

Knolls Wood

Management Plan 2023 – 2028



Knolls Wood

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Knolls Wood

1. Introduction

1.1 Purpose of the Management Plan

This management plan is not prescriptive or binding on interested parties but aims to set the framework for co-ordinated management and the development of partnerships. In this way, the plan is intended to enhance the site and serves to inform existing and future management documents and plans relating to the area.

This plan sets out management proposals for Knolls Wood (KW) over the five-year period 2023-2028 and replaces two separate previous site management plans produced in 2003 and 2013. The plan provides a framework for the proactive management of the site, helping to ensure that its special qualities are maximised for the benefit of the local area and are sustained and preserved for the benefit of future generations.

1.2 Vision, Aims and Links

Knolls Wood also acts as an important link and green space in the landscape of the countryside fringe around Leighton-Linslade and Heath and Reach. The site is situated on the west side of a small valley on the north side of Leighton Buzzard. It is surrounded in the east, south and west by housing. The north is bounded by Sandy Lane, beyond which is Leighton Buzzard Golf Course.

Knolls Wood sits in a surrounding network of green spaces, nature reserves and access routes including the Ouzel Valley Park, Linslade and Bluebell Wood and Rushmere Park.

Central Bedfordshire Council (CBC), Leighton-Linslade Town Council (LLTC), The Greensand Trust (GST) and other partners have been seeking to develop schemes to improve and increase open space and opportunities for access and biodiversity within the area. A major contribution towards this has been the creation of the Ouzel Valley Park, Riverside Walk and the development of Rushmere Park. All of these make provision and offer significant opportunities for the development of both formal and informal green infrastructure projects in the medium to long term.

In particular, this plan aims to:

- **Establish an overall vision for the long-term future of the site that preserves the special qualities, including wildlife diversity and landscape values particular to the site.**
- **Identifies opportunities for positive management, along with other interested parties and individuals which will enhance the special qualities of the site.**
- **Provide guidance that will lead to an increased understanding, respect and care for the site.**

- **Conserve open space and improve the site's amenity and informal recreational value for the benefit of the local and wider community.**
- **Foster local interest and community support in safeguarding the site.**

1.3 Guiding Principles for Management

The guiding principles for Knolls Wood are set out below:

Area of work	Aims
Historic landscape and character	The management aims to conserve and enhance the site in a way that will be sympathetic and in keeping with its rural character and landscape.
Safety	Public safety will always be the most important factor guiding management objectives. All equipment, buildings, trees and fences etc will be regularly checked and maintained.
Biodiversity	The management policy is to encourage wildlife and to enhance the value of Knolls Wood for nature conservation wherever possible.
Environmental Management: EMAS	CBC is committed to achieve continuous environmental improvements in all their activities and services and have adopted a formal environmental management system.
Green Flag Community Award	A nationally recognised award that recognises high quality green spaces in England and Wales that are managed by voluntary and community groups.
Countryside and Rights of Way Act (CROW)	This Act provides a new right of public access on foot to areas of open land. The Act also provides safeguards which take into account the needs of landowners and occupiers and of other interests, including wildlife.

1.4 Contact Information

Site Management:

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Community Involvement and Ecology:

Steve Halton Tel: 0300 300 6135

Email: steve.halton@centralbedfordshire.gov.uk

Both at:

Central Bedfordshire Council

Countryside Access Service

Priory House

Monks Walk

Chicksands

Shefford

SG17 5TQ

Other

The Greensand Trust

Tel: 01525 234260

Rushmere Country Park

Linslade Road

Heath and Reach

Leighton Buzzard

LU7 0EB

2. General Information

2.1 Knolls Wood: description and location

Site	Knolls Wood, Leighton Buzzard, Bedfordshire.
Map	Landranger 165, OS 1:25,000 192
Grid Ref	SP922270
Ownership	Central Bedfordshire Council (CBC).
Tenure	Freehold
Area	3ha (7.4 acres)
Climate	Due to the nature of woodland the site is cooler and more humid.
Soils	Free draining, slightly acid soils.
Geology	Sandstone (Woburn Sands formation) with small areas of Head – silt, and clay deposits.

Status Situated in an area designated as of Great Landscape Value (GLV) and covered by the Leighton Buzzard Urban District Council (The Knolls) Tree Preservation Order No. 1, 1953.

Knolls Wood is an area of mixed ornamental woodland on Greensand soils (a light, well drained acid sand), planted on former heathland during the 1800's. It is notable for its avenue of monkey puzzle trees (*Araucaria araucana*) and a range of other specimen trees including redwoods (*Sequoia* sp.) and Wellingtonias or Giant sequoia (*Sequoiadendron giganteum*), Scots pine (*Pinus sylvestris*), Yews (*Taxus baccata*), large Beech trees (*Fagus sylvatica*), various oaks, chestnuts, firs and pines (See Appendix 8.7). On the higher ground to the west of the site the species diversity of trees is mainly composed of conifers. Although there is no noticeable planting scheme of specimen trees, the conifers gradually grade out down the slope into a more deciduous wood. In some areas of the site woodland regeneration is very obvious. Towards the north end sycamore (*Acer pseudoplatanus*) is dominant.

Because of its lack of woodland management, many of the more invasive tree and shrub species have overrun the site, creating a sparse understorey in places. In other areas, particularly towards the valley bottom, woodland plants (bluebells mainly) are common. Rhododendron is abundant on the higher slopes, presumably originally planted as the old driveway edge. Some of the growth is hindered by soil erosion.

There is no particular known wildlife of any interest, although it is recommended that specific wildlife surveys are undertaken to ascertain what is present. Badgers have been seen (an old sett is known but is not currently in use) and muntjac are common. Grey squirrels thrive in large numbers in the wood. The lack of a well-developed understorey that is used for cover and nesting may be affecting the birds and small mammal populations. Some more typical woodland bird species are present eg., Great Spotted Woodpecker, Jay, Nuthatch, finches, warblers etc.

The area is of mixed conservation value with both native and introduced species providing an interesting and varied woodland.

2.2 Facilities and activities

Knolls Wood is a natural place for quiet enjoyment and walks. There is an active 'Friends' volunteer group who help CBC manage the site with practical management work, walks and other activities.

2.3 Recorded history

In the 16th Century the whole area formed part of an extensive tract of uncultivated heathland which stretched from western Heath and Reach to northern Leighton Buzzard. In 1844 the Enclosure Act was passed to divide the heath up into plots. John Dollin Bassett, a prominent local Quaker and

banker, purchased about 60 acres of an area including what is now known as Knolls Wood, Redwood Glade and similar land on the other side of Plantation Road. In the autumn of 1844 Bassett then set out to create a woodland on his land by planting a selection of Scots Pine, Larch and hardwoods including Oak, Chestnut, Beech, Ash, Birch etc. As a result of their success he then began to cultivate exotic and ornamental trees. By 1871, 250 different species were recorded here.

Many of the larger trees in the woods today date from the original plantings in the 1840's.

The woodland area continued to stay privately owned and in the latter part of the 19th Century the house known as "The Knolls" was built. In a sale catalogue of 1918 the grounds belonging to The Knolls were described as 'pleasure grounds and woodlands, containing a unique collection of specimen non-deciduous trees and shrubs, the whole extending to nearly 33.3 acres'. (County Records Office ref: AD1147/86).

Part of the wood has since been built on forming Redwood Glade and in the early 1980's, after several campaigns by local residents the woods were bought into public ownership and have been safeguarded as an amenity and historically important woodland.

More recently in the 1980's and 90's a lot of work has been done to take out many of the old, dead and unwanted trees and replace them with new ones. There has also been an attempt to remove some of the invasive scrub species and create glades but the work was not maintained and they have re-grown and now need management.

This site boasts some of the largest trees in the eastern counties; Alan Mitchell, a leading UK authority on trees, measured a Silver Fir 126ft high and a Redwood 105ft high by 17ft 2in circumference. The Redwoods here are possibly from the first importations of stock.

2.4 Land tenure

Knolls Wood is owned by Central Bedfordshire Council and is managed by the Countryside Access Service for its biodiversity and access. The site is managed in partnership with the Greensand Trust.

3. Access, Recreation and Education

3.1 Access and interpretation

There is a more or less circular walk around the woods, but there are no official Rights of Way. Trampling over the rest of the site is a problem and is causing erosion in some areas. At the current time use of the site is mainly by local residents who use the site for quiet enjoyment, dog walking, exercise and watching the wildlife. Dog walkers appear to be the main user group. Recently it is thought that bicycles and horses have used the site even though there are no bridleways or cycle tracks through the wood. The Sandy Lane entrance used to have a gate to keep out bikes and horses but now it has

gone allowing free access. There are two dog bins and an interpretation panel here. There is also an entrance off of Plantation Road allowing direct access onto the road itself, there is also a dog bin and interpretation panel here as well.

As with all countryside sites, Knolls Wood experienced extremely high visitor numbers during the pandemic between 2020 – 2021, the lower woodland path particularly suffered due to high footfall and as a result the paths and surrounding areas were trampled and made very muddy. The wood has mostly recovered since visitor numbers dropped back to normal though the bluebells may take longer to recover at the path edges.

The Friends of Knolls Wood conducted a visitor survey on Sunday 14th August 2022 between 7am and 7pm. This was a very useful exercise for both data gathering and raising the profile of the Friends group. A leaflet was handed out and surveys filled in with 192 people using Sandy Lane and 90 people entering the wood. Feedback centered around people being keen to maintain the level of naturalness rather than allowing over management to bring a more urban park aspect to the area.

There are currently interpretation signs at the Sandy Lane and Plantation Road entrances, these display maps of the woods and relevant notices.

Objectives

- Development and improvement of new 'Gateway' entrance from Plantation Road at existing entrance.
- Maintain/ improve barrier shrubs along Monkey Puzzle Avenue
- Maintain/ improve footpath network, limit erosion and cut back areas where nettles encroach onto paths and at site entrances.

By helping local people and communities to understand and appreciate the site and its wildlife, a greater awareness of its uniqueness and the need for its management will become apparent.

The Plantation Road entrance to the wood is currently of poor quality. Providing better entrances with better safety barriers will make it more obvious that the wood is being looked after and will enhance public appreciation of the site.

It is important to remember to balance the needs of wildlife and visitors.

3.2 Recreation

There is no formal recreation at this site – usage is casual and of a quiet nature and should be encouraged to remain this way. Dog walkers are the main users of the site.

3.3 Education and awareness raising

The site has some limited potential for development as an educational resource for use by local schools and community groups, and as a demonstration site for woodland management. It also has heritage value and as a site for specimen trees.

A local group, the Friends of Knolls Wood, are an active Friends group and very involved with the management of the wood and help CBC and GST to look after the wood. They carry out practical work with regular planned Action Days and anything else that may be required to help manage the site and get more of the community involved. Getting more of the local community involved would ensure that there is a means of communication and any problems may be dealt with quickly. Having a local presence may also help prevent any vandalism and assist people to use the site appropriately. This management plan is part of the consultation process helping to involve local people with the management of Knolls Wood.

The local schools use the wood for education and recreation. Education packs, nature walks and school adoption schemes are all possible projects to be considered to increase engagement with and understanding of the woodland.

Targets for further engagement should include:

- Local schools/people/other community groups
- Volunteer work parties
- Friends of Knolls Wood
- Societies such the Bedfordshire Natural History Society (BNHS) and the Tree Register etc.

The FKW have their own objectives as an association, these are concurrent with both CBC and the GST.

Methods

- Organise walks and other interpretative events for the local community.
- Involve local people in volunteer work parties, species monitoring, general site wardening and reporting of problems.
- Develop the site as an educational resource by involving local schools, colleges, community groups etc., and produce packs and information for schools to use.
- To ensure that access is regulated and that appropriate mechanisms are in place to deal with abuses.
- Use interpretation boards/leaflets as a means of event promotion.

3.4 Boundaries

The site has three main boundaries, Plantation Road, Sandy Lane Public Bridleway and residential properties of Redwood Glade, Heath Park Road and Copper Beech Way. Redwood Glade runs through the middle of the

woodland. There are no major issues with encroachment though occasionally garden waste is fly-tipped in the woods.

3.5 Amenities

There are no amenities at this site and, due to the nature of the site, it is considered best to leave the site as it is. Some appropriate seating should be considered at a couple of locations, bearing in mind that seating may attract additional vandalism and littering.

4. Environmental Information

Knolls Wood is owned by CBC and is managed in partnership with The Greensand Trust who care for the site on a day-to-day basis via their Ranger Service.

Overall Management Aims: To manage the woodland appropriately to maintain and enhance its nature conservation interest and to manage and promote public awareness and access across the site.

4.1 Soils and Geology

Knolls Wood lies on a geology of Woburn Sands Formation Sandstone overlain by Head acidic soils with various deposits of silt, sand and clay.

4.2 Wildlife and Habitat

Knolls Wood is an area of mixed ornamental secondary woodland situated on Greensand soils (a light, well drained acid sand).

Aims

To maintain and enhance the overall appearance of the site, reflecting its history, heritage, location, amenity and potential education value. The main focus of the management will be preserving the key specimen trees while enhancing the rest of the woodland around them.

Objectives

- Management/ removal of invasive trees and shrubs (mainly sycamore, rhododendron and holly) while retaining the mix of species, ages and cover.
- Management and improvement of ground flora and shrub layer through creating glades and opening up areas of the canopy to let in more light.
- Replanting of dead/dying specimen trees.
- Manage and improve the surviving relict hedges around the site through laying, cutting and gapping up.
- Creation of small habitats throughout the area using dead wood piles and glades.
- Bird and bat boxes to be managed and occasionally replaced.

- Monitor dumping of garden waste into the wood.

5. Site Management Related Issues

5.1 Site Maintenance

The site is maintained in accordance with a general site maintenance framework to ensure that high standards of maintenance occur throughout the area and operate in accordance to 'Best Value' guidelines as agreed by all partners. Most management and maintenance work is undertaken by the Greensand Trust on behalf of CBC.

Any works and materials associated with the management of Knolls Wood and its promotion should, where appropriate, be in accordance with CBC's Environmental Policy (copy attached) and should, where applicable, fully comply with the environmental aims and principles described, thereby supporting and assisting the Council with its goal to achieve EMAS (Eco Management and Audit Scheme) certification.

All working methods, equipment, materials and consumables used in the management of Knolls Wood must, wherever feasible, be those that minimise environmental damage. The use of chemicals such as herbicides should be avoided or at the very least minimized. If this is not possible then care must be taken to ensure that treatments involve substances and methods that are likely to involve the least environmental risk.

5.2 Safety and Security

There should be a tree safety inspection carried out at least every three years and all trees over 300mm at 1.3m from ground level should be recorded, assessed and tagged for future reference.

5.3 Byelaws

None

5.4 Litter

There are no litter bins and the site has few litter issues; any litter is removed by Rangers and the FKW. However, the site does have occasional issues with garden waste being dumped onto the site from neighbouring gardens and this could be addressed through leaflets, positive publicity campaigns and letters to the offending householders.

5.5 Dog Ownership

Dogs are allowed on site but should be on a lead and/or under control at all times. Dog mess is an issue and all dog mess should be bagged, removed from site and responsibly disposed of. Two dog bins are already provided on

the site but it is felt that a positive publicity campaign aimed at reducing dog mess and encouraging responsible dog ownership should be instigated resulting in a responsible dog walkers plan.

6. Site Management

6.1 Management for Biodiversity

The primary concern for Knolls Wood is to manage the site for its wildlife and habitat (biodiversity) features, ornamental trees and other features. The site forms a key link in a local network of habitats and green spaces which extends from Leighton-Linslade to Rushmere and beyond.

Below are the management objectives and methods for the main Knolls Wood habitat types.

6.2 Woodland, Tree and Hedgerow Management

Because of its history and unusual tree specimens, Knolls Wood is an interesting and valuable asset to the local area. It is a mixed wood and as such supports a range of flora and fauna. However, currently the wood is distinctly deficient in some areas. The size of the wood is quite small and elongated and this imposes an obvious limit on the scale of management work that can be done.

Because of the lack of management the wood has become overrun although it has good range of mixed age of trees. Some species such as sycamore (*Acer pseudoplatanus*), Rhododendron (*Rhododendron ponticum*) and Bramble (*Rubus fruticosus*) and Holly (*Ilex aquifolium*) are very invasive and shade out the ground flora and any other species that are trying to grow. This is evident where there are large areas of bare ground under the canopy where nothing grows, and surrounding small Monkey puzzle (*Araucaria araucana*) trees, bramble that is as tall as the saplings.

Other species regenerating include Birch (*Betula sp.*), Rowan (*Sorbus aucuparia*) and Elm (*Ulmus sp.*) Removal of some of the young trees and scrub or branches of some of the larger trees can open up the canopy, let in more light and create small glades. Bluebells (*Endymion non-scripta*) and other typical wood species eg., Lords and Ladies (*Arum maculatum*), Lesser Celandine (*Ranunculus ficaria*) and in the drier areas Bracken (*Pteridium aquilinum*) grow to varying degrees in the wood in spring. This is a very attractive feature and adds considerably to the biodiversity and should be maintained as an interesting natural characteristic. A glade was created several years ago by cutting and raking the bramble in October with the intention that the growth of grass and other grassland species would be promoted. Unfortunately this was not kept up and the bramble quickly grew back. Bracken is another early coloniser in cleared glades so monitoring will have to be done regularly and remedial action taken, if needed, to avoid a complete domination of the area. It is likely that the seed bank may also need to be exposed by small scale scarifying or raking. If this does not work then

the sowing of a seed mixture or planting native species plugs may be required.

Some work has already been done in the wood on the creation of glades, as can be seen from the stumps of felled trees. A limited amount of coppicing has occurred on a long term rotation to some Oak (*Quercus petraea*), Sweet chestnut (*Castanea sativa*), Birch (*Betula sp.*) and Hazel (*Corylus avellana*). If continued, this form of management will be beneficial to the wood itself by keeping a mix of ages and to the lower ground layers by promoting growth. The shrub layer across much of the site is generally species poor. Once the canopy has been opened, and light levels increased, the need for the planting of a new shrub layer in certain areas may become easier and some shrubs should appear as self-sown plants. As opposed to the other main shrubs present (sycamore, rhododendron) it would be advisable to plant native species that are more appropriate, for example Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*) both of which are beneficial to wildlife. Holly (*Ilex aquifolium*) is also a good species, providing food and cover but it may need some control to prevent it from dominating the understorey.

In areas that are dominated by stands of conifers, as opposed to individual trees, the ground flora may be more difficult to establish, due to the acid litter smothering the ground. If these areas are considered too large and the trees can be thinned without a problem, removal of the needle layer would be the beneficial.

The wood holds a large number of mature broadleaf and conifer trees. Some of these are exceptional specimens in the local area eg., the two Golden chestnuts (*Chrysopsis chrysophylla*) and the one surviving Sequoia. All attempts should be made to conserve and display them as fine examples mainly for the interest for the public. (The site is covered by a blanket Tree Preservation Order (TPO), so no major work can be undertaken on the trees without the consent of CBC). The old trees also provide good microhabitats for a range of biodiversity.

One foreseeable problem is that many of the trees have reached or are reaching maturity. This means that they could potentially become dangerous as they start to die off (dropping branches, falling, splitting or general decay). These potential hazards must be reported to CBC for a tree surgeon to assess them and carry out any work that needs to be done. The recommended triennial tree assessment, mentioned in section 5.2 above, should help to avoid problems arising. In terms of the specimen trees it may mean that certain species will disappear from the wood if they are in low numbers. To combat this, a replanting scheme may be considered necessary. There have already been attempts to cultivate a few of the specimen trees with mixed success. Careful consideration should be given to the source of the new trees. Any new trees will have to be guarded, though some young monkey puzzle trees seemed to have survived without protection.

Although not always welcome, Rhododendron and bramble should be encouraged along the side of the monkey puzzle avenue to create a boundary

screen – this may involve considerable management, especially around the specimen trees. Plantings of other native species should be encouraged wherever possible - this would remove the need for fencing which would be an additional cost and more time consuming and also provides cover for birds and invertebrates.

It is important to keep a mosaic of habitats and microhabitats in the wood. Currently, there is a fairly good variety including tree stumps, rotting logs and branches, dead and dying branches on trees, banks, wetter areas, hedges, several different width paths, glades and leaf litter. Garden rubbish that is dumped is causing a slight problem by adding nutrients to the soil and transferring unwanted non-native seeds and weeds to the wood. Householders should be encouraged to stop doing this through a positive publicity campaign.

On two sides of the wood, by Sandy Lane along the north and backing on to the houses along the east side, there is a relict hedge which should be retained. The hedge along Sandy Lane is mainly comprised of holly, beech and privet, while the eastern boundary hedge is hawthorn. Both are gappy and in need of some management and gapping up with appropriate species.

Laying, coppicing or gapping up should be considered as options. The hedge along Sandy Lane is a very attractive feature as it overhangs the path and creates an overhead arch – there are nice views when looking down or up the lane and these features should be retained.

To stop erosion in the wood, which can be a problem on sandy soils, it is necessary to improve the footpaths around the site. The best solution would be to create a more or less circular walk from the monkey puzzle avenue down to the most established existing path in the wood itself. One current issue is that desire line paths have been created in inappropriate areas. This has resulted in the ground flora, (what little exists) being trampled and degraded. Efforts should be made to restore the desire lines by blocking off and replanting/reseeding with appropriate species.

Some of the well-used paths, and the entrances, have extensive areas of stinging nettles; whilst good for biodiversity these areas may benefit from a cutting back and/or removal of the nettles to create a more welcoming approach. However any nettles growing away from these key areas should be left and encouraged to grow as a wildlife resource.

Objective	Method
Trees	Selective thinning or coppicing of regenerating trees, especially sycamore and birch. Certain areas should be targeted while others should be left to retain the age mix. Other key species eg., the monkey puzzles may be left to natural regeneration - if this is not successful

	they may have to be planted.
Scrub	<p>Removal of some of the older, over grown holly and rhododendron is required. Reduce rhododendron cover to smaller stands within the wood, aiming to reduce cover in the first year then after, at the very least, to prevent further spreading. A margin along the monkey puzzle avenue should be kept as a screen to the path but must be strictly managed. Cut the rhododendron with hand tools, chainsaw and clearing saw as appropriate. Possibly treat stumps and regrowth with appropriate pesticide if needed. Clearance should be carried out first around trees that are in danger of becoming swamped eg., the young monkey puzzles by the avenue.</p>
Ground flora and shrub layer.	<p>This can be done as an extension to 'Trees' (above). After thinning/ clearance the canopy should be more open and the rhododendron under control promoting the growth of the lower shrub layers. Additionally, unwanted species such as bramble and bracken should be cut back using either hand tools or a brushcutter. Promoting glades as a small habitat can be done at this time. The work should be done regularly as growth is vigorous, at least once a year in autumn/winter and maybe in summer as well.</p> <p>If the clearance work does not promote the understorey regrowth, a planting scheme may have to be used. The main aim would be to increase the diversity as much as possible. With the ground flora a wild seed mix or native species plugs could be used and species such as hawthorn and blackthorn should be planted. The layout for the planting will have to be considered carefully and any new planting either guarded or fenced off.</p>

	<p>Bluebells are already present in the woods in abundance and any clearance of scrub should centre on the areas where these (and other) plants are already present in order to allow them to spread.</p> <p>The rides along the monkey puzzle avenue should also follow management as glades with several cuttings a year but the vegetation should be 'zoned', so that the 1m next to the path will be cut more regularly than the vegetation further away to achieve a grading from the path to the wood edge.</p>
Specimen trees.	Consult with CBC to ascertain which are the main trees of concern and what can be done about them ie; propagation, surgery, replanting etc.
Hedges	The hedges on the boundary are in some places a bit patchy. Initially a proper survey should be done to determine species and condition. Any gaps in the hedge will have to be replanted with the appropriate, native species. New trees to be guarded initially. Consider hedgelaying as part of future hedgerow management.
Small habitat creation	See also section above for glade and ride management. Consider leaving wood that is felled in small habitat piles and/or as standing dead timber.
Bird and bat boxes	At present there are some bird boxes on site, more could be added. They should be made to standard size and specifications. The sponsoring, production and positioning could be done by local volunteers (FKW) and/or school groups.
Garden rubbish	Identification of the 'hotspots' is needed. This can be done by the volunteer rangers and/or site ranger. A positive leaflet should be distributed as soon as possible to the local residents informing them of the problems associated with dumping of garden waste and monitored for future issues.

Tree Survey	Carry out an accurate survey of all the specimen trees in the wood, noting position and condition at least once every three years. Survey and tag all trees over 300mm at 1.3m. This to be undertaken by external contractors.
Entrance area to Redwood Glade	Either side of the road into Redwood Glade to be made more attractive by managing the brambles and the planting of native species. Reduce and control nettles where necessary.

7. Five-Year Plan and Work Programme

7.1 Lead Partner Roles

Item	Works	Lead Partners
Entrances	Maintain/replace/improve as necessary	CBC/GST
Fencing	Maintain/replace/improve as necessary	CBC/GST
Bench	Maintain/replace/improve as necessary	CBC/GST
Interpretation Board	Maintain/replace/improve as necessary	CBC/GST
Trees	Maintain as necessary	CBC/GST
Scrub encroachment	Reduce and maintain	GST
Grassland	Maintain as necessary – cuts, scrub removal, informal paths upkeep.	GST/Friends
Hedgerows	Maintain and develop	GST
Nature conservation	Monitor/maintain and improve wildlife habitats	CBC/GST
Regular monitoring of site	Monitoring	GST
Friends group	Support/liaison and advice to group	CBC/GST
Insurance	Public liability as appropriate	CBC/GST
Reviewing and updating the Management Plan	Lead responsibility	CBC
Reviewing annual budget	Joint responsibility	CBC/GST

7.2 Management Schedule 2023 – 2028

Action	Year						Who
	2023	2024	2025	2026	2027	2028	

Carry out tree survey at least every three years		x			x		CBC
Commission and carry out visitor survey – repeat every 5 years			x				CBC/GST/ FKW
Update and produce new leaflet		x	x				CBC/GST
Review and consultation on management plan 2029 - 2034						x	CBC

7.3 Vegetation and Wildlife Management 2023 – 2028

(See also Section 6, above)

Action	Year						Who
	2023	2024	2025	2026	2027	2028	
Woodland							
Maintain tree species mix through selective thinning		x		x		x	CBC/GST
Removal and reduction of over-mature holly and <i>rhododendron</i> cover		x		x		x	GST/Friends
Creation of small glades			x			x	GST/Friends
Control of bramble and bracken, where necessary	x		x			x	GST/Friends
Survey and gapping up of hedges. Consider hedgelaying.		x	x			x	GST/Friends
Encourage fungi surveys		x		x			GST
Encourage Bryophyte surveys		x		x			GST
Erection of bird and bat boxes		x			x		GST/Friends

7.4 Access and Interpretation

By helping local people and communities to understand and appreciate the site and its wildlife, a greater awareness of its uniqueness and the need for management will become apparent.

The entrances to the wood have recently been improved although the Plantation Road entrance should be considered for further improvements. Providing better entrances with interpretation boards and a better managed space will make it more obvious that the wood is being looked after and will enhance public appreciation of the site.

Objectives	Method
Removal of monkey puzzle fence	Ongoing. The vegetation will be managed into creating a barrier instead.
Monkey puzzle avenue shrub barrier	<p>This is linked to the management above. The rhododendron should be kept along the edge of the avenue but in a controlled way. Unwanted stands to be removed by cutting and treating (as already mentioned).</p> <p>The path along the avenue is very wide in places and quite open. This is good for plants and invertebrates. Any scrub invasion in these areas to be removed, especially bramble. Cutting by hand or brushcutter is the best method but should be done twice a year minimum (or as needed). The edge of the path should be scalloped to create an attractive view.</p>
Path network, limit erosion	Improve the footpath network around the site. If the circular route is found to be adequate, take measures to block up other unwanted paths. This will help to prevent more erosion. Felled trees could always be used as path edges or blocks. This will encourage people not to leave the path.
Produce a leaflet for the site and update as necessary.	Consider producing a site leaflet - funding will be needed and also consider producing as a downloadable PDF. Involve the Friends in the leaflet production.

8. Constraints

Financial constraints will always affect how much work can be done in the woods, public safety will always be a priority but conservation of this special place must be taken into consideration. Working closely with The Greensand Trust and the Friends of Knolls Wood will be essential in looking after the woods and volunteers are an essential part of its future. External funding should be sought whenever possible.

9. Research and Monitoring

9.1 Visitor Numbers

It is important that the general number of visitors using the wood can be monitored, so that action can be taken if required to manage any pressure on the site.

9.2 Photography

Before and after photographs should be taken whenever management work is undertaken in the woodland. Fixed point photographs are very useful when recording changes in vegetation structure and communities.

9.3 Management of Localised Species

It is unknown exactly what species occur in the wood and therefore if there are any of interest. If any are found these species may require specialised management to create appropriate habitat conditions to enable them to survive and increase in numbers.

9.4 Biological survey and monitoring

9.4.1 Carry out regular plant, fungi and bryophyte surveys of the woodland to monitor changes in the plant community.

9.4.2 Survey specimen trees occasionally to monitor changes.

9.4.3 Carry out regular bird and bat surveys of the site.

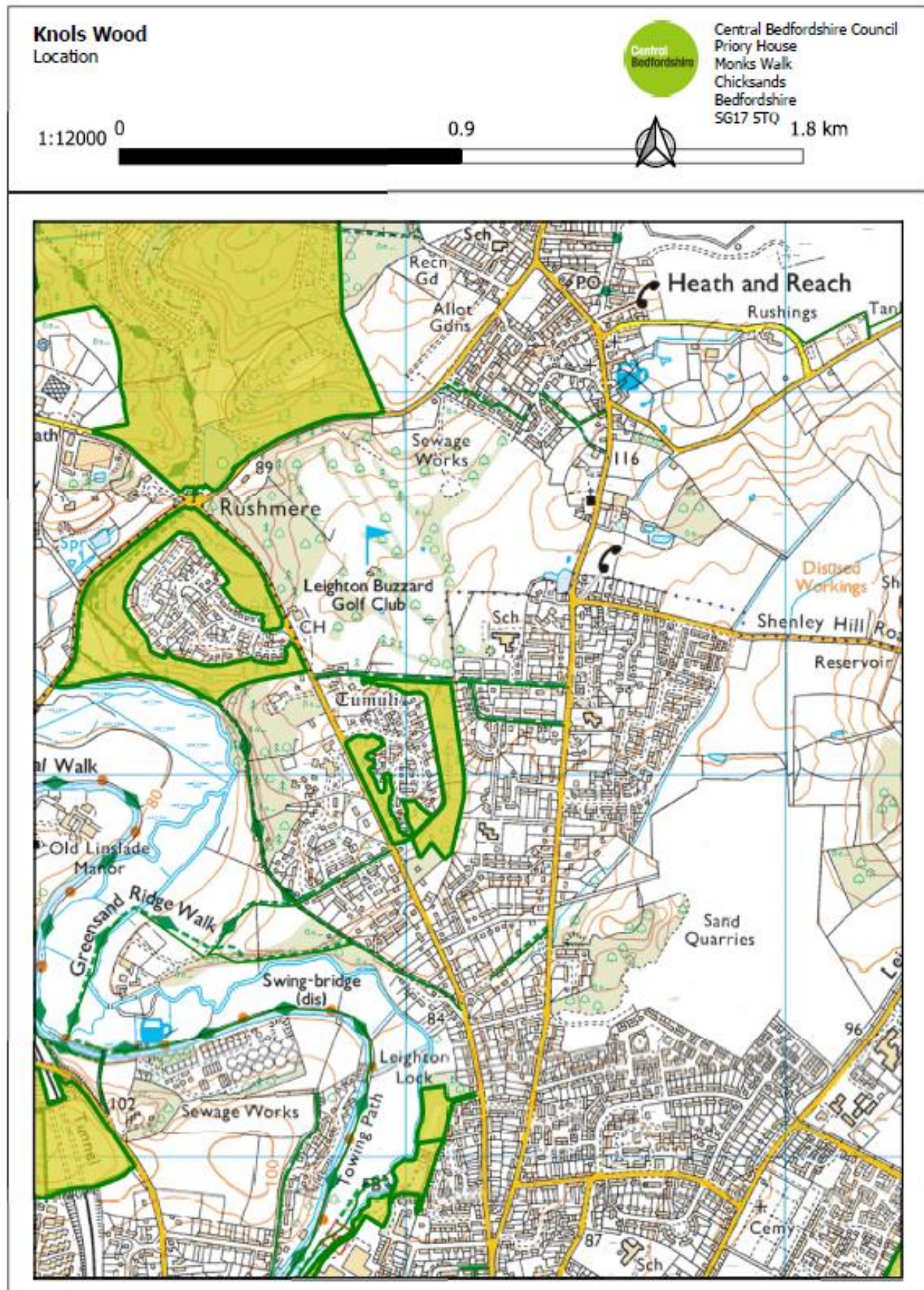
9.4.4 Carry out regular surveys for the presence of mammal species.

9.4.5 Detailed surveys of invertebrates are needed and should be encouraged.

For any of the surveys, currently there is no 'expert' on hand to carry them out. Again the local community could be involved. Anyone with a *reliably* keen interest could be employed to undertake the surveys.

Appendix

8.1 Location Plan



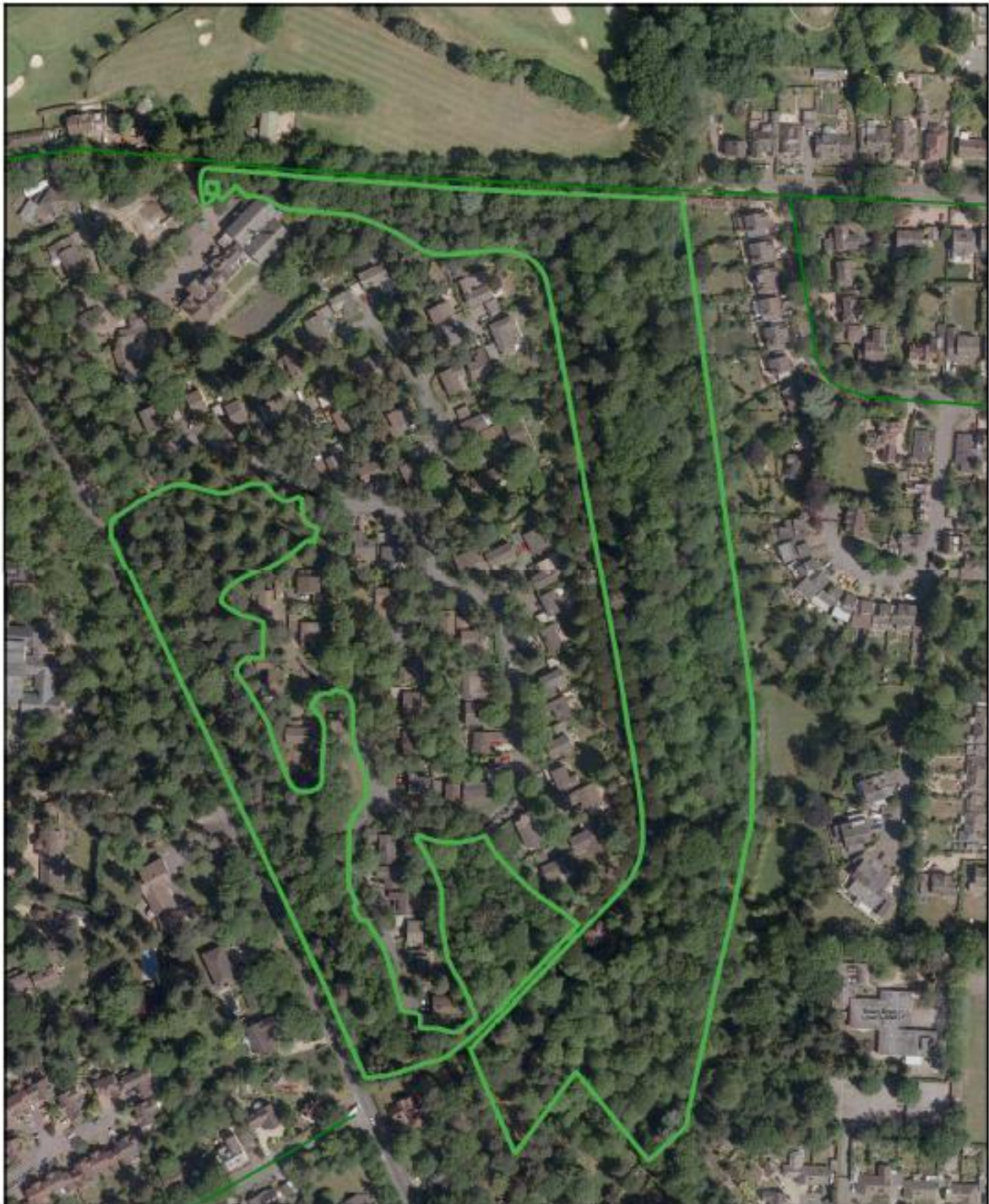
8.2 Aerial View

Knolls Wood Aerial view

1:2500 0 0.1 0.2 km

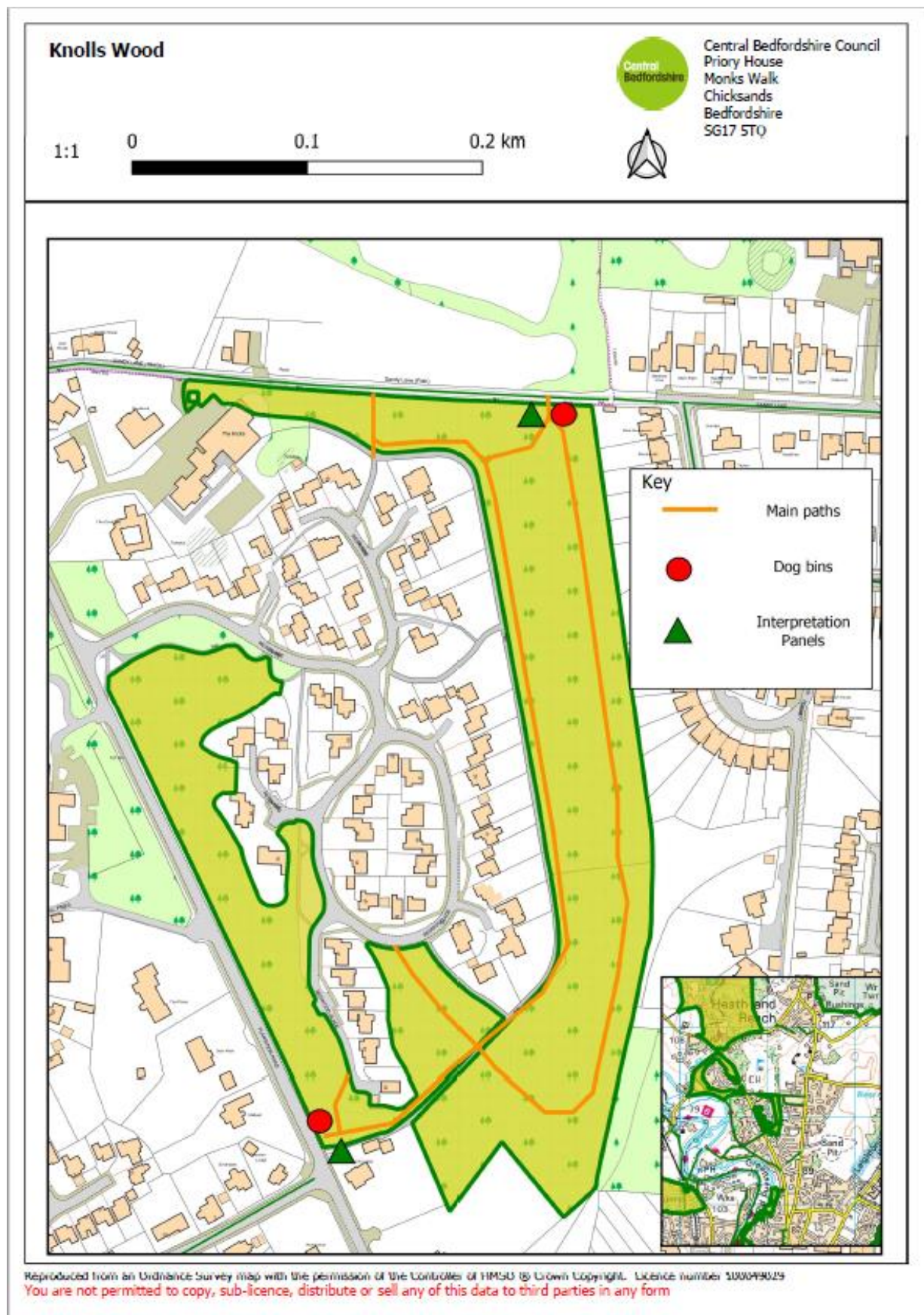


Central Bedfordshire Council
Priory House
Monks Walk
Chicksands
Bedfordshire
SG17 5TQ



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8.3 Site Infrastructure and access



8.4 List of Plant and Animal Species recorded

Tree Species List for Knolls Wood

This list is by no means complete for the wood but based more on casual observations and previous records.

Coniferous species

Monkey Puzzle (*Araucaria auricana*)
Scots Pine (*Pinus sylvestris*)
Larch (*Larix* sp.)
Silver Fir (*Abies alba*)
Yew (*Taxus baccata*)
Redwood (*Sequoia sempervirens*)
Wellingtonia/ Giant Redwood (*Sequoiadendron giganteum*)
Austrian Pine (*Pinus nigra*)
Cedar sp. (*Cedrus* sp.)
Douglas Fir (*Pseudotsuga menziesii*)
Spruce sp. (*Picea* sp.)
Juniper (*Juniperus* sp.)
Thuja sp.

Deciduous species

Beech (*Fagus sylvatica*)
Sweet Chestnut (*Castanea sativa*)
Sycamore (*Acer pseudoplatanus*)
Golden Chestnut (*Chrysolepis chrysophylla*)
Holly (*Ilex aquilinum*)
Privet (*Ligustrum* sp.)
Rhododendron (*Rhododendron ponticum*)
Rowan (*Sorbus aucuparia*)
Elder (*Sambucus nigra*)
Oregon Grape (*Mahonia aquifolium*)
Elm (*Ulmus* sp.)
Silver Birch (*Betula pendula*)
Ash (*Fraxinus excelsior*)
Hazel (*Coryllus avellana*)
Red Oak (*Quercus rubra*)
Bird Cherry (*Prunus padus*)
Oak (*Quercus* sp.)
Downy Birch (*Betula pubescens*)
Hawthorn (*Crataegus monogyna*)
Laurel sp



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