to where people live. It forms an essential part of the local access network and provides a varied and alternative route as well as linking to longer distance routes.

Opportunities & Constraints

Opportunities - To further develop access facilities within the site responding to user demand. To further promote and use the woodland as an educational resource

Constraints - Linear nature of site constrains potential for circular routes within the site.

Factors Causing Change

Additional development of new housing adjacent to the site (2012).

New development/ fly tip already an issue.

Vandalism to signs, posts, benches and other site infrastructure & motorised access,
Paths edges growing in, reducing visibility and potentially resulting in personal safety concerns by users

Increase of public use

1) Senescing beech - The ongoing senescence of the large mature mainly beech trees which are such a feature in the West Lothian landscape and tend to be of a similar age. They are becoming increasingly vulnerable to storm damage and disease which is becoming a challenge to deal with in terms of tree safety and also maintenance of the treed landscape and is expected to become even worse in coming years.

2) Windblow - Most of the spruce and larch planted as part of LDC landscaping is reaching its terminal height at which it is vulnerable to windblow.

3) Chalara on ash. Ash is a frequent species and is well suited to the clay soils of West Lothian. Young trees already badly affected and some mature trees also. Removes one of the more suitable species for replanting.

4) Phytophthora ramorum. 2 SPNs already issued in the Livingston area and likely to spread.

5) Increased development - various schemes have / are being built and large new developments are currently being planned for north, SW and SE Livingston.

6) Squirrels, rabbits and roe deer are all present and likely to prevent trees developing into healthy, mature trees.

Long term Objective (50 years+)

To maintain and enhance public access for informal recreation.

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

During this plan period, the short term objective is to continue to provide public access at Ladywell wood which is safe and welcoming. This will be achieved by:

- Two path cuts annually (June and August) in all blocks where necessary
- Litter pick every month and pro-active fly tipping monitoring
- Litter pick events 4 times a year (2 with Inveralmond Community High School/ 2 community litter picks)
- Path upgrades of 1.5km of paths (2018/2019) and 6 entrances being improved (2020)
- Annual inspection of fences/paths and internal structures
- Regular tree safety inspections
- Street light pruning in blocks 21b (2018/2020/2022)

5.2 Long Established Woodland of Plantation Origin

Description

The woodlands LEPO status is confirmed by its existence on the 1860s OS. They are a significant feature within the local urban landscape and an attractive backdrop and screening for the various housing developments in the area. The woods are generally mixed plantations, comprising mature mixed broadleaves and mixed conifers. In most of the woods there are significant areas that have been under planted with conifers (Scots pine, lodgepole pine, sitka spruce and larch). Elsewhere, broadleaves are regenerating naturally where there is sufficient light.

Significance

The woodland is on the Ancient Woodland Inventory as LEPO and was present as woodland on OS maps from 1860. This indicates a relatively high biodiversity potential. The wood is also a significant feature of the local landscape and provides screening and shelter between housing developments.

Opportunities & Constraints

Opportunities

To improve the biodiversity value of the woodland and ground flora by continuing to convert areas dominated by conifers to broadleaves.

Constraints

Small scale of woodland and high 'edge effect'.

Factors Causing Change

Close proximity to housing/ Windblow/ pests and diseases/increasing squirrel damage/climate change/ development

Long term Objective (50 years+)

To create and maintain a diverse, mixed age and mixed species woodland habitat in perpetuity. Species composition will be mostly native though a proportion of conifers and non-native broadleaves will be accepted. Improvements to the canopy should help towards supporting a variety of ground flora communities.

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

To maintain the varied composition and structural diversity of the woodland. This will be achieved by minimum intervention in the majority of the wood.

- The impacts of deer, rabbits, squirrels and tree diseases will be monitored through the WT's woodland condition assessment process and monitored annually..
- Monitor garden waste/ dumping along boundaries in the woodland edge for increasing garden escapes across all blocks (hotspots) by removing waste and regular inspections every 2months of boundary inspections.
- Assess natural tree regeneration and browsing within open areas every 5 years when management plan is reviewed to ensure that native species are abundant or dominant and successfully establishing.
- Clear fell and clear windblow in compartments 22b(0.18ha)/ 21c (0.5ha) Sitka spruce, ash and larch (2020). Restock with native broadleaves, oak, rowan, hazel and cherry through a community tree planting event (through regeneration group).

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
------	--------------	-------------	--------

APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
21a	0.65	Beech	1900	Min-intervention		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Newyearfield Wood' at the south west corner and separated from the rest of the cpt by Kingfisher Brae, the stand is closely bordered to east and west by housing. Mixed mature woodland dominated by Scots pine in the north and beech to the south. The understory comprises beech, rowan, Scots pine with occasional willow and ash to the south. Ground flora is dominated with brambles to the north but under the open beech canopy, a healthy vegetation dominated by heather has established.</p>							
21b	1.24	Scots pine	1970	Min-intervention		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Newyearfield Wood' Stand of scattered mature Scots pine and oak that has Kingfisher Brae to the south west separating it from sub-compartment 2b, a narrow strip of open land to the south and housing to the north with woodland to its east. The understorey is underplanted Sitka spruce and regenerating birch, beech and sycamore which is now starting to emerge through the mature canopy. Ground flora of soft grasses, brambles and ferns. Deadwood in fallen trees and in the mature canopy.</p>							
21c	2.90	Birch (downy/silver)	1970	High forest		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Newyearfield Wood' is now bordered to the north by new housing (2013) and to the east by Inveralmond High School's surfaced football pitches. Comprises of thicket stage downy birch with sitka spruce and lodgepole pine, sycamore, rowan and goat willow and occasional scattered overmature scots pine. Some of the birch appears to be of coppice origin. The ground flora is mixed with ferns, brambles and mosses.</p>							

21d	0.82	Scots pine	1900	Min-intervention		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Newyearfield Wood' forming the south east leg this stand of mature Scots pine and mixed broadleaves acts as a shelterbelt between open playing fields to the west and Inveralmond school to the east, it also borders housing to the south. The mature broadleaves comprise sycamore, beech and oak. The understorey comprises of birch, rowan, willow, sycamore, beech, oak and ash. Ground flora is soft grasses and brambles were there is enough light.</p>							
21e	0.92	Beech	1900	Min-intervention		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Windmill Wood' Stand of mature trees, beech, Scots pine and oak. Sub-canopy of beech, ash, rowan, and Scots pine with occassonal sitka spruce. Ground flora is sparse under beech canopy but where there is sufficient light, ferns, brambles, nettles and soft grasses survive. The wood is bordered to the north by housing (Dunlin Brae & Plover Brae), south east by housing (Falcon Brae) and open parkland, and to the west by Alderstone Road.</p>							
22a	1.57	Mixed broadleaves	1950	Min-intervention		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>'Ladywell Wood' Situated to the north east is an interestingly varied mature mixed woodland comprising a few Scots pine with mixed broadleaves (mostly ash and sycamore with beech, lime and horse chestnut)). To the south are school playing fields with roads on the north and east boundary. New housing now lies to the west. There is good natural regeneration of ash, beech, sycamore and rowan in occasional gaps. The ground flora is dominated by brambles, grasses and ferns. There is one small patch of rhododendron that is gradually being eradicated.</p>							
22b	0.18	Sitka spruce	1940	High forest		Informal Public Access, Long Established Woodland of Plantation Origin	
<p>Isolated small mixed woodland bounded by housing and roads, adjacent to the Moss Interchange. Mature canopy of sitka spruce, sycamore and ash with no understorey and a ground flora dominated by brambles.</p>							

--

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	21c	Selective Fell	2.89	52	150
2020	22b	Clear Fell	0.18	278	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.