Palewell Common Woods
Woodland Management Plan
2023 -2028

To be completed by the plan author:		
Woodland or Property name	**Palewell Common Woods**	
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		Palewell Common Woods	
Name	Tasha Hunter	Owner: LBRuT	Tenant: n/a
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	TQ2091474600	Single Business Identifier	
What is the total area of this woodland management plan? (In hectares)		4.66ha	
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. Meadow cutting regime	
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 Palewell Common Woods 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	To improve the biodiversity of the ponds and surrounding wetland areas
3	To enhance the habitat condition along the Beverley Brook
4	To maintain and enhance the pathways through the woodlands
5	To remove or control invasive species
6	Ensure appropriate management of all identified veteran and notable trees
7	Maintain and increase the levels and diversity of decaying woody habitat
8	Create a marginal meadow around the perimeter of the woodland and brook
9	Maintain and create scrubland margins
10	Maintain the orchard as a key aspect of community engagement and best practice management
11	Increase the provision of suitable features for wildlife
12	Set up extensive wildlife monitoring throughout the woodland
13	Maintain the woodland management plan as a dynamic document
14	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 TQ2091474600.

2.Boundaries

The park itself is delineated by Palewell Common Drive to the north; Enmore Gardens to the west; the Beverley Brook bounds the site to the east; and Richmond Park to the south. Upper Richmond Road (A305) lies 600m to the north. Richmond Town Centre is located 2.9km to the west.

3. History

In the 16th century manorial records, the first known entry of the Palewell Common appears as a 'place called the Pale'. The land was part of the interests of the Lord of the Manorship until it fell to the Spencer family. These interests were then transferred to other local landowners living to the west of the common (where the woodland is). A petition in 1916 started by local residents resulted in the land being transferred to the council in 1921, who has since managed the land. Palewell Fields was originally part of the grounds of Clarence House in Priory Lane grounds until it was bought by the council in 1920. The facilities have changed since then but the unique woodland and open fields character has been retained.

4. Topography & Landscape

The central and western areas of Palewell Common and Fields contain an area of amenity grassland laid out with three football pitches in winter and with a cricket field in the summer. In the west and south there are mature woodlands; the area in the west is significant in size. To the east the woodland forms a narrow border between the grassland and Beverley Brook. The main entrance area to the Common and Fields, from Palewell Common Drive, slopes down to the pavilion, with the pitch and putt course to the north-east, leading down to the allotments and a steep drop to the Beverley Brook in places. This relatively low-lying area becomes saturated with ground water during periods of high rainfall.

5. Species Distribution

Oak (*Quercus robur*) was abundant throughout the woodland. Other native trees included frequent ash (*Fraxinus excelsior*), occasional yew (*Taxus baccata*), wild cherry (*Prunus avium*) and rare rowan (*Sorbus aucuparia*), beech (*Fagus sylvatica*) and hornbeam (*Carpinus betulus*). Non-native trees included frequent sycamore (*Acer pseudoplatanus*), occasional horse-chestnut (*Aesculus hippocastanum*) and turkey oak *(Quercus cerris*), tree of-heaven (*Ailanthus altissima*) and false acacia (*Robinia pseudacorus*) were rare. The latter three species are invasive in Greater London. A band of generally young (suckering) balsam poplar (*Populus sp*.) was located at the north-eastern edge of the woodland.

Bramble (*Rubus fruticosus agg*). was abundant (and sometimes dominant) in the shrub layer (and ground flora). Holly (*Ilex aquifolium*) was also abundant. Elm (*Ulmus sp*). and hawthorn (*Crataegus monogyna*) were frequent. Grey willow (*Salix cinerea*) and elder (*Sambucus nigra*) were occasional. There were also the odd specimens of field maple (*Acer campestre*) and goat willow (Salix caprea). Other species included rare dog-rose (*Rosa canina*), butterfly-bush (*Buddleja davidii*), cherry laurel (*Prunus laurocerasus*) and snowberry (*Symphoricarpos albus*). The last three species are considered invasive in Greater London.

Other species of particular interest were Portugal laurel (*Prunus lusitanica*), broadleaved bamboo (*Sasa palmata*) and yucca (*Yucca sp*). which were rare.
Ivy (*Hedera helix*) and enchanter's-nightshade (*Circaea lutetiana*) were abundant on the woodland floor (as was bramble). Frequent species were ground elder (*Aegopodium podagraria*), cow parsley (*Anthriscus sylvestris*), cleavers (*Galium aparine*), herb Robert (*Geranium robertianum*), wood avens (*Geum urbanum*), ground ivy (Glechoma hederacea) and stinging nettle (*Urtica dioica)*. Other species of note included the occasional bluebell (*Hyacinthoides sp*). and rare honeysuckle (*Lonicera periclymenum*) and a patch of variegated yellow archangel (*Lamiastrum galeobdolon ssp. Argentatum*). The latter species is considered highly invasive and appears under Schedule 9, Section 14 of the Wildlife and Countryside Act 1981 (as amended).

6. Open Ground
Neutral grassland can be found running along the western side of the Beverley Brook adjacent to the formal playing fields. Cock's-foot (*Dactylis glomerata*), perennial rye-grass (*Lolium perenne*), annual meadow-grass (*Poa annua*) and rough meadow-grass (*P. trivialis*) were frequent components of the sward. Other species such as barren brome (*Anisantha sterilis*) and smooth meadow-grass (*Poa pratensis*) were occasional. There were some tall herbs e.g. creeping thistle (*Cirsium arvense*) and cow parsley. Forbs included common mallow (*Malva sylvestris*), knotgrass (*Polygonum aviculare*), dandelion (*Taraxacum officinale agg.*), dove's-foot cranesbill (*Geranium mole*) and small-flowered cranesbill (*G. pusillum*). The last species is notable in Greater London

7. Soils
Slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils.

8. Rainfall
Average annual rainfall of 622mm.

9.Elevation
8 - 19m 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: Palewell Common is part of Richmond Park and associated areas	All	Yes	

	Site of Metropolitan Importance for Nature Conservation (SMINC).			
Notes				

Feature		Within Woodland(s)	Cpts	Map No	Notes
Biodiversity - European Protected Species					
Bats		Yes	All		Numerous *Myotis daubentonii* and a number of unspecified species of bats were noted by GiGL within the site as part of the BCT Annual National Waterway Monitoring Survey between 2016 – 2020 Unspecified bats recorded to the west of the site from 2001 and unspecified bats and *Nyctalus* noctule have been recorded to the south of the site in Richmond park in 1988.
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 *(Turdus philomelos)* • Swift *(Apus apus)* • House sparrow (*Passer domesticus)* • Dunnock (*Prunella modularis)* • Goldcrest (*Regulus regulus)* • Tawny Owl (*Strix aluco)* • Starling (*Sturnus vulgaris*)	Yes	All		GiGL data search area, including juvenile records

Mammals	• Western Hedgehog (*Erinaceus europaeus)*	Yes			Records from GiGL within the search area of 1km radius of the site.
Reptiles		No			
Plants	• Bluebell *(Hyacinthoides non scripta)*	No			One incidence of Bluebell from 1999
Fungi/Lichen		No			
Invertebrates	• Stag Beetle (*Lucanus cervus)*	Yes			Numerous occurrences on dead wood and rotting logs
Amphibians	• Common frog (*Rana temporaria*)	Yes			
Other (please Specify):		Yes			Badger *(Meles meles)* 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 Palewell Common
Visitor Information		Yes			Info boards at main entrances
Public Recreation Facilities		Yes			Within amenity areas
Provision of Learning Opportunities		No			
Anti-social Behaviour		Yes	All		
Other (please Specify):		No			
Water					
Watercourses		Yes			The Beverley Brook
Lakes		No			
Ponds		Yes			Two small permanent ponds
Other (please Specify):		No			

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	3		
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	2,3		
Other (please Specify):	Yes	6		Orchard

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	• 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 moderately rich ground flora of bluebells, enchanter's nightshade, wood avens and wood false brome.

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. 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 trees 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)	• 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 (*Hymenoscyphus fraxineus*)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	Ash is frequently found across the site, particularly in compartments 1,2,3 and 5. The loss of ash from the site would be of huge detriment to its biodiversity as obligate and highly associated species, would be lost. • 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 *(Cameraria ohridella)* Bacterial canker *(Pseudomonas syringae var. aesculi)* of Horse Chestnut (*Aesculus hippocastanum)*
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 (*Erisyphe alphitoides)*
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	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 suspectable to mildew (coppice and pollarding). It can also kill

	epicormic growth and diminish capacity to produce new branches. Therefore: • 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)	Symptoms of AOD include the following: weeping patches on oak stems, cracks in the outer bark from which dark fluid seeps, irregularly oval-shaped lesions in the inner bark and/or cavities behind the outer bark around the seepage point. • Monitor oaks for signs of AOD and swab any suspected infected trees and send to Forest Research for analysis. • Monitor annually to assess spread and tree vitality if AOD is confirmed. • Follow Forest Research best practice management for AOD. • Potential for soil amelioration to improve mycorrhizal environment on infected trees.

Threat	Chronic Oak Decline (COD)
Likelihood of presence (high/medium/low)	Low
Impact (high/medium/low)	Medium
Response (inc protection measures)	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. • 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 (*Thaumetopoea processionea*)
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	OPM, at present, is more of a public health issue than a plant health issue. • 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	Dutch Elm Disease (*Ophiostoma novo-ulmi*) and Zigzag sawfly (*Aproceros leucopoda)*
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Low
Response (inc protection measures)	• 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

Species - Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	Medium
Response (inc protection measures)	• 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)	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. Protection/Education/enforcement measures as follows: • 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)	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. • 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)	• 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)	• 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)	• 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)	• 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)	Initiate a phased programme to reduce or remove the following invasive species: • Tree of Heaven (*Ailanthus altissima*) • False-acacia (*Robinia pseudoacacia*) • Turkey Oak (*Quercus cerris*) • Holm Oak (*Quercus ilex*) • Norway Maple (*Acer platanoides*) • Snowberry (*Symphoricarpos albus*) • Broadleaved Bamboo (*Sasa palmata*) • Cherry Laurel (*Prunus laurocerasus*) • Variegated yellow-archangel (*Lamiastrum galeobdolon ssp. Argentatum*) 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.

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)	• 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)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	• Communicate the ban on BBQs and fires on site through signage and education. • Inform and educate smokers on need for careful disposal. • All brash is chipped or stacked for habitat and not burnt.

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)	• 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.

Threat (Pollution, Fire, Flood, Wind, Invasive Species, etc)	Chemical or sewage pollution from upstream development, storm water overflows and sewage outfalls.
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	• Monitor for chemical alerts that could negatively impact the biodiversity of the site or the surrounding green and dark corridors. • Liase with EA & SERT over misconnected sewage pipes and any suspected pollution events. • Inform and educate about pollution impact on aquatic biodiversity.

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)	• 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 FOPC 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)	• 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)	• 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)	• 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	Increased pests and diseases
Likelihood of presence (high/medium/low)	High
Impact (high/medium/low)	High
Response (inc protection measures)	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: • Pests and diseases detailed in section 5.2 • Crown thinning • Drought stress • Leaf discoloration • Degree of canopy closure • Leaf retention • Flowering • Fruiting • Evidence of resistance within tree stock

Threat	Uniform Structure
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	• 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.

Threat	Habitat fragmentation/edge effect
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	Medium
Response (inc protection measures)	• 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	Lack of Diversity
Likelihood of presence (high/medium/low)	Medium
Impact (high/medium/low)	High
Response (inc protection measures)	Pedunculate oak makes up the majority of the canopy layer across the woodland. Should a pest or disease dramatically impact the population of *Quercus Robur,* akin to Ash dieback, the woodland would be heavily impacted, as would its biodiversity given our native oaks support over 2300 species. • 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.

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	The woodland is currently entering a dark phase with closed canopy and limited light levels resulting in lack structural diversity. Lack of extensive management has meant holly has come to dominate the understory, in particular, in the southern sections of compartments 1 and 3. This further reduces species composition and structural attributes, which determine habitat quality. Increasing the biodiversity value of the woodland will increase its resilience to climate change. • Carry out selective holly thinning across each compartment, so it is no longer dominant and treat stumps accordingly to prevent regrowth. • First year holly thinning should start in against the southern boundary of compartment 3, along the boundary with Richmond Park. • Phase thinning works across the lifetime of the plan and focusing 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 screen to the urban surroundings apart from where it meets Richmond Park wall. • Monitor natural regeneration of the understory and species diversity. Use fixed point photography to illustrate changes.
To improve the biodiversity of the ponds and surrounding wetland areas.	• Carry out a survey for aquatic invertebrates on the two small ponds to establish baseline data and species present. • Remove small diameter terrestrial tree species that have invaded surrounding wetland areas on the woodland pond in compartment 3. • Increase the sunlight levels around the woodland 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. • Assess potential to expand ponds to increase wetland habitat and to assist with temporary water storage for floods.

To enhance the habitat condition along the Beverley Brook. Separate project that requires additional funding	• Carry out eDNA survey for fish or ad hoc fish trap prior to any works. • Carry out a survey of appropriate locations for canopy thinning or tree removal to allow more light to reach the Brook. • Gradually increase the sunlight levels through a phased approach to increase the levels of marginal vegetation. • Identify locations for habitat revetment enhancements to increase the variety of water depths and create fish refuges. • Increase Course Wood Debris (CWD) within the channel. • Restore channel sinuosity through deflectors and berms. • Maintain and improve natural barriers along the river corridor to inhibit human and dog access. • Create in-channel vegetation to help manage the effluence entering the brook from the misconnections along the stretch. • Fix broken and damaged fencing to keep people and dogs out of the polluted water. • Used fixed point photography to document changes in vegetation prior to and during works.
To maintain and enhance the pathways though the site.	• 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	Complete removal of the following invasive species: • Tree of Heaven (*Ailanthus altissima*) • Holm Oak (*Quercus ilex*) • Norway Maple (*Acer platanoides*) • Snowberry (*Symphoricarpos albus*) • Broadleaved Bamboo (*Sasa palmata*) • Cherry Laurel (*Prunus laurocerasus*) • Variegated yellow-archangel (*Lamiastrum galeobdolon ssp. Argentatum*) Control of the following invasive species: • False-acacia (*Robinia pseudoacacia*). 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. • Turkey Oak (*Quercus cerris*). Where appropriate these can be heavily crown reduced but maintained as standing deadwood. Do not crown reduce veteran/notable Turkey Oaks. • 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	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 several veteran and mature trees of high biodiversity value.

	• 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. • Maintain maps and photographic records of all veteran trees and works carried out. • 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: • 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.
Create a marginal meadow around the perimeter of the woodland and brook	• Where possible maintain a minimum 2m strip of uncut grass around the perimeter of the plan area (see meadow management map) during the bird nesting season. • Sections of this marginal meadow should be cut and removed on a rotational basis so that uncut areas remain.
Maintain and create scrubland margins	Scrub provides nectar, seeds, fruits, shelter and nest sites for invertebrates, birds and mammals. It also offers suitable habitat for many flowering plants. Scrub of varied age, species and structure supports the widest range of wildlife, as some species depend on specific growth stages of certain plants. Some species require specific shrubs and others a range of habitats in a small patch of scrub. It is important to maintain all growth stages. • Restore scrub margin along the northern edge of compartment 4. This will then grade into the meadow margin. • Develop scrub along the southern boundary of compartment 3 from holly removal. • Coppice small diameter trees along the eastern and northern boundary of compartment 1 which grades into the meadow margin. (work should not be carried out in or around the badger sett).
Maintain the orchard as a key aspect of community engagement and best practice management	• Work with Friends of Palewell Common and the local community to maintain the orchard. • Cut and remove the grassland around and under the orchard trees each year. • Mulch, prune and if necessary, water orchard trees during droughts.

	• Engage local community in all activities relating to the orchard.
Increase the provision of suitable features for wildlife	• 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 Beetles loggeries can be created from cut logs as can Hibernaculums
Set up extensive wildlife monitoring throughout the woodland. To be priced separately.	• 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 and associated maps as a dynamic document	Woodlands are dynamic structures exposed to numerous internal and external environmental forces that cannot be predicted or results anticipated. As such this plan should: • 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	• 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: • Work with Park Guard, local police, and community safety to resolve the issue(s).

Section 7: Stakeholder Engagement

Work Proposal	Individual/ Organisation	Date Contacted	Date feedback received	Response	Action
All woodland management works	Friends of Palewell Common				
All woodland management works	LBRuT (Parks Service Manager, Arboriculture Manager, Ecology, Policy and Planning Officer,				
All woodland management works	Ward Councillors, Cabinet Member for 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
1	To increase structural diversity of the woodland and tree species composition	Natural regeneration of understory where holly has been removed.	Visual	Visual & survey	LBRuT Contractor	
2	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	
3	Enhance the Habitat condition of the Brook. Separate project, funding to be sought	Increased marginal vegetation and river biodiversity.	Visual & survey	Annual for first 3 years then every two years	LBRuT Contractor	
4	To maintain and enhance the pathways through the site	Clear pathways and sightlines.	Visual	Every 6 months	LBRuT Contractor	
5	To remove or control invasive species	All stated invasives for complete removal are eradicated and the remaining are under control and rare.	Survey	Every 2 years	LBRuT & LBRuT Contractor	
6	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	

7	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	
8	Create a marginal meadow around the perimeter of the woodland and brook	Change and increase of relevant indicator species.	Visual & survey	Every 2 years	LBRuT Contractor	
9	Maintain and create scrubland margins	Change and increase of relevant indicator species.	Visual & survey	Every 2 years	LBRuT Contractor	
10	Maintain the orchard as a key aspect of community engagement and best practice management	Good health of trees and fruit production.	Visual & survey	Every 2 years	LBRuT Contractor	
11	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	
12	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	
13	Maintain the woodland management plan and associated mapping as a dynamic document	Objectives remain relevant and achievable.	Written updates	Annual	LBRuT & LBRuT Contractor	
14	Control anti-social behaviour	Reduction in anti-social behaviour/	Visual	Ongoing	LBRuT & LBRuT Contractor	

Appendix- Maps


N
Orchard
Pond
Beverley Brook
Meadow margin yr 1 cut
Meadow margin yr 2 cut
100 50 0 100 200
Meters

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

SERT Beverley Brook habitat restoration https://www.southeastriverstrust.org/beverley-brook/