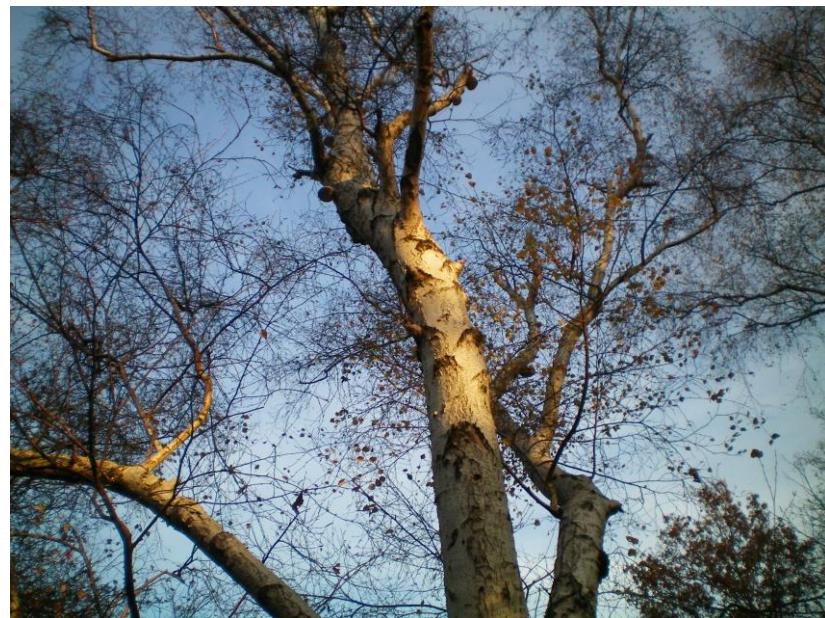


East Sheen Common

Woodland Management Plan

2023 - 2028

To be completed by the plan author:	
Woodland or Property name	East Sheen Common
Woodland Management Plan case reference	
The landowner agrees this plan as a statement of intent for the woodland	Yes
Plan author name	Tasha Hunter LBRuT



Section 1: Property Details

Woodland Property Name		East Sheen Common	
Name	Tasha Hunter	Owner: National Trust	Tenant: LBRuT
Email	Tasha.Hunter@richmondandwandsworth.gov.uk	Contact Number	020 8831 6125
Agent Name (if applicable)			
Email		Contact Number	
County	Greater London	Local Authority	London Borough of Richmond Upon Thames
Grid Reference	TQ1955074680	Single Business Identifier	
What is the total area of this woodland management plan? (In hectares)		18.4ha	
You have included an Inventory and Plan of Operations with this woodland management plan?		No	
You have listed the maps associated with this woodland management plan?		Yes 1: Compartments & features 2. Geology	
Do you intend to use the information within this woodland management plan and associated Inventory and Plan of Operations to apply for the following?		Felling Licence	No
		Thinning Licence	No
		Woodland Regeneration Grant	No
You declare that there is management control of the woodland detailed within the woodland management plan?		Yes	
You agree to make the woodland management plan publicly available?		Yes	

Section 2: Vision and Objectives

2.1 Vision

To provide a leading example for the woodland conservation management of Common land and Sites of Importance for Nature Conservation (SINCs) within an urban environment. To ensure the maintenance and restoration of biodiversity whilst increasing the levels of awareness, learning and engagement so that the importance and qualities of East Sheen Common are widely understood and promoted within this site and other woodlands within the London Borough of Richmond upon Thames.

2.2 Management Objectives

No.	Objectives (include environmental, economic and social considerations)
1	To increase structural diversity of the woodland and tree species composition
2	Maintenance and provision of glades and rides
3	To provide a range of wetland habitats including open water, ephemeral ponds, marsh, and wet woodland
4	To improve the biodiversity value of ditch network
5	To maintain and enhance the pathways through the site
6	To remove or control invasive species
7	Ensure appropriate management of all identified veteran and notable trees
8	Maintain and increase the levels and diversity of decaying woody habitat
9	Increase the provision of suitable features for wildlife
10	Set up extensive wildlife monitoring throughout the woodland
11	Maintain the woodland management plan and associated mapping as a dynamic document
12	Control of anti-social behaviour within woodlands

Section 3: Plan Review – Achievements

This section should be completed at the 5-year review and could be informed through monitoring activities undertaken.

Objectives	Achievement

Section 4: Woodland Survey

4.1 Description

Brief description of the woodland property:

1. Location

The site is located within the London Borough of Richmond upon Thames towards the north-east at national grid reference TQ1955074680.

2. Boundaries

The park itself is delineated by Kings Ride Gate and Sheen Common Drive to the north; Sheen Cemetery to the west; Sheen Common Playing Fields to the east; and Richmond Park to the south. Upper Richmond Road (A305) lies 80m to the north. Richmond Town Centre is located 1.3km to the west.

3. History

In the Middle Ages the Common would have been managed as part of the Manor of Mortlake as a local resource under a strictly controlled Commons system. The Common would have provided timber, fuel and an area of grazing for livestock. At this time, it is likely that the Common would have consisted of open heathland with a scattering of oaks managed for timber, fuel, or fodder. Records show that one of the main crops at the time was Gorse, cut for fire. During the eighteenth-century a considerable amount of gravel extraction occurred across the Common to satisfy the need for building materials for the construction of houses in the Sheen and Mortlake area.

Maps of the Common dating to 1869 show the Common as being completely open heathland with a rifle range as the main use. In 1880 East Sheen Common was sold by Earl Spencer to several local residents for £2500. The new owners formed the East Sheen Preservation Society Limited with the intention of establishing a ladies golf course. Over the years management of the Common by this society was called into question and the management was taken over by Barnes District Council.

In 1908 the Common was donated to the National Trust, who are still the current owners. Under the Local Government Act of 1963 the responsibility for management of the Common passed from Barnes District Council to Richmond Borough Council.

4. Topography & Landscape

East Sheen Common is predominantly flat. However, the areas of gravel extraction have created an undulating topography in the central and north eastern parts of the Common. Some of the areas which were excavated fill with water in the winter, providing a range of habitat for wetland species. There is an extensive drain system running across the Common which is fed from Richmond Park in two places.

Historically the Common would have been comprised of open heathland maintained by grazing rights with a scattering of trees managed for timber, fuel or fodder throughout. Early postcards of the Common show an open vista until quite recently and local naturalist's records describe the Common as being covered with gorse, hawthorn in flower, heath bedstraw and large swathes of heather as late as 1920. Succession has now meant that the Common is dominated by closed canopy broadleaf woodland.

5. Species Distribution

The site is dominated by closed canopy native broadleaf woodland. Pedunculate Oak (*Quercus robur*) is abundant including several large mature specimens. Ash (*Fraxinus excelsior*), is frequent, particularly in compartment 3 and along the southern boundary of compartment 4. Wild cherry (*Prunus avium*) and yew (*Taxus baccata*) are also frequent whilst hornbeam (*Carpinus betulus*) and silver birch (*Betula pendula*) are occasional. Beech (*Fagus sylvatica*) and Field maple (*Acer campestre*) are rare.

Non-native trees include frequent sycamore (*Acer pseudoplatanus*), occasional false acacia (*Robinia pseudoacacia*) and tree of heaven (*Ailanthus altissima*). Turkey Oak (*Quercus cerris*), Sweet Chestnut (*Castanea sativa*) and Norway Maple (*Acer platanoides*) are rare.

Native species within the shrub layer are Holly (*Ilex aquifolium*) which is abundant and dominant in most compartments, apart from compartment 1 where understory thinning took place in 2015. Suckering elm (*Ulmus sp*) and hazel (*Corylus avellana*) are frequent whilst hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and Rowan (*Sorbus aucuparia*) are occasional. Elder (*Sambucus nigra*) is rare. Invasive Non-native species include frequent cherry laurel (*Prunus laurocerasus*), occasional snowberry (*Symporicarpos albus*) and Cotoneaster whilst Sweet Bay (*Laurus nobilis*) is rare.

Bramble (*Rubus fruticosus agg*) and Ivy (*Hedera helix*) dominate the ground layer. Other species include frequent bracken (*Pteridium aquilinum*), Common nettle (*Urtica dioica*), herb Robert (*Geranium robertianum*), wood avens (*Geum urbanum*) and ground ivy (*Glechoma hederacea*).

Also present is variegated yellow-archangel (*Lamiastrum galeobdolon* spp. *argentatum*). Other species to note are small balsam (*Impatiens parviflora*) and broadleaved bamboo (*Sasa palmata*). A small number of ramsons (*Allium ursinum*) can be found in compartment 3.

Additionally, there are the occasional specimens of gorse (*Ulex europaeus*) which is remnant of the old heathland habitat around the fenced glades in compartment 1. Rough meadow-grass (*Poa trivialis*) is frequent and wood meadow-grass (*P. nemoralis*) occasional. A little sweet-vernall grass (*Anthoxanthum odoratum*) also occurs.

In compartments 8 there is a permanent pond whilst in compartment 13 ephemeral ponds and marsh areas can be found. At the margins of the permanent pond are yellow iris (*Iris pseudacorus*), occasional pendulous sedge (*Carex pendula*) and great willowherb (*Epilobium hirsutum*) and hart's-tongue fern (*Phyllitis scolopendrium*). Extending across the water's surface is floating sweet-grass (*Glyceria fluitans*).

6. Open Ground

An amenity meadow can be found towards the southern end of the site.

7. Soils

The majority of the Common is sited on Taplow Gravel with the most eastern section and southern boundary sited on London Clay.

8. Rainfall

Average annual rainfall of 622mm.

9. Elevation

23 - 36m above sea level.

4.2 Information

This section identifies features that are both present in the woodland and where.

Feature	Within Woodland(s)	Cpts	Adjacent to Woodland(s)	Map No
Biodiversity- Designations				
Site of Special Scientific Interest	No		Yes	
Special Area of Conservation	No		Yes	
Tree Preservation Order	No		No	
Conservation Area	Yes		Yes	
Special Protection Area	No		No	
Ramsar Site	No		No	
National Nature Reserve	No		Yes	
Local Nature Reserve	No		No	
Other (please Specify):	Yes: East Sheen Common is part of Richmond Park and associated areas Site of Metropolitan Importance for Nature Conservation (SMINC).	All	Yes	
Notes				

Feature	Within Woodland(s)	Cpts	Map No	Notes
Biodiversity - European Protected Species				
Bats	Yes	All		Three unspecified species of bats were noted by GiGL from 400m to the west, one from 1992, 80m to the south-east; and one from within the site dating from 2001.
Dormouse	No			
Great Crested Newt	No			
Otter	No			
Sand Lizard	No			
Smooth Snake	No			
Natterjack Toad	No			
Biodiversity – Priority Species				
Schedule 1 Birds	Species: • Song-thrush (<i>Turdus philomelos</i>)	Yes	All	GiGL data search area

	<ul style="list-style-type: none"> Swift (<i>Apus apus</i>) House sparrow (<i>Passer domesticus</i>) Willow warbler (<i>Phylloscopus trochilus</i>) Dunnock (<i>Prunella modularis</i>) Stonechat (<i>Saxicola rubicola</i>) Tawny Owl (<i>Strix aluco</i>) Starling (<i>Sturnus vulgaris</i>) 				
Mammals	<ul style="list-style-type: none"> Western Hedgehog (<i>Erinaceus europaeus</i>) 	Yes			Two records from GiGL within the search area of 1km radius of the site.
Reptiles		No			
Plants		No			
Fungi/Lichens		No			
Invertebrates	<ul style="list-style-type: none"> Stag Beetle (<i>Lucanus cervus</i>) 	Yes			
Amphibians	<ul style="list-style-type: none"> Common toad (<i>Bufo bufo</i>) 	Yes			
Other (please Specify):		Yes			Badger (<i>Meles meles</i>) hairs found on site.
Historic Environment					
Scheduled Monuments		No			
Unscheduled Monuments		No			
Registered Parks and Gardens		No			
Boundaries and Veteran Trees		Yes			
Listed Buildings		No			
Other (please Specify):		No			
Landscape					
National Character Area (please Specify):					
National Park		No			
Area of Outstanding Natural Beauty		No			
Other (please Specify):		No			
People					
CROW Access		No			
Public Rights of Way (any)		Yes			
Other Access Provision		Yes			Site is open access
Public Involvement		Yes			Friends of Sheen Common
Visitor Information		Yes			Info boards at main entrances.

Public Recreation Facilities	Yes			Small play area in section 5
Provision of Learning Opportunities	No			
Anti-social Behaviour	Yes	All		
Other (please Specify):	No			
Water				
Watercourses	No			
Lakes	No			
Ponds	Yes			Small permanent pond and several ephemeral ponds
Other (please Specify):	Yes			Ditch network across the site

4.3 Habitat Types

This section considers the habitat types within the woodland that might impact/inform your management decisions.

Feature	Within Woodland(s)	Cpts	Map No	Notes
Woodland Habitat Types				
Ancient Semi-Natural Woodland	No			
Planted Ancient Woodland Site (PAWS)	No			
Semi-natural features in PAWS	No			
Lowland beech and yew woodland	No			
Lowland mixed deciduous woodland	Yes	All		
Upland mixed ash woods	No			
Upland Oakwood	No			
Wet woodland	Yes	8,13		
Wood-pasture and parkland	No			
Other (please Specify):	No			
Non Woodland Habitat Types				
Blanket bog	No			
Fenland	No			
Lowland calcareous grassland	No			
Lowland dry acid grassland	No			
Lowland heath land	No			
Lowland meadows	No			
Lowland raised bog	No			
Rush pasture	No			
Reed bed	No			
Wood pasture	No			
Upland hay meadows	No			
Upland heath land	No			

Unimproved grassland	No			
Peat lands	No			
Wetland habitats	Yes	8,13		
Other (please Specify):	No			

4.4 Structure

This section provides a snapshot of the current structure of the woodland as a whole. Ensuring the woodland has a varied structure in terms of age, species, origin and open space will provide a range of benefits for the biodiversity of the woodland and its resilience.

Woodland Type	Percentage of Mgt Plan Area	Age Structure (even/uneven)	Notes (i.e. understory or natural regeneration present)
Broadleaf	100%	Uneven	<ul style="list-style-type: none"> Secondary woodland, developed within the last 70 years, interspersed with a limited number of older mature trees. Pedunculate oak is the dominant upper canopy species. dense stands of holly scattered throughout the understory. Sycamore, ash, wild cherry and yew are also frequent within the understory. The herb layer is dominated by bramble and ivy.

Section 5: Woodland Protection

Woodlands in England face a range of threats; this section considers the potential threats that could be facing the woodland.

5.1 Risk Matrix

The matrix below provides a system for scoring risk. The matrix also indicates the advised level of action to take to help manage the threat.

Impact	High	Plan for Action	Action	Action
	Medium	Monitor	Plan for Action	Action
	Low	Monitor	Monitor	Plan for Action
		Low	Medium	High
Likelihood of Presence				

5.2 Plant Health

There are a growing number of invasive pests and pathogens that are impacting the UK's trees. It is expected that [climate change will increase the impact of pests and diseases](#) across the UK with the South East, in particular, expected to see higher annual temperatures. Expected Increases in periods of drought may change the suitability of an area to certain trees as well as make them more susceptible to pests and diseases.

The decline in a particular tree species from a pest or disease will impact a wide range of other species that use that tree species as well as driving changes in ecosystem functions. Many species use trees directly for feeding or as habitat. Some species will only use one or a very limited number of tree species. Therefore, a widespread decline in the population of one tree species may drive changes in species that are heavily dependent on it. Tree diseases will have cascading effects on biodiversity, ecosystem function and services. Woodland management may change as a response of tree diseases which in turn will influence biodiversity and ecosystem services. Diseased species will be replaced by other tree species which in turn will influence the biodiversity and woodland functioning. Therefore, it is imperative to identify all current and potential threats to the woodland.

Threat	Poor biosecurity measures & knowledge
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<ul style="list-style-type: none"> • Educate the public on the importance of what measures they can take to limit the spread of pests and diseases. • Ensure all professional arborists/contractors on site follow industry guidance ('think kit, think transport, think trees'). • Monitor and report on pests and diseases that have not yet reached the UK but are considered a key threat i.e. emerald ash borer & Xyella. • Keep up to date through CPD and e-learning on latest pests and diseases.

Threat	Ash Dieback (<i>Hymenoscyphus fraxineus</i>)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	<p>Ash is frequently found across the site, particularly in compartments 3 and 4. The loss of ash from the site would be of huge detriment to its biodiversity as obligate and highly associated species, would be lost.</p> <ul style="list-style-type: none"> • Where needed, mature and semi-mature specimens should be managed appropriately, in line with latest research, to maximise longevity. • Trees should be monitored annually during July/August to assess the level of dieback and vitality. • Where possible maintain a healthy population of oak, beech, sycamore, hazel, and birch as together they support 84% of ash associated species (oak and beech alone support 74% of ash associated species). • Unless deemed a matter of safety infected trees should be retained as decaying wood habitat. Where they do need to be worked every effort should be made to retain the stem as a monolith. • Monitor ash trees for evidence of ash dieback resistance within stock.

Threat	Leaf miner (<i>Cameraria ohridella</i>) Bacterial canker (<i>Pseudomonas syringae</i> var. <i>aesculi</i>) of Horse Chestnut (<i>Aesculus hippocastanum</i>)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Low
Response (inc protection measures)	The occurrence of horse chestnut is rare across the site.

Threat	Oak mildew (<i>Erysiphe alphitoides</i>)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<p>This contributes to the decline of mature and post mature trees (through depletion of carbohydrate reserves and moisture stress). It can inhibit natural regeneration due to the high susceptibility of seedlings and young trees. New growth is very susceptible to mildew (coppice and pollarding). It can also kill epicormic growth and diminish capacity to produce new branches. Therefore:</p> <ul style="list-style-type: none"> • Care should be taken to avoid pruning or coppicing trees under conditions where mildew is likely to be at its most damaging, e.g., where the susceptible new shoots would be developing during the summer release of spores. • Take account of the impact of mildew in hot, dry conditions, extra care should be taken not to expose previously shaded trees too rapidly when removing competing vegetation ("haloing") of veteran trees. • Oak seedlings and saplings should be protected from shading by vegetation, since mildew impairs their shade-tolerance. This should be done gradually to mitigate the adverse effects of direct sunlight on mildew-affected foliage. • Monitor and record any large outbreaks of mildew.

Threat	Acute Oak Decline (AOD)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	Several trees are showing potential signs of AOD (weeping patches on oak stems, cracks in the outer bark

	<p>from which dark fluid seeps, irregularly oval-shaped lesions in the inner bark and/or cavities behind the outer bark around the seepage point.</p> <ul style="list-style-type: none"> • Swab several of the trees showing signs of AOD and send off to Forest Research for analysis. • Monitor annually to assess spread and tree vitality. • Follow Forest Research best practice management for AOD. • Potential for soil amelioration to improve mycorrhizal environment on infected trees.
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Threat	Chronic Oak Decline (COD)
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Medium
Response (inc protection measures)	<p>COD is a complex disorder or syndrome of oak trees in which several damaging agents interact either simultaneously or sequentially to bring about a serious, long-term decline in tree health and condition.</p> <ul style="list-style-type: none"> • On its own does not currently pose a serious threat to the UK's overall oak tree population and trees often recover if the causative factors decline. • keep up to date on current research and findings. • Monitor for potential cases across site and interaction with other oak pests and diseases. • Potential for soil amelioration to improve mycorrhizal environment.

Threat	Oak processionary moth (<i>Thaumetopoea processionea</i>)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<p>OPM, at present, is more of a public health issue than a plant health issue.</p> <ul style="list-style-type: none"> • LBRuT implements a method of suppression annually to reduce the health risk to the general public. • Monitor paths regularly and flag nests for removal. • Educate the public about the risks of OPM and discourage climbing of oak trees.

Threat	Sweet chestnut blight (<i>Cryphonectria parasitica</i>) and Chestnut gall wasp (<i>Dryocosmus kuriphilus</i>)
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> • Sweet chestnut is rare across the site. • Monitor regional outbreaks of sweet chestnut blight given proximity of the pathogen to East Sheen Common. • Inspect sweet chestnut for chestnut gall wasp as it is present in London. • Report sighting of either pests or diseases to Forest Research.

Threat	Dutch Elm Disease (<i>Ophiostoma novo-ulmi</i>) and Zigzag sawfly (<i>Aproceros leucopoda</i>)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> • Elm is regenerating from suckers across the site. • Larger stems can be felled when dead if needed for safety whilst others retained for habitat. • Monitor for the presence of zig zag sawfly and report with Forest Research if found.

5.3 Deer

Species - Likelihood of presence (high/medium/low)	NA
Impact (high/medium/low)	
Response (inc protection measures)	

5.4 Grey Squirrels

Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	<ul style="list-style-type: none"> • Control methods not suitable for busy urban site. • Expectation of increased grey squirrel numbers as warmer winters reduce seasonal mortality rates. • Ad hoc monitoring of impacts.

5.5 Livestock and Other Animals

Threat (Sheep, Horse, Rabbit etc)	Dogs
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<p>The high level of dog walking across the site has the potential for substantial wildlife disturbance. Furthermore, the high levels of nitrogen and phosphorus produced from dog waste can influence biodiversity and ecosystem functioning, and co-determine restoration outcomes. There is also evidence of pollution of ponds and watercourses from flea, worm and tick treatments.</p> <p>Protection/Education/Enforcement measures as follows:</p> <ul style="list-style-type: none"> • Education of dog walkers as to potential impacts to sensitive habitats with positive feedback signage and encourage collective responsibility. • Use of temporary fencing or natural barriers to limit access to sensitive areas. • Report any major issues to Park Guard for enforcement.

Threat (Sheep, Horse, Rabbit etc)	Ring-necked Parakeet
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	<p>Ring-necked parakeets are an invasive species to Europe. They are early nesters and occupy existing tree cavities, reducing the number of cavities available for native species. They are aggressive towards other species nearby and can destroy nests of native species.</p> <ul style="list-style-type: none"> • Monitor numbers and impact. Keep up to date on latest research and Government guidance.

5.6 Water & Soil

Threat (Soil Erosion, Acidification of Water, Pollution incidents etc)	Soil Erosion
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> • Any felling to be phased over multiple years and there is no area to be clear felled, thus no bare soil will be exposed.

Threat (Soil Erosion, Acidification of Water, Pollution incidents etc)	Point pollution
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> Refuelling of chainsaws will be carried out away from sensitive areas whilst ensuring all fuels are in autofill/anti-spill nozzle containers. Small spill kit carried in vehicles. All substances hazardous to health follow COSHH guidelines. All premixed herbicide transported in liquid tight containers.

Threat (Soil Erosion, Acidification of Water, Pollution incidents etc)	Diffuse pollution
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> Any herbicide application to be carried out by appropriately trained people. Herbicide application is not to be carried out prior to forecast wet weather. Appropriate herbicide to be applied if application is required near water.

Threat (Soil Erosion, Acidification of Water, Pollution incidents etc)	Soil Compaction
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<ul style="list-style-type: none"> Avoid taking machinery across sensitive habitats and root zones of veteran trees. Divert or block informal paths where necessary to protect the soil environment around veteran trees and to allow the understory/herb layer to develop and recover. Where suitable ameliorate soil compaction with the application of wood chip. Consider further de-compaction measures if appropriate.

5.7 Environmental

Threat (Pollution, Fire, Flood, Wind, Invasive Species, etc)	Invasive Species
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<p>Initiate a phased programme to reduce or remove the following invasive species:</p> <ul style="list-style-type: none"> • Tree of Heaven (<i>Ailanthus altissima</i>) • False-acacia (<i>Robinia pseudoacacia</i>) • Turkey Oak (<i>Quercus cerris</i>) • Holm Oak (<i>Quercus ilex</i>) • Norway Maple (<i>Acer platanoides</i>) • Snowberry (<i>Symporicarpos albus</i>) • Broadleaved Bamboo (<i>Sasa palmata</i>) • Cherry Laurel (<i>Prunus laurocerasus</i>) • Cotoneaster (<i>Cotoneaster</i>) • Variegated yellow-archangel (<i>Lamiastrum galeobdolon</i> ssp. <i>Argentatum</i>) • Small balsam (<i>Impatiens parviflora</i>) • Sweet Bay (<i>Laurus nobilis</i>) <p>As deemed necessary other invasive shrubs and trees may require removal on an ad-hoc basis. Climate change may encourage the increased growth rate and/or survival of further exotic species that may subsequently require control.</p>

Threat (Pollution, Fire, Flood, Wind, Invasive Species, etc)	Nitrogen deposition from vehicles
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	<ul style="list-style-type: none"> • Nitrogen deposition can change the composition of plant flora as it favours nitrogen loving plants. • Woodland borders to be maintained and enhance where possible to facilitate the capture of pollution particles.

Threat (Pollution, Fire, Flood, Wind, Invasive Species, etc)	Fire
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> • Communicate the ban on BBQs and fires on site through signage and education.

	<ul style="list-style-type: none"> • Inform and educate smokers on need for careful disposal. • All brash is chipped or stacked for habitat and not burnt.
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Threat (Pollution, Fire, Flood, Wind, Invasive Species, etc)	Planning and Development
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Medium
Response (inc protection measures)	<ul style="list-style-type: none"> • Monitor for planning applications that could negatively impact the biodiversity of the site or the surrounding green and dark corridors. • Inform and educate about light pollution impact on nocturnal species.

5.8 Social

Threat (Rights of Way, CROW, permissive access, events sporting rights, Anti-social Behaviour etc)	Anti-Social Behaviour
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> • Park Guard to maintain patrols for anti-social behaviour or to impose Public Space Protection Orders (PSPOs). • Assess potential to develop 'area champions' through a network of FOSC to assist with the cleanliness of the common and reporting of any issues. • Encourage adults to recognise that their behaviours can also be antisocial e.g. green waste, littering, and that it is not just associated with younger generations.

Threat (Rights of Way, CROW, permissive access, events sporting rights etc)	Open Access Site
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	<ul style="list-style-type: none"> • Increased footfall must be managed by appropriate provision of suitable paths and protection of areas where high levels of wear and tear are occurring. • Redirect or close informal paths where needed. • Regularly assess damage from cycles and temporarily fence off areas.

Threat (Rights of Way, CROW, permissive access, events sporting rights etc)	Sporting Events
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Low
Response (inc protection measures)	NA

5.9 Economic

Threat (Timber forecasting, markets, products, operational costs etc)	Operational Costs
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<ul style="list-style-type: none"> 3rd sector approach controls overheads. Urban setting inevitably higher cost than rural, but outweighed by per capita benefits from wellbeing, climate resilience, habitat restoration and educational potential. Monitor and where suitable apply for grants to assist with costs.

5.10 Climate change resilience

Threat	Provenance
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Low
Response (inc protection measures)	<ul style="list-style-type: none"> Favour natural regeneration over planting where possible. Where natural regeneration of a desired species is not possible source local native seed/saplings genetically adapted to current and future predictions of climatic conditions in the Southeast. Use Ecological Site Classification Decision Support System (ESC-DSS) as a guide to suitability of certain native species to the area.

Threat	Lack of Diversity
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	<p>Pedunculate oak makes up the majority of the canopy layer across the woodland. Should a pest or disease dramatically impact the population of <i>Quercus Robur</i>, akin to Ash dieback, the woodland would be heavily impacted, as would its biodiversity given our native oaks support over 2300 species.</p> <ul style="list-style-type: none"> After completing the removal of invasive species and selective holly thinning assess the potential to enhance, without detriment to the oak woodland, native tree species diversity that may be suitable for the site; Identifying those tree species that support a high amount of oak-associated biodiversity.

Threat	Habitat fragmentation/edge effect
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	<ul style="list-style-type: none"> Assess woodland in relation to the surrounding landscape and look to increase green and dark corridors as well as habitat connectivity. Small habitat patches have a disproportionately high value for biodiversity conservation which must be noted when deciding on appropriate protection for the site. Assess the path network and if appropriate close or divert informal pathways that have fragmented important habitat.

Threat	Increased pests and diseases
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	<p>Increased temperatures are expected to increase the number and impact of pests and diseases associated with trees in the UK. Therefore, it is important that the woodland is regularly monitored looking for:</p> <ul style="list-style-type: none"> Pests and diseases detailed in section 5.2 Crown thinning Drought stress Leaf discoloration Degree of canopy closure Leaf retention Flowering Fruiting

Threat	Uniform Structure
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	<ul style="list-style-type: none"> • Increase level of structural heterogeneity. • Maintain and increase light levels through removal of invasive species and encouragement of natural regeneration of desired species. • Create optimal conditions for the continuation of veteran and notable trees. • Increase in natural events such as storms and droughts as well as pests and diseases will create temporary canopy gaps to further enhance structural diversity.

Section 6: Management Strategy

This section requires a statement of intent, setting out how you intend to achieve your management objectives and manage important features identified within the previous sections of the plan.

Management Objective / Feature	Management Intention
To increase structural diversity of the woodland and tree species composition	<p>The woodland is currently entering a dark phase with closed canopy and limited light levels resulting in a lack of structural diversity. Lack of extensive management has meant holly has come to dominate the understory, further reducing species composition and structural attributes, which determine habitat quality. <u>Increasing the biodiversity value of the woodland will increase its resilience to climate change.</u></p> <ul style="list-style-type: none"> • Carry out selective holly thinning across each compartment so it is no longer dominant and treat stumps accordingly to prevent regrowth. • Phase thinning works across the lifetime of the plan and focus on areas of highest conservation value first. • Retain small clusters of holly to maintain habitat for birds such as goldcrest as well as to provide winter food source. • Carry out annual follow up treatments where holly regeneration persists from stumps. • Maintain holly around the boundaries of the Common to act as a screen to the urban surroundings. • Monitor natural regeneration of the understory and species diversity. Use fixed point photography to illustrate changes.
Maintenance and provision of glades and rides	<p>Glades are incredibly valuable to wildlife. They mimic natural processes such as storms and open areas of woodland to sunlight, which in turn promotes vegetation complexity, creates microclimates and increases the provision of invertebrates. The creation of any glades and rides should not disturb any rare woodland plants, old canopy trees, rare insect communities or destroy areas of dense understorey supporting rare woodland specialists.</p> <ul style="list-style-type: none"> • Glade creation should at first focus on the ponds and wetland areas. (See following objective for further information). • Small expansionary work can be carried out on the existing fenced grassland glades within compartment 1. Sensitive removal of overhanging limbs of more mature trees and monolith creation for small diameter oaks. Sun-exposed, bare, sandy soil can be retained due to its high biodiversity value. • Ad hoc cutting of encroaching bramble may be required within and around the fenced glades to maintain the herb layer. This should be done on rotation to create structural variation.

	<ul style="list-style-type: none"> • Creation of any further glades should be driven by the removal of invasive species i.e., where invasive species are dominant and being removed then this may be a suitable site for glade creation. • The removal of invasive species and holly thinning across the site may also create temporary small transitional glades. • Carry out an ash dieback survey in compartment 3 and 4. Ash is dominant in these compartments and so ash dieback may naturally create glades if the trees are heavily infected. This should be monitored and considered prior to creating more glades than those described above. • Ride creation can focus upon the path that runs from Bog Gate, Richmond Park, north to Kings Ride Gate, where a 2m herbaceous layer can be created either side of the path.
<p>To provide a range of wetland habitats including open water, ephemeral ponds, marsh, and wet woodland.</p>	<ul style="list-style-type: none"> • Carry out a survey for aquatic invertebrates on the permanent pond to establish baseline data and to demonstrate the absence of any important species. • Carry out invertebrate surveys on the ephemeral ponds as temporary pools full of leaf litter can have an important fauna including rare ground beetles which specialise in this habitat • Remove small diameter terrestrial tree species that have invaded the permanent pond, ephemeral ponds, and marsh/wetland areas. • Gradually increase the sunlight levels on the permanent pond to increase the levels of marginal vegetation. • Maintain and improve natural barriers around the wetland habitats to inhibit human and dog access. • Do not remove wetland tree species that provide structural habitat within the water and surrounding area. If deemed suitable these species can be coppiced on rotation to vary light levels further. • Carry out water quality tests for the permanent pond as well as the ephemeral ponds.
<p>To improve the biodiversity value of ditch network</p>	<p>Ditches can support a great deal of aquatic wildlife as well as acting as small wetland corridors amongst much drier surroundings. They are also responsible for supplying the other wetland areas across the Common.</p> <ul style="list-style-type: none"> • Focus initial ditch work on clearing any immediate blockages within the ditch network. • Carry out water quality tests across several points within the ditch system. • Clear 1/5th of the ditch system per year. • Protect areas of the ditch network where light levels are conducive to the growth of marginal vegetation.
<p>To maintain and enhance the pathways though the site.</p>	<ul style="list-style-type: none"> • Ensure that the main pathway through the woodland is kept at approx. 2.0m wide, other paths to be kept no greater than approx. 1.2m, with no litter, overhanging vegetation or trip hazards.

To remove or control invasive species	<p>Complete removal of the following invasive species:</p> <ul style="list-style-type: none"> • Tree of Heaven (<i>Ailanthus altissima</i>) • Holm Oak (<i>Quercus ilex</i>) • Norway Maple (<i>Acer platanoides</i>) • Snowberry (<i>Symporicarpos albus</i>) • Broadleaved Bamboo (<i>Sasa palmata</i>) • Cherry Laurel (<i>Prunus laurocerasus</i>) • Cotoneaster (<i>Cotoneaster</i>) • Variegated yellow-archangel (<i>Lamiastrum galeobdolon</i> ssp. <i>Argentatum</i>) • Small balsam (<i>Impatiens parviflora</i>) • Sweet Bay (<i>Laurus nobilis</i>) • Buddleia (<i>Buddleja davidii</i>) <p>Control of the following invasive species:</p> <ul style="list-style-type: none"> • False-acacia (<i>Robinia pseudoacacia</i>). They often have good habitat features and any veteran trees should be retained due to presence of brown rot decay which can support certain saproxylic invertebrates. Several false-acacia hang over properties, compartments 7 and 8. • Turkey Oak (<i>Quercus cerris</i>). Where appropriate these can be heavily crown reduced but maintained as standing deadwood. • Monitor, annually, areas where invasive species have been removed, identifying any regrowth and treat accordingly.
Ensure appropriate management of all identified veteran and notable trees	<p>The veteran trees on site are a key visual, biodiversity and cultural component of the tree population and require special management. The cost profile for veteran tree management will differ from that for other trees on the site, with the expectation that greater resources will be made available to retain trees where problems arise. Although the site does not have any ancient trees there are numerous mature trees that possess good veteran features, and as such have a disproportionately high level of biodiversity due to the number of microhabitats within the tree.</p> <ul style="list-style-type: none"> • Map and survey veteran trees across the site, listing any appropriate works and prioritising any trees in need of urgent works. • All veteran tree work should be carried out in line with current best practice as detailed by the Ancient Tree Forum. • Risk mitigation should favour target management over tree management. Therefore, reducing the amount of safety work that should be required on veteran trees. Where work must be carried out it should be sympathetic to the aesthetic and habitat of the trees. • Keep up to date with latest research and training on veteran tree care and implement where necessary.
Maintain and increase the levels and diversity of decaying woody habitat	Decaying woody habitat is imperative to a healthy woodland ecosystem. Therefore, to improve this:

	<ul style="list-style-type: none"> Where safe and species appropriate, standing decaying stems should be retained. Where appropriate ringbarking of invasive species can be used to provide standing decay wood i.e. Turkey oaks & Norway maple. This should not be done on suckering species (false acacia, tree of heaven). Any felled tree should be left in situ or moved to appropriate areas of minimal disturbance to decay naturally. Selected felled timber can be dug into the ground to provide suitable underground decay conditions. Felled trees should be kept as large as possible and not cut up into small pieces.
Increase the provision of suitable features for wildlife	<ul style="list-style-type: none"> Where felling has taken place and stumps are large enough, hoverfly lagoons can be created. Bird boxes and bat roost features can be carved directly into suitable stems and branches i.e., where removing invasive species but stems are retained or creating glades. Assess the provision. Stag Beetle loggeries can be created from cut logs as can hibernaculums.
Set up extensive wildlife monitoring throughout the woodland. To be priced separately.	<ul style="list-style-type: none"> Use static bioacoustics devices across the woodland to survey for bat species present. Set up standardised bird and butterfly transects. Survey for dragonflies and damselflies along Beverley Brook and ponds during summer season. Annual aquatic invertebrate surveys of river and wetland areas. Survey and map trees with potential roost features for bats. Small Mammal Trapping Moth Trapping Involve the local community in species recording where possible. Survey and map trees with suitable decay features that may support saproxylic invertebrates. If suitable sites located carry out flight interception trap surveys. Maintain pan species list for the site and send to GIGL. Inform local residents and visitors.
Maintain the woodland management plan as a dynamic document	<p>Woodlands are dynamic structures exposed to numerous internal and external environmental forces that cannot be predicted or results anticipated. As such this plan should:</p> <ul style="list-style-type: none"> be reviewed and, if necessary, updated annually to make sure vision and objectives are still relevant. at year 3 of this 4-year plan work should commence on assessing the effectiveness of this plan and completing a new woodland management plan. Annual meeting in September to discuss planned works. Provide six monthly reports of progress.
Control of anti-social behaviour within woodlands	<ul style="list-style-type: none"> Where informal groups are a focus of persistent anti-social behaviour and alternative methods of deterring behaviour (engaging in discussion, respecting the needs of CYP for wellbeing) have failed:

	<ul style="list-style-type: none">• Work with Park Guard, local police and community safety to resolve the issue(s).
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Section 7: Stakeholder Engagement

Work Proposal	Individual/ Organisation	Date Contacted	Date feedback received	Response	Action
All woodland management works	Friends of Sheen Common				
All woodland management works	LBRuT (Parks Service Manager, Arboriculture Manager, Ecology, Policy and Planning Officer				
All woodland management works	Ward Councillors and Chair of the Environment and Sustainability Committee)				

Section 8: Monitoring

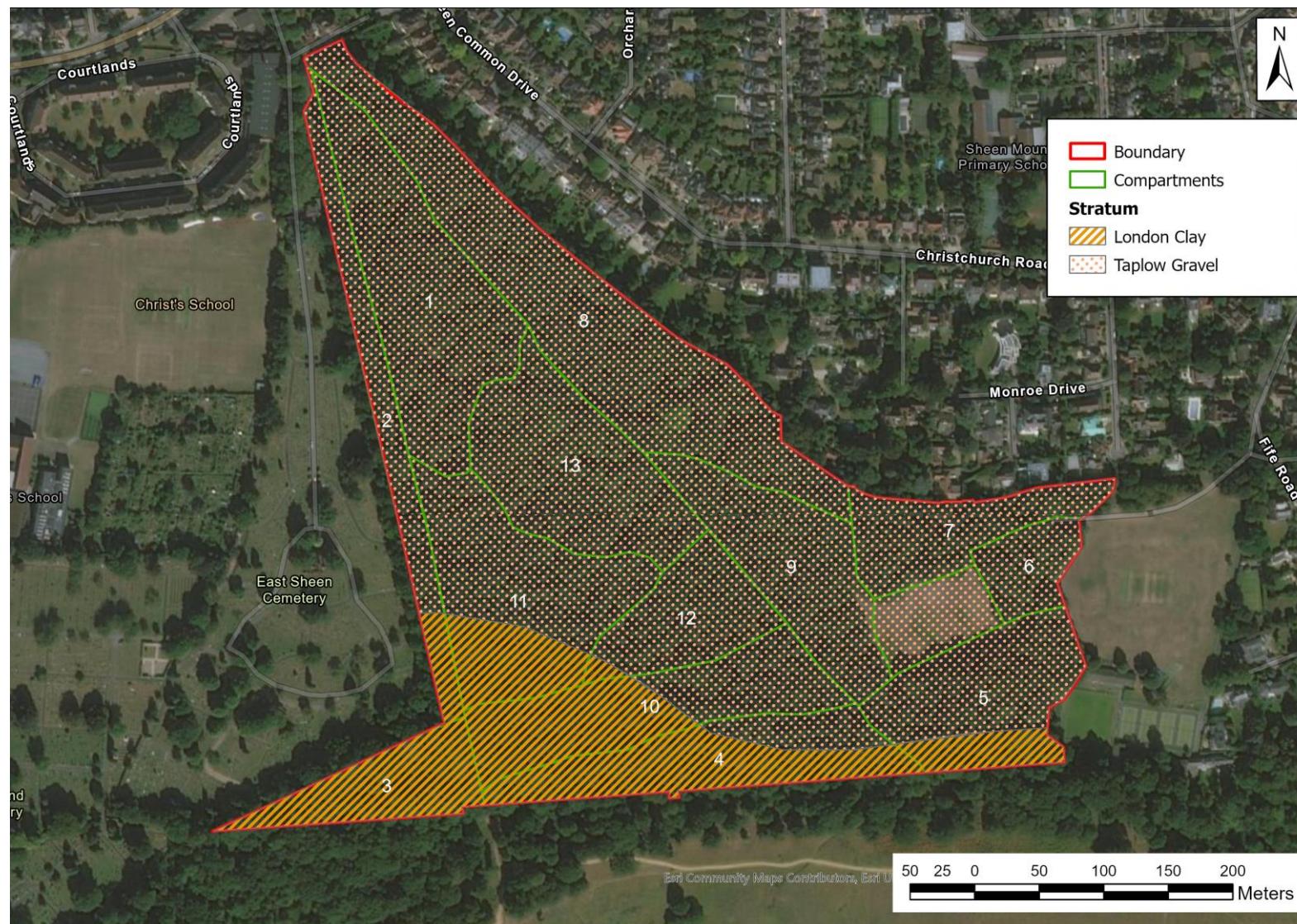
Indicators of progress/success should be defined for each management objective and then checked at regular intervals. Other management activities could also be considered within this monitoring section. The data collected will help to evaluate progress.

Management Objective/Activities	Indicator of Progress/Success	Method of Assessment	Frequency of Assessment	Responsibility	Assessment Results
To increase structural diversity of the woodland and tree species composition	Natural regeneration of understorey where holly has been removed.	Visual	Annually	LBRuT Contractor	
Maintenance and provision of glades and rides	Increased light levels around fenced grassland areas with improved herb layer.	Visual	Annually	LBRuT Contractor	
To provide a range of wetland habitats including open water, ephemeral ponds, marsh, and wet woodland	Development of marginal wetland species around the pond with increased light levels. Increase in aquatic invertebrates.	Visual & survey	Every 2 years	LBRuT Contractor	
To improve the biodiversity value of ditch network	All ditches are wet during winter with no blockages. Marginal vegetation developing along certain stretches.	Photographic records and written records.	Every 2 years	LBRuT Contractor	
To maintain and enhance the pathways through the site	Clear pathways and sightlines.	Visual	Every 6 months	LBRuT Contractor	
To remove or control invasive species	All stated invasive for complete removal are eradicated and the remaining are under control and rare.	Survey	Every 2 years	LBRuT & LBRuT Contractor	

Ensure appropriate management of all identified veteran and notable trees	All veteran and notable tree are mapped, and any appropriate works needed carried out.	Written and photographic records	Ongoing	LBRuT Contractor	
Maintain and increase the levels and diversity of decaying woody habitat	Decaying wood habitat is prevalent across each compartment of the site. Increase in associated decaying wood species.	Survey	Annual	LBRuT Contractor	
Increase the provision of suitable features for wildlife	Hoverfly lagoons, stag beetle loggeries, hibernaculum and suitable roost and nesting features created across the site.	Walk over survey/mapping	Every 2 years	LBRuT Contractor	
Set up extensive wildlife monitoring throughout the woodland To be priced separately	Monthly Species and habitat data sent to Greenspace Information for Greater London.	Survey	As good practice	LBRuT Contractor	
Maintain the woodland management plan and associated mapping as a dynamic document	Objectives remain relevant and achievable.	Written updates	Annual	LBRuT & LBRuT Contractor	
Control anti-social behaviour	Reduction in anti-social behaviour.	Visual	Ongoing	LBRuT & LBRuT Contractor	

Appendix- Maps





Appendix: Useful links

Biodiversity in woodlands helps climate change

https://cdn.forestresearch.gov.uk/2021/01/20_0042_leaflet_cc_factsheet_biodiversity_wip07_acc.pdf

Biodiversity at multiple scales in support of resilient woodlands <https://cdn.forestresearch.gov.uk/2018/07/fcrn033.pdf>

Richmond Biodiversity Action Plan: https://swlen.org.uk/wp-content/uploads/2019/06/LBRuT_BAP_2019-06-06_version.pdf-resized.pdf

Veteran and Ancient Tree Management Guide https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf

Practical Management of Veteran Trees <https://www.ancienttreeforum.co.uk/resources/videos/veteran-tree-management/>

Trees: A Lifespan Approach <https://www.ancienttreeforum.co.uk/wp-content/uploads/2017/04/Trees-a-lifespan-approach-Nev-Fay-et-al.pdf>

The importance of decaying wood <https://treesforlife.org.uk/into-the-forest/habitats-and-ecology/ecology/dead-wood/>

Ecological impact of Ash dieback <https://hub.jncc.gov.uk/assets/1352bab5-3914-4a42-bb8a-a0a1e2b15f14>

Oak- associated biodiversity in the UK <https://catalogue.ceh.ac.uk/documents/22b3d41e-7c35-4c51-9e55-0f47bb845202>