HABITAT MANAGEMENT PLAN

Woodland: Copses and Treebelts

Ancient oak, Chessington Wood, A. Fure 2014

CONTENTS

Abbreviations:

KBAP	Kingston Biodiversity Action Plan
BAP	Biodiversity Action Plan
HAP	Habitat Action Plan
SAP	Species Action Plan
LMP	Lower Mole Project
LNR	Local Nature Reserve
SNCI	Site of Nature Conservation Importance
AW	Ancient Woodland
SAM	Scheduled Ancient Monument
LBG	London Bat Group
CWoA	Chessington World of Adventures
W/B/A	Whiskered/ Brandt's Alcathoe.

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1.0 Introduction and definition of woodland types

Peterken's diagram of the five types of urban woodland is a good starting point for defining Kingston's urban woodlands. If the woodland is sufficiently large, several of these woodland types may be found.

Table 1: The five main types of urban woodland defined in terms of their origin and degree of naturalness. Proportions in Britain estimated in 1978 Peterken (1981)

Decreasing age of site as woodland →

Ancient semi-natural woodland dating from the Middle ages or more **14%**	Secondary woodland that has developed through natural colonization of open sites over the last four centuries **3%**
Ancient woods clear felled and replanted with an even aged stand **14%**	17^{th}-19^{th} century plantations **14%** 20^{th} century plantations **55%**

↑ Increasing naturalness

Ancient semi-natural woodland

Ancient woodland (AW) is probably the richest of all British habitats, in terms of the animals and plants that make whose primary habitat is woodland. AW is defined as being in existence since 1600 and many specialist species found in ancient woodland have poor powers of dispersal and are not found elsewhere. Survival of ancient woodland through processes of urbanization is determined by combinations of topography, ownership and chance (Gilbert, 1989). So where the topography may be too steep for development or there is a high water table or heritage assets.

Ownership provides the surest protection against development. The most extensive urban woodlands are those bought or gifted to be managed for public amenity. A survey of broad-leaved woodland in London (GLC, 1986) found that predominantly publicly owned ancient woodland covered 1.7% (2600 ha) of the area and of this only 18% had been lost or seriously damaged since the 1930's, which is the lowest rate of loss for any AW area in Britain.

Tracking down small fragments of AW starts by consulting large scale maps that pre-date urbanization from which wooded areas can be transferred to modern 1:0,0000 plans. The most likely areas are the grounds of what were formerly large private houses or institutions. Fragments of AW may be found along rivers, in awkward corners or as marginal tree belts. They can be recognized by the ground flora which should contain species of low colonizing ability.

Tree and shrub layers are less useful. The plants in Table 2 are examples of species, which may indicate AW although these are not all specific to our area.

Table 2: Selection of AW vascular plants, with little or no ability to colonise secondary woodland.

Carex pallescens	Pale Sedge
Carex pendula	**Pendulous Sedge**
Carex remota	**Remote Sedge**
Equisetum sylvaticum	Wood Horsetail
Galium odoratum	Woodruff
Lamiastrum galeobdolon	**Yellow Archangel**
Luzula sylvatica	Great Wood-rush
Lysimachia nemorum	**Yellow Pimpernel**
Melica uniflora	**Wood Melick**
Milium effusum	**Wood Millet**
Oxalis acetosella	**Wood-sorrel**
Potentilla sterilis	**Barren Strawberry**
Primula vulgaris	**Primrose**
Tilia cordata	**Small-leaved Lime**

Note: there will be plants specific to the Kingston area, which fall into the above category. Some are emboldened others are yet to be established.

The Kingston Angle

Many chance phenomena operate both to preserve and destroy woodland in urban areas. The survival of odd corners and strips cut off during the construction of roads and railways can be locally important (Gilbert, 1989). Examples include Coombe Wood divided by the A3, The Grapsome divided by the Esher By-pass and Chessington Woodlands divided by the Leatherhead Road (as well as an old railway embankment).

Most ancient woods in urban areas have experienced some 19th century invasion with the planting of exotic trees such as Larch, Scots Pine, Sweet Chestnut and Rhododendron (Jubilee and Coombe Wood). The shrub and ground layers tend to be more resistant to exotic species. Close to gardens, bird sown seeds of Cherry Laurel, Oregan Grape, Tutsan and Snowberry dominate the under-storey (from Riverhill to the Woods at Surbiton and even Sixty Acre Wood at Chessington have been colonized by Cherry Laurel, Snowberry and hybridizing Stinking Tutsan respectively).

Secondary woodland that has developed from natural regeneration on bare ground is particularly common at neglected sites such as old allotments, cemeteries, strips along rivers and on land too steep for farming (such as the Sycamore-Robinia copse at Kingston Cemetery and Sycamore woodland at Winey Hill). There is no quantification of this habitat at the golf courses.

Old parkland Oaks have considerable value for woodland species such as lichens, invertebrates and the fungi that they support. They can also provide valuable nesting habitat for Woodpeckers and Nuthatches and roost sites for bats. But there are few trees outside neighbouring Richmond Park, which are of such a great age. Trees that are more than two hundred years old exist at the Chessington Woodlands and in some of the gardens around Coombe and Kingston Hill. Old Oaks can be found where there are ancient lanes or hedgerows such as the FP to Mansfield Road in Chessington, which will be included in the Hedgerow HAP.

In some cases it has been recognized that rough grassland adjacent to a wood is important ecologically and steps should be taken to redraw the woodland boundary to include these ecotones for example: the meadows at Jubilee Wood and Castle Hill (the latter now overgrown); the grassland created at Chessington Wood by the service area for the gas pipeline and throughout Castle Hill, Jubilee Wood and World's End for the National Grid (the latter dependent on management).

Over-management is a problem and a dilemma exists between foresters and ecologists (highlighted by Gilbert, 1989). Many ecologists believe that trees should grow until they fall over and suggest a coppice rotation, which is much longer than that preferred by foresters. Gilbert highlights the neat, tidy and predictable woodland, which appeal *only to local authority members because they have a legal responsibility safe for the public* (sic). This would certainly be characteristic of most of the borough's woodlands within walking distance of a car park, but is particularly noticeable at The Woods in Surbiton.

Despite the policies enshrined in the Core Strategy as well as UK and Regional Priority Habitats, woodland is still being lost from the borough. A planning application to site a telephone mast at a privately owned wood adjacent to Tolworth Court Farm, led not only the loss of a large number of trees without the prerequisite felling licence, but also the cutting of veteran Ash trees in the borough in order to facilitate the smooth passage of machinery. (A TPO was later conferred on the stumps of those trees in the borough's ownership).

At the time of writing it is not known whether the Grapsome is still in the borough's ownership as the information provided was ambiguous. It is possible that since the 1992 Handbook was written, the borough has given up its 'ownership' of this site.

According to the Atkins study (2005) there are 14 woodlands in the borough, which together constitute 5.6% or 47.83 ha (of the 12% natural areas of open space). By contrast Richmond has 396 ha of native woodland, the 4th highest of the London Boroughs, and 78 ha of non-native woodland, the 3rd highest of the London Boroughs, which is equal to half of all the open space in Kingston (all categories).

Table 3: Open Space type and area in Kingston (Atkins, 2005)

Open Space Type	No. Sites	Area (ha)	% Total Open Space
Metropolitan Park	0	0.00	0.0%
District Park	1	10.36	1.2%
Local Park	17	113.38	13.3%
Small Local Park / Open Space	13	18.93	2.2%
Linear Park / Open Space	12	22.34	2.6%
Total Park Provision	**43**	**165.01**	**19.4%**
Agriculture	2	2.71	0.3%
Allotments	23	41.70	4.9%
Amenity Green Space	92	17.81	2.1%
Cemeteries	5	18.54	2.2%
Golf Course	5	130.56	15.3%
Green Space Within Institution Grounds	13	16.25	1.9%
Horticulture	6	2.22	0.3%
Natural / Semi Natural	18	102.13	12.0%
Play Space	37	22.09	2.6%
Playing Field (public)	28	87.47	10.3%
Playing Field (private)	25	121.07	14.2%
Reservoir / Water Body	2	42.54	5.0%
Woodland	14	47.83	5.6%
Other (Specify)	1*	32.65	3.8%
Vacant	4	0.55	0.1%
Total Other Space Provision	**275**	**686.11**	**80.6%**
Total Open Space	**318**	**851.12****	**100%**

* Sewage Works. **Includes the three open spaces outside the Borough Boundary total open space inside the Borough is 839ha

n.b. It is unknown as to whether the southern tip of Richmond Park, which included Gallows Hill and pond as well as Thatched Lodge House was included in the 47 ha identified in the Atkins study. It is described as a 'spur of woodland beginning at the south-eastern boundary, clothing the ridge towards the house' (LEU, 1992) but is now in Richmond Borough.

3.0. Aims of the KHAP

- To identify the number, type and location of Kingston's woodlands;
- To maintain and enhance the biological diversity of existing woodlands and ensure that management is appropriate;
- To create new woodlands and extend the existing woodland areas;
- To raise the council's awareness of the importance of woodlands and to ensure no further loss of the resource through boundary changes, land deals and development;
- Any unavoidable loss should be adequately compensated on a like for like basis; and
- To raise public awareness of the importance of the habitat.

A Woodland overview (Greenspace Information for Greater London, 2013) found the potential existed for creating or restoring **680 ha of woodland habitat in the borough.**

4.0 Woodland in Kingston

Table 4: Woodland in order of designation from Met sites to local RBK, 2014

NAME	ADDRESS	DESCRIPTION INCLUDING AREA	OWNERS/
Sixty Acre Wood	TQ 164 622	**Site of Metropolitan Importance** 23 ha in Kingston	Private
Jubilee Wood	Part of Sixty Acre Wood	LNR Plantation woodland divided by National Grid Sub-station	RBK and Private
Chessington Wood	TQ 174 618	SBI Grade 1 Triangular in shape with a side facing the Leatherhead Road 9 ha	RBK and Private
Castle Hill	TQ191 635	LNR SBI Grade 1 Scheduled Ancient Monument SAM 6.6ha (area includes Bonesgate O.S.)	RBK
Barwell Court Lake Woodland and Island	TQ 166 626	SBI (mainly for the lake) but the woodland has developed into important habitat (No area stated for the woodland)	Private (recently sold)
Kingston University, Kingston Hill Campus	TQ 209 715	SBI Grade 1 9.2 ha in total only a portion of which is woodland	Kingston University
The Grapsome	TQ 170 636	SBI Grade 1 Copse at the western side of the Esher By-pass and may no longer be considered as under the jurisdiction of the borough. Springs of Tolworth Brook rise here. 1.1 ha	Private
World's End	TQ 164 601	SBI Grade 11 Broad leaved woodland at the extreme south-western end of the borough. Useful extension to Princes Coverts 0.9ha	Crown Estate
Winey Hill Woodland	TQ 170 628	SBI Grade 11 Small woodlots around the contours of a domed hill next to Chessington World of Adventures	RBK
The 'Woods' and Richard Jeffries Bird Sanctuary	TQ 182 671	LNR SBI Grade 11. A small town park close to Surbiton Station. 1.4 ha	RBK
Riverhill House	TQ 207 656	Relicts of AW surrounded by a leisure facility and mobile homes.	RBK
Coombe Wood	TQ 218 704	LNR SBI Grade 11 Wooded area divided by the A3	RBK
Woodlots			
Hogsmill Sewage Works	TQ193 684	Some woodland at the sewage works	Thames Water
Clayton Road Wood		Small woodland which crops up in planning applications!	Private
The Cassel Hospital	TQ177 717	Re-development of buildings. 3ha (0.7ha in Kingston)	Area Health Authority

It is not known if these 14 woodlands were the same as those identified during the Atkins study. Were Sixty Acre and Jubilee counted as one? Was the Grapsome included?
Blue indicates that the site has suffered from development.

Flagship Species

Table 5 These special plants and animals are characteristic of Woodland in Kingston

COMMON NAME OF SPECIES	LATIN NAME OF SPECIES	COMMENTS
Badger	*Meles meles*	One of the most persecuted mammals in the country
Hazel Coppice	*Corylus avellana*	One of the most important trees for coppice, important for nest and roost sites as well as hazel dormice.
Tawny Owl	*Strix aluco*	Known to breed in the Oakhill area at Surbiton and Kingston Hill, with most other records at Chessington
Stag beetle	*Lucanus cervus*	Used to be a common sight especially at Surbiton and along the Hogsmill associated with dead wood
Brown Long-eared bat	*Plecotus auritus*	A UK BAP species only found in green belt woodland, Chessington.

5.0 SITE GAZETEER

Chessington's Woodlands

The largest woodland area of the borough is found amongst the green belt in Chessington. This would have once been a huge forest, rather than the current fragments, apparent by the similarity in plant species wherever the canopy is sufficiently open, such as Field Rose and Wood Melick. Characteristic plants with an even more pronounced 'local' distribution include Stone Parsley found at Chessington Wood and perhaps Marsh Woundwort. The largest remaining fragment is Sixty Acre, which is privately owned, but has a permissive footpath through it. All the woodlands in the Gazeteer were surveyed during 2014 except The Wood, Kingston University and Cassel Hospital, which were surveyed during 2013 and 2006 respectively.

SIXTY ACRE WOOD surveyed 2.9.14

Designation: SBI Grade 1

Photos: re-growth of birches and hazel along wayleave under pylons; charcoal burner

The site is the most biodiverse woodland in the borough. The south-eastern part of Sixty Acre wood, is an example of 'working woodland' and here it is possible to see the many growth stages of hazel and sweet chestnut coppice. Logs, piles of faggots and charcoal burning are indicative of woodland crafts. Lower down the slope (towards the forestry plantation at Great Oaks Wood on the western borough boundary) multi-stemmed Hornbeams attest to historic coppice management. The lower slopes are wet and Starwort and Water Mint along the paths are indicative that the woodland has only recently dried out. Seeboard used to maintain the area under the National Grid pylons by coppicing (top photo). More recently, EDF the current contract holders, carry out a destructive 'slash and burn' policy. This is unfortunately a theme throughout the route of the Grid.

Tree and plant species: Early Purple Orchid, Common Spotted Orchid and Marsh Orchid are the specialties at this site. Plant species additional to those recorded during the habitat re-survey (J. Dobson 2006) include: Pheasant-berry also known as Himalayan Honeysuckle *Leycesteria formosa* which grows tall along the wayleave. This could be an artefact of pheasant rearing for game shooting. A reduced level of tussock grassland was noted, which was previously dominated by *Deschampsia cespitosa* a habitat favoured by reptiles and small mammals. There were many AW indicator species such as Wood Spurge, Barren Strawberry, Yellow Pimpernel, Wood Sorrel, Wood Anenome etc. Unfortunately, some of the AW plants have hybridized with plants from the landscaped car park at Chessington World of Adventures (CWoA). This includes the oval fruited Stinking Tutsan *Hypericum hircinum* which has hybridized with the round-fruited AW indicator species Tutsan *Hypericum androsaemum*.

Mammal and Bat species: Dormouse boxes have been erected on coppice hazel. Some of the boxes have suffered damage characteristic of Weasels (see photo below). Other boxes are filled with nests typical of Woodmice along the warmer woodland edge. Pygmy Shrews have been recorded and there are historic records of Yellow-necked Mice. There are no bat records due to a lack of survey information, although Brown Long-eared bats are probably a feature as they are recorded nearby at CWoA.

Birds species: This is one of the few places in the borough where Bullfinches remain along with many woodland bird species.

Amphibians and Reptiles: Under the old coppice style management (under pylons) the arising tussock grassland, *Deschampsia cespitosa* was heaving with Common Lizards. During the current survey, grass tussocks were difficult to find. However two Lizards were noted under a pylon near to the CWoA car park. Common frogs were noted on the lower wetter slopes.

Fungi: Excellent examples of Oyster, Yellow Brain fungus as well as a Ganoderma on Oak (below) indicating the cinnamon colouration caused by the spores on the bark.

Dryads saddle

Ganoderma with cinnamon spore staining

Weasel damage on dormouse boxes?

JUBILEE WOOD *LNR* Surveyed 12.8.14 (RBK) and 18.8.14 (the private area of woodland was viewed from the perimeter).

Photos: Dead Oaks in wet woodland: summer and winter. A Hornet's nest (above).

Jubilee Woods adjoins Sixty Acre Wood to the east and was planted in 1887 to commemorate the Jubilee of Queen Victoria. It is divided into two blocks bisected by the electricity substation. A

corridor of twenty metres alongside the National Grid links the two blocks. The western end is privately owned and is the more diverse area. Second World War fortifications are still present such as tank traps and a pill box. The latter has been converted into a bat roost by volunteers from the Environment Trust (2012). The woodland and bufferzone at the east block (RBK) is currently under threat from road widening and flooding, although ditch works may alleviate some of the inundation. There is a debate over whether the flooding is natural or has arisen from a burst water main at an adjacent site, where a stagnant pool of water attests to saturation. Certainly copious amounts of water can be seen flowing from nearby fields during the winter. A brook lined by Poplars flows through the woodland. A field at the eastern buffer zone was found to have an interesting wet patch of *Deschampsia cespitosa,* which is now surrounded by hoardings as part of a road widening scheme.

Plant and tree species additional to the information in the Handbook (1992) and re-survey (2006): The boundary Oaks must be amongst the oldest in the borough. Standing dead-wood, with Phragmites Reed, Typha, Flag Iris and Marsh Marigold form the matrix habitat. Black Pines are a feature of the woodland and a line of twenty five trees extends through the western block towards Sixty Acre Wood. There are also several large healthy Wych Elms and some young Sweet Chestnuts trees, the latter may have been bought from Sixty Acre Wood by Squirrels. As with many of the Chessington woodlands, the less common Field Rose and False Brome features, (where the canopy allows). Hoary Ragwort is an uncommon plant noted throughout the Chessington Woodlands, which has rocket like leaves. Fleabane is characteristic of the meadow, although there are a number of rogue species arising from recent works, such as Scarlet Pimpernel, the chalk loving Marjoram, Verbena and Garden Mint. There were once Common-Spotted Orchids near to the sub-station, but it is currently too overgrown. Hybridization of Tutsan has occurred at the western edge, where the link to Sixty Acre has been severed to create car park access.

Mammal Species: Mammal signs include Mole, Rabbit and Roe Deer droppings throughout the woodland and the adjacent field, where ditch-works are occurring and increase further to the west. Rabbits prefer to graze the area recently seeded with finer fescue grasses, following fibre optic cabling/pipeline works. This is an excellent site for bats and mating roosts of Soprano Pipistrelle bats were found in tree holes during woodland surveys (2013) as well as Brown Long-eared bats, which also roost within the converted Pill Box.

Bird Species: In former years the reed-bed at the meadow held the largest Reed Bunting night-roost in Surrey, with fifty individuals (although there have been none recorded in more recent surveys). Buzzards no doubt hunt the Rabbits and are frequently seen from the sub-station. Stock Doves are recorded in good numbers, along with other woodland species such as Coal Tit and Nuthatch. There are older records for Marsh Tit (Kendal, 1995). Woodpeckers use the trees for breeding, which in turn are useful for bats.

Invertebrate Species: Hornets breed in the tree holes in the wood (see photo). Gatekeepers and Speckled Wood butterflies are commonly seen. The meadow is a good site for the White-letter Hairstreak, although much of the food plant (Elm) has been removed and the hedgerow has not been managed properly in recent years. This allows in the light pollution from the Chessington Nursery particularly from its prolonged Winter Circus, which spoils the site's ambience.

CHESSINGTON WOOD surveyed 29.7.14., 7.8.14 and 3.9.14

The wood forms part of the Chessington Countryside Walk, developed by LMP with an excellent leaflet, which provides a useful adjunct to current information. There are four distinct areas to the woodland, which has an arm of the Bonesgate stream flowing along its southern boundary. There is a mushroomed shaped pond on the east side of the Leatherhead Road, which runs alongside the CWoA (surrounded by planted Motorway-style bunds). The main wood is split into a private fenced area as well as the area owned by RBK. There is a wet meadow, abutting two of the woodland boundaries, where a gas pipeline has been constructed. The meadow has developed an interesting flora and is precisely the habitat, which the borough needs more of.



Photos: The Bonesgate stream flowing through wood; Gorse; and a mushroom-shaped pond.

Plant and tree species: The private area has a large number of moribund ash trees, which can be seen from the meadow, indicating a lack of management. The wood used to be important common land where 'furze' or Gorse was collected and Gorse remains in parts. Butcher's broom grows, particularly along the northern boundary hedge bank. Stone Parsley, a 'local' plant species, is a feature along the woodland footpath along with Marsh Woundwort. The meadow is colonised by Knapweed and Meadow Vetchling and note the Greater Birds Foot trefoil *Lotus pedunculatus*, which has a hollow stem and prefers damp places. Sheep's Fescue and Bush Vetch has not been recorded here before (not during the 2006 survey).

Mammal Species: Roe Deer use the meadow for loafing (judging by the depressions in the grass). A bat survey was undertaken by four volunteers (7.8.14). Brown Long-eared bats were detected, which may roost in the trees (photo front page) as they do not travel far from their roost sites. In addition, Soprano and Common Pipistrelle bats were recorded as well as a *Myotis* species, possibly from the W/B/A group.

Bird Species: Buzzards feature on the eastern boundary with farmland, where shooting of so-called pest species takes place. A Tawny Owl was heard calling during the bat survey (7.8.14).

Invertebrate Species: Probably good for moth species due to the large number of moribund ash trees on the private area. During the July survey White Admiral butterflies were recorded along the footpath, which is the only record for the area. The meadow is excellent habitat for dragonflies and honey bees.

CASTLE HILL WOOD surveyed during 28.8.14 (habitat and bat).

LNR SBI Grade 1

The site is AW but being under 2 ha in size, it fails to qualify for inclusion on the register of AW. The contiguous Butcher's Grove is also AW (surveys, 2014) but as it lies over the western boundary of the borough, the exclusion from the register may be an administrative anomaly rather than an ecological fact. The management needs of the site are complex, as well as being an LNR the site is also a SAM and English Heritage has paid for recent tree works to protect the medieval hunting lodge. LMP have implemented vegetation clearance under the pylons, rather than EDF's usual contractors, in the hope that management will be more ecologically sensitive (see Sixty Acre and Jubilee Wood). There is a Comprehensive Management Plan (Cullen, Owen, 2008) which may be overly people-centric. New paths give the wood an urban, although not unpleasant atmosphere (but should AW seed banks be submerged under the hoggin). During a bat survey, there was a steady stream of people seen through the woodland, from an extreme biking group sporting head torches, to joggers and some very late dog walkers, indicating the path has been welcomed. Shooting is a problem here and shotgun cartridges are found. Shot gun fire was heard at the start of the bat survey and there have been similar reports from Horton CP (S. Cocker, *pers. comm*.).





Photos Top: iron railings at the borough boundary with Horton CP, new wavy path,
Bottom: Brown Hairstreak butterfly, boundary marker old Field Maple with water filled hollows; regrowth under pylons.

Plant and tree species: A comprehensive plant survey was carried out (Cullen, LMP 2008) as well as Dobson, 2006. Hard shield fern was recorded at two locations: under the pylons (2014); and an excavated ditch at the eastern boundary of the wood (2014). This is an AW indicator species and has not been previously recorded (Dobson, 2006). Not surprisingly, invasive species have arisen since works, such as Himalayan Balsam along the Bonesgate and others may occur within the AW after the clearance and path construction.

Mammal Species: Deer and other large mammal species occupy the woodland. The status of Water Vole along the Bonesgate should be reviewed. This is one of the few remaining sites where Serotine Bats have been recorded along with Common and Soprano Pipistrelles, Brown Long-eared and *Myotis* bat species.

Bird Species: Woodland birds include Nuthatches and Tree Creepers as well as two Woodpecker species. Kingfishers use the Bonesgate and Kestrels are never far away. Tawny Owls were heard during the bat survey.

Amphibian and Reptile: A toad was recorded during the bat surveys.

Invertebrate Species: The magnificent Brown Hairstreak was recorded during the survey (photo of a female above) which was seen attempting to lay her eggs at a stand of blackthorn scrub (the caterpillar food plant). There were further reports of this species in the borough T. Drakeford, Surrey Comet, September, 2014) Hornets use the tree holes.

BARWELL ESTATE WOODLAND 21.6.14

Designation: Site of Borough Importance Grade 1

Photos: View across Barwell Estate Wooded Lake, Common Spotted Orchid

Woodland surrounding this eight hectare lake was part of the Barwell Estate (until recently) which is a large farm to the immediate west of Chessington. It was originally part of the Merton College property and was bought by Lord Foley around 1750. The Baker family purchased the site as a 250 acre farm around 1914, although it was split into seventeen lots and sold during 2013 with a guideline price of £325,000 for the lake, including a restrictive covenant not to be sold to the Chessington World of Adventures.

Plant and tree species: Trees to the north of the lake form a small woodland where Sweet Chestnut, Lime Scot's Pine and Oak are found. White Willow, Aspen Ash, Rowan, Rose and Hawthorn exist around the margins. Common Spotted Orchids are still recorded at the margins although Centaury and Red Bartsia was not found this year (2014).

Mammal Species: Deer are probably most frequently seen along with occasional Mink and Mole. This must be a fantastic site for bats but there are no records.

Bird Species: This may be the only site in the borough where Willow Warbler is still recorded and there were three territories (2014). Song Thrushes, Woodpeckers and Nuthatches are recorded.

Invertebrate Species: On summer days, damselflies and dragonflies can be seen patrolling the lake and bankside vegetation. Broad-bodied Chaser and many Blue Damsels were noted during 2014. This is either a good year for Ringlets butterflies (found mating along the grassy borders) or this is an exceptional site for them as this is a species not commonly found in such good numbers in the borough.

THE GRAPSOME

Designation: Borough Grade 1. At the time of writing it is clear this site is no longer managed by the borough. But it was listed on the borough SNCI's (RBK, March, 2014 and GIGL, 2008) and is not listed as an SNCI in Elmbridge where the boundary now lies. As it is here that the Tolworth Brook rises, which has its catchment entirely in RBK, we should retain an overview of what happens here. The southern side clearly contains AW indicator species.


Photos: Tudor manor and the infant springs of Tolworth Brook with hazel coppice

KINGSTON UNIVERSITY (Surveyed 2011-2013)

Designation: SBI Grade 1

The University site at Kingston Hill has seen major development in recent years and major key species no longer seem to be present. It is therefore uncertain as to whether the Grade 1 status still applies.

WINEY HILL WOODLAND (surveyed 2.9.14)

Designation: SBI Grade 11

This woodlot is council owned and exists in close proximity to the pond on the brow of Winey Hill occupying the contours of the slope down towards Barwell Court woodland and lake. It is located along the Chessington Countryside Walk and the LMP have been undertaking works this year (2014) in order to maintain the path.

Plant and tree species: Sycamore woodland with virtually no understorey. The value lies in the sunny woodland edge, where Hawthorn, Blackthorn, Honeysuckle and Black Bryony are located.

Mammal Species: A large Badger sett is present and deer use the area. Mole hills were noted.

Bird Species: There are records from the annual Surbiton and District Birdwatching Society surveys. Notable species include Great-spotted Woodpecker, Green Woodpecker, Song Thrush, Nuthatch and Tree creeper. There is an associated hedge which is popular with House Sparrows.

Invertebrate Species: The woodland edge is good for butterflies.

WORLDS END 9.9.14
Designation SBI Grade 11


Photo's: Lane from Star pub with woodland strip alongside Leatherhead Golf Course; Hazel coppice and Butcher's Broom.

This area is included in the Handbook located at the southernmost point of borough boundary at Malden Rushett but was not included in the borough habitat re-survey, 2006 probably as permission was not sought from the Crown Estate. Current management of the area under the pylons should be classed a criminal act.

Plant and tree species: Grey Poplar, spindly Oak, Horse Chestnuts and stands of impenetrable Hawthorn on the southern boundary give way to better managed Oak, Hazel coppice behind the Star pub. Ivy covers the woodland floor preventing growth of plant species but where it is absent large stands of Butcher's Broom are commonly found. Again 'local' species such as Stone Parsley and Field Rose are noted along the bund. Species additional to the Handbook include Broad Buckler Fern as well as Male Fern. Due to the current slash and burn policy, Japanese Knotweed exists under the pylons.

Mammal Species: Three Roe Deer marked the spot where the wood turns to forestry on Crown Estate. Badger latrines mark territory along the lane, probably from animals residing at Princes Coverts. Rabbit warrens exist on the shooting range. A strange cat-like animal was seen around the clay pigeon shooting range!

Bird Species: Sparrowhawk (plucked Wood Pigeon and perhaps Buzzard feeding remains (Rabbit fur) littered the site.

Invertebrate Species: Speckled Woods and dragonflies were seen during the survey.

RIVERHILL (surveyed 7.7.14)
Designation: Site of Borough Importance Grade 11 Bus route 965

This is a complex site consisting of many different uses from a Leisure Centre to mobile homes. The main area of woodland is divided into two by paths and occupies the northern area of the site. It was probably planted in the heyday of Riverhill House, which was then known as Tolworth Hall.

Plant and tree species: Some of the trees are older and may be relics of the AW that use to cover the area. Oaks dominate and there are some fine specimens along the northern boundary. Ash, Beech, Birch, Lime as well as Horse Chestnut, Lombardy Poplar and Pine. Whilst Ivy smothers the woodland floor, some regeneration of Ash and Field Maple was noted.

The woodland has been poorly managed and suffers from rubbish dumping at every pathway. This includes large compost heaps arising from grounds maintenance as well as piles of litter and building materials. In some cases Snowberry, Cherry Laurel and other garden escapes comprise the dominant vegetation.

A third area of woodland surrounding the go-kart track is less spoilt as fencing has prevented rubbish dumping. It is here that the AW indicator species are located such as Bluebells, Dog's Mercury etc. (plant list appended).

Mammal Species: Mammal trails are confined to the area at the base of the slope near the go-cart track.

Birds: There is a good woodland bird community including Woodpeckers, Nuthatches, Blackcaps and Goldcrests. The large number of droppings found, indicates that the wood is used as a night roost for Jackdaws, Wood Pigeons or both.

Invertebrates: Speckled Wood butterflies and hoverfly species were noted within the woodland.

THE WOODS AND THE RICHARD JEFFERIES BIRD SANCTUARY (bird and bat surveys 2012).

Plant and tree species: Suffers from inappropriate management and invasive species. Some conservation tasks have been carried out by the Environment Trust since the inappropriate works (2012) when six mature Oak tree where removed and the arisings chipped and left in a great pile on the root plates of remaining trees rather than being left as lying deadwood or habitat piles. There was a large number of invasive species such as Snowberry and Rhododendron, although some Ramson's still occupy the woodland floor.

Mammal Species: Several bat species were recorded during a survey prior to the removal of six mature trees with rot holes June, 2013. This included Noctule bat as well as Common and Soprano Pipistrelle bats.

Bird Species: A good woodland bird fauna has been recorded in the past, which includes Goldcrest, Song Thrush, Great Spotted Woodpecker and Nuthatch. Tawny owls have been recorded calling there on a regular basis, including during the bat survey, 2012.

Invertebrate Species: Speckled Woods are recorded.

COOMBE WOOD (surveyed 5.4.14)
Designation SBI Grade 11


Photos: New signage and view through the woodland

LMP have spent some much needed time here for the first time this year. New signage should signal better treatment by local residents many who see the site as a place to dump garden rubbish.

Plant and tree species: Oak woodland with Hazel understorey. There is an invasion of Rhododendron and garden species including *Pentaglottis sempervirens* the latter due to rubbish dumping.

Mammal Species: A much persecuted Badger family, persists at one location

Bird Species: Nuthatches and Woodpeckers.

HOGSMILL WOOD
Designation SBI Grade 11
There is little of merit at Hogsmill Wood. This was a site leased to London Wildlife Trust to manage but none was ever effected and it remains locked, unloved and uninteresting.

CASSEL HOSPITAL WOOD (surveyed 2006, but not included in the borough re-survey).
Designation SBI Grade 11
The Cassel Hospital Wood is largely located in Richmond but a small portion is within the borough boundary. The buildings associated with the site are listed but the future is assured only as long as the West London Mental Health Trust require the buildings and are able to let those that are surplus to requirements. A portion opposite Ham Parade was sold during 2006 and flats were developed leading to the destruction of a badger sett, a prosecution was later dropped.

6.0 Factors affecting the habitat

In order to know what the Actions should be it is important to know what the problems are Factors affecting the habitat in the borough

Lack of appropriate management/inappropriate management;

- Poor water management;
- Poor perception of the importance of local woodlands;

Inappropriate uses:

- National Grid;
- More recent installation of pipelines and cabling operations;
- Road widening and ditchworks;
- Motor/extreme biking;
- Rubbish dumping.
- Shooting and poaching;
- Damage to trees by exercising dogs jaws;

Isolation

- Restriction of the movement of species between habitat parcels.

1. Lack of appropriate management/inappropriate management

Many problems come under this heading. If the woodlands had been managed as sensitive sites, then most of the other headings would not apply. Lack of management of Kingston's woodlands has been a problem since the end of the 1990's when population pressure intensified, especially at urban sites such as Hogsmill Wood and Riverhill. Inappropriate management at The Woods in Surbiton, led to works being carried out in the bird breeding season (June, 2013). This included the felling of Oaks and chipping of dead wood, leaving the bark chips on the roots of other trees rather than leaving them as deadwood piles. LMP have written Management Plans providing quotations for bringing woodlands back to health but many proscriptions remain unimplemented. Some of the recommendations may be overly people centric, increasing the urban gradient of the woodlands.

Poor water management- Flooding

For years Jubilee Wood has been 'wet woodland' and Oaks have died to be replaced by Phragmites reed and Typha bulrushes. Some of this is due to the rising of natural springs. Water can also be seen flowing from fields on the opposite side of the roads during heavy rainfall. But for many years excessive water entered the site from the National Grid sub-station where there was a burst water pipe and a stagnant pool remains.

Poor perception of the importance of local woodlands

Much of the woodland in Chessington is ancient woodland although the fragments, such as Castle Hill are too small to appear on the ancient woodland register. This leads to the perception that the woodlands exist for the benefit of people and their pets so that trees are damaged by dogs and newly created paths have led to even greater incursions by so-called 'extreme' bikers. Riverhill has suffered from a perception that it is a receptor of rubbish and The Woods is a cut through to Surbiton station, which has led to sanitization. The borough has a legal duty to protect biodiversity under national and international legislation.

Invasive species

Garden species have superseded the woodland flora, which is particularly sad where there are clear signs of AW flora. This has occurred at Riverhill where Snowberry, Box-leaved honeysuckle, Lamiums and Cherry Laurel dominate the woodland. Japanese knotweed is found at World's End and Coombe Wood has patches of Green Alkanet etc. Himalayan Balsam lines the Bonesgate banks at Castle Hill where vegetation has been cleared.

2. Inappropriate uses

National Grid pylons go through woodland at World's End, the spine of Sixty Acre, a small area of Castle Hill Wood; the perimeter of Chessington Wood; and Jubilee Wood where the National Grid sub-station bisects the woodland. In some years this has had a beneficial effect on the habitat but this is dependent on company policy. When Southern electric were responsible for the grid, woodland management particularly at Sixty Acre was in the form of coppicing and this led to the wayleave being one of the most bio-diverse areas of the wood. However EDF management has been more slash and burn. LMP has recognized this problem and has offered to manage works under the pylons at Castle Hill. Management at World's End has led to massive piles of spoil including dead trees.

Photos: National Grid pylons, World's End

Mammoth piles of arisings, Worlds End

Pipelines and cabling operations:

This might be considered a form of development but for some reason often occurs without planning permission (as permitted development) and can have a radical effect on woodland. At Chessington Wood a gas pipeline was installed covering a large service area. Fibre optic cable throughout Jubilee Wood and Castle Hill etc. was subject to planning permission but led to woodland destruction, including dumping of cable containing lubricants in the Bonesgate Stream and the cable laid on the woodland floor at World's End (pictured).


Photos: Fibre optic cable World's End and dumped in the Bonesgate at Castle Hill

Road widening and ditch works

Road widening is occurring at Fairoak Lane in Chessington, 2014. The tree in the background is the start of Jubilee wood. The second photo pertains to ditch works along the fence at Chessington Nursery where vegetation has been cleared. This has the effect of damaging the so-called buffer zone and woodland edge, but may remedy some of the flooding at Jubilee Wood.


Photos: Fairoak lane vegetation clearance Jubilee wood vegetation clearance

Motorbikes and extreme biking

At Castle Hill and Sixty Acre there has been misuse of the woodland by 'extreme' bikers. Such activity at Castle Hill has caused concerns about damage to the SAM. At Sixty Acre, great mounds have been constructed to heighten the cycling experience.

Rubbish dumping

This is a problem at the urban sites such as Richard Jefferies where batches of newspapers are dumped. Riverhill receives the arisings from grounds maintenance. Castle Hill is littered with doggy poo bags, which seems incredible that people will pick up after their dog only to adorn the trees with plastic. Unwanted hay from the meadow at the Grapsome has been dumped in the woodland, which increases nutrient loading and has changed the vegetation considerably. At the World's End asbestos panels as well as large amounts of waste are routinely tipped into the woodland from the lane, as well as animal bedding from a nearby farm, which ironically may spread disease to native animals.

Shooting and Poaching

Shooting within the borough's woodland is a difficult problem. The borough do not even acknowledge it occurs, mainly because no member of the public has complained or been harmed but many birds and sometimes mammals are illegally taken. When undertaking bat surveys in woodland, shots are frequently heard and cartridges are regularly found at Castle Hill. Roe deer are commonly seen almost everywhere in Chessington, the remains of a skinned deer (grallochs) found in Chessington may be evidence of poaching (Guardian, May 2010). Similar occurrences have been investigated by the police.

Photo's: Castle Hill tree damage

Damage to trees caused by dogs

This has been another area where the borough has been slow to act. Bark damage from the inappropriate strengthening of dog's jaws is rife across London and some boroughs have issued guidance about the practice and how to tackle the problem. LB Haringey has issues posters asking members of the public witnessing this practice to call the police.

3. Isolation: Restriction of species movements between habitat parcels

There are many ways in which fragmentation or isolation occurs, but one is caused by the erection of impenetrable fencing, which can restrict or divert animal movement. Heras fencing has been erected at the private area of Chessington wood. Barbed wire has been installed over the Bonesgate stream to prevent the movement of deer. If this species cannot move through these habitats it pushes them out onto the road causing danger to motorists.
The creation of an overflow car park at CWoA isolated Sixty Acre from Jubilee Wood, which had already been divided by the National Grid.

7.0 Objectives and Actions

The Woodland HAP as part of the Kingston Biodiversity Management Plan could have broad generic actions and objectives, which apply to all the habitats and species in our plan. These actions could be *Site Management, Habitat Protection, Species Protection, Ecological Monitoring, Biological Records, Communications should address the issues above* as follows:

Objective 1: Implementation of the Woodland HAP as part of the Green Spaces and other Strategies

A Biodiversity Management Plan for HAP to be completed		September. 2014	
Assess the woodland resources at the Boroughs Golf Courses		Year 2	
Additional HAP actions (the details to be decided)		Year 2	
To present the BMP to planning officers and others involved in the implementation of biodiversity legislation in the form of seminars.			
To ensure the incorporation of the plan into the Green Spaces Strategy		Feb, 2014	
To ensure gains for Woodland within the planning documents including 'No Net Loss' of the resource for biodiversity.			

Objective 2: Site Management

Actions			
		ongoing	
Ensure that at least two woodlands attract comprehensive management improvements each year		Castle Hill 2013. Coombe Wood 2014.	
Ascertain how much the borough spends on woodland management and offer to increase the service using volunteers and employ the LMP using KBN funds			
Encourage the council to stop the inappropriate use of the borough's woodland by shooters, dogs, rubbish dumping bikers etc'.		Sept, 2014	
Remove invasive species (snowberry, lamiums, cherry laurel, Japanese knotweed, Himalayan Balsam).		River Hill, The Woods, Coombe wood, Castle Hill, World's End.	

Objective 3: Habitat Protection

Actions			
Object to any increases in activities, which will may affect the environment of Woodland such as:			
Cabling, gas works, road widening, flooding, encroachment by development			
Halt inappropriate activities and management.			

Objective 4: Ecological Monitoring

Actions			
Collate existing records but be aware of the wealth of existing information so that efforts are not duplicated.			
Some targeted species monitoring might be appropriate in some areas e.g Brown Long-eared bat, Tawny Owl and Water Vole.			
Dormouse box erection		Boxes could be extended from 60 acre into Chessington wood.	
Encourage use of GIGL by council officers			

8.0 Generic Management

MANAGEMENT REFER TO LMP	
	Prevent rubbish dumping
	Stop shooting
	Inappropriate and damaging works under pylons
	Stop the sequestering of woodland for cabling or road widening without compensation

Site Specific

SITE	MANAGEMENT HISTORY	MANAGEMENT
JUBILEE WOOD	QUADRON	• Monitor incursions from works in the buffer zone; • Monitor flooding; • Repair hedgerow allowing elm regeneration; • Monitor the Bat roost as brambles grow over the' letter box' entrance. • Prevent the constant 'shrinking' of the woodland and light pollution.
CHESSINTON WOOD	QUADRON	• Open up some areas including hazel coppice • Rescue the Bonesgate stream, which is very overgrown; • Species surveys required
CASTLE HILL	LMP	• Can this site be registered as AW?: • Refer to Management Plan, (M. Cullen and N. Owen, 2008) may be overly people centred (tree felling of mature oaks for the creation of pathways etc). Some of the recommended actions have been undertaken so refer to LMP. Others could be paid for by KBN. • Remove Himalayan balsam and other invasive species; • Monitor shooting; and • Damage of trees by dogs. • Management required of the meadow, as it is no longer retains meadow species but Hogweed and Nettle; • Surveys required re: riparian species.
WINEY HILL	LMP	• Mainly footpaths and horse barriers around the pond
RIVERHILL		• Contact Client Monitoring Services and the Borough Valuer to review the lease; • Removal of some ivy and invasive species • Removal of rubbish • Open the canopy.
WORLD'S END	*EDF under pylons*	• STOP the slash and burn policy of the current contractors which is spreading Japanese knotweed.
THE WOODS	*QUADRON*	
COOMBE WOOD	*LMP*	• This is another area where KBN could usefully employ LMP
HOGSMILL WOOD		UNMANAGED Invasive species include *Pentaglottis sempervirens*

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10.0 APPENDIX

Characteristic plant species

Riverhill House

Scientific name	English name
Acer campestre	Field Maple
Lamium album	White Dead-nettle
Hyacinthoides non-scripta	Bluebell
Ligustrum vulgare	Wild Privet
Quercus robur	Pedunculate Oak
Lonicera periclymenum	Honeysuckle
Geum urbanum	Wood Avens
Hedera helix	Common Ivy
Prunella vulgaris	Selfheal
Juncus bufonius	Toad Rush
Tamus communis	Black Bryony
Galega officinalis	Goat's-rue
Mercurialis perennis	Dog's Mercury
Symphoricarpos albus	Snowberry
Taxus baccata	Yew
Ilex aquifolium	Holly
Circaea lutetiana	Enchanter's-nightshade
Dryopteris filix-mas agg.	Common Male Fern
Corylus avellana	Hazel
Bromus hordeaceus	Soft-brome
Torilis japonica	Upright Hedge-parsley
Dryopteris dilatata	Broad Buckler-fern
Fagus sylvatica	Beech
Phyllitis scolopendrium	Hart's-tongue
Prunus laurocerasus	Cherry Laurel
Betula pendula	Silver Birch
Rumex sanguineus	Wood Dock
Brachypodium sylvaticum	False-brome
Carex remota	Remote Sedge
Carex divulsa	Grey Sedge
Lonicera pileata	Box-leaved Honeysuckle

Jubilee Wood

Scientific name	English name
Acer campestre	Field Maple

Tripleurospermum inodorum	Scentless Mayweed
Populus alba	White Poplar
Alnus glutinosa	Alder
Pinus sylvestris	Scots Pine
Ranunculus repens	Creeping Buttercup
Salix alba	White Willow
Anthriscus sylvestris	Cow Parsley
Senecio erucifolius	Hoary Ragwort
Quercus robur	Pedunculate Oak
Lonicera periclymenum	Honeysuckle
Aesculus hippocastanum	Horse-chestnut
Galium aparine	Cleavers
Geum urbanum	Wood Avens
Hedera helix	Common Ivy
Carex sylvatica	Wood-sedge
Achillea millefolium	Yarrow
Glechoma hederacea	Ground-ivy
Cirsium arvense	Creeping Thistle
Picris hieracioides	Hawkweed Oxtongue
Rumex obtusifolius	Broad-leaved Dock
Pulicaria dysenterica	Common Fleabane
Ulmus procera	English Elm
Rosa arvensis	Field-rose
Urtica dioica	Common Nettle
Poa annua	Annual Meadow-grass
Artemisia vulgaris	Mugwort
Tamus communis	Black Bryony
Populus nigra 'Italica'	Lombardy-poplar
Cornus sanguinea	Dogwood
Cirsium vulgare	Spear Thistle
Centaurea nigra	Common Knapweed
Rubus fruticosus agg.	Bramble
Holcus lanatus	Yorkshire-fog
Rumex crispus	Curled Dock
Prunus spinosa	Blackthorn
Salix fragilis	Crack-willow
Acer pseudoplatanus	Sycamore
Dryopteris filix-mas agg.	Common Male Fern
Solanum dulcamara	Bittersweet
Potentilla reptans	Creeping Cinquefoil
Corylus avellana	Hazel
Dryopteris filix-mas	Male-fern
Elytrigia repens	Common Couch
Hypericum androsaemum	Tutsan
Heracleum sphondylium	Hogweed

Teucrium scorodonia	Wood Sage
Malus domestica	Apple
Chamerion angustifolium	Rosebay Willowherb
Salix cinerea	Grey Willow
Geranium robertianum	Herb-Robert
Lolium perenne	Perennial Rye-grass
Sison amomum	Stone Parsley
Equisetum arvense	Field Horsetail
Stellaria holostea	Greater Stitchwort
Arrhenatherum elatius	False Oat-Grass
Betula pendula	Silver Birch
Dactylis glomerata	Cock's-foot
Prunus avium	Wild Cherry
Brachypodium sylvaticum	False-brome
Ulmus glabra	Wych Elm
Carex divulsa	Grey Sedge
Stellaria media	Common Chickweed
Salix caprea	Goat Willow
Fraxinus excelsior	Ash
Juncus inflexus	Hard Rush
Crataegus monogyna	Hawthorn
Sambucus nigra	Elder
Castanea sativa	Sweet Chestnut
Carex remota	Remote Sedge