

Richmond upon Thames

Habitat Action Plan

Broad-leaved Woodland



Mixed Oak Woodland, Ham Common Woods © Oliver Whaley

Signals abound that the loss of life's diversity endangers not just the body but the spirit.....The ethical imperative should therefore be, first of all, prudence. We should judge every scrap of biodiversity as priceless while we learn to use it and come to understand what it means to humanity.

(Edward O. Wilson 1992)

1. Aims

- Establish a working group to develop a strategy for the site protection and management of broadleaved woodland in the London Borough of Richmond upon Thames
- Conserve and enhance woodlands and woodland corridors, including hedgerows and scrub
- Encourage woodland research, education and promote public awareness
- Ensure biodiversity is conserved through appropriate management and species mapping

2. Introduction

The common and scientific names of trees are given in the appendix.

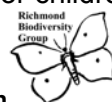
This Habitat Action Plan (HAP) is part of a suite of Habitat and Species Action Plans specific to the Richmond borough. It does not address directly the Ancient Parkland & Veteran Trees (see HAP) or Woodland Pasture.

Richmond is nationally important for its broadleaved woodland biodiversity. At the heart of the borough is Richmond Park that is a National Nature Reserve (NNR), Site of Special Scientific Interest (SSSI) and European Special Area of Conservation (SAC), in addition, the borough includes Bushy Park and the Royal Botanic Gardens Kew which is a World Heritage Site.

Two important assumptions could be; firstly that broadleaved woodland biodiversity outside Richmond Park, and that within, are interdependent. Secondly, that broadleaved woodland provides a very high benefit for people and a high biodiversity at a relatively low monetary cost.

As with other areas of London, the last three decades have generally seen an increase in woodland and scrubland. Indeed Richmond is fortunate to have 396 ha (978 acres) of native woodland - the 4th highest of the London Boroughs, and 78 ha (192 acres) of non-native woodland - the 3rd highest of the London Boroughs.

Richmond woodland harbours several nationally scarce woodland invertebrates and fungi, including some UK BAP Priority species. As well as providing for biodiversity, trees perform useful roles such as: improving air quality, as carbon sinks, generating soil, soaking up noise pollution, ameliorating hot summers and providing shade and play areas for children.



However without management such as grazing or cutting back, woodland can colonize acid grassland heaths, wild flower meadows and railway land, and can mean a gain of woodland at the loss of rare species or other habitats. Today many would consider that this loss is a fair exchange in a city for the extra services offered by trees. Equally, others would consider open spaces like heaths, should remain open and not be encroached by woodland. Clearly the answer is a trade-off that should not allow the loss of biodiversity. This means that appropriate woodland management is very important to achieve the UK BAP goals; halting or reducing the loss of biodiversity by 2010, which is subject of several key international and European agreements.

Habitat definition

Broadleaved woodland is usually defined as any woodland with more than 80% of its trees as broadleaved species. In the UK these are native species such as Ash, Hazel, Oak, Field maple, and in southern Britain; Beech and Small-leaved lime (the first four are common in Richmond and last two far less so).

Important to the active or conservative management of broadleaved woodland is the understanding of native and non-native trees. A generally accepted definition of Native Trees (see *full list in appendix*) are trees that colonized the British Isles after the last ice age before Britain was isolated from the rest of Europe by rising sea levels. Non-native trees (see Appendix) on the other hand, have been introduced recently, and for which native wildlife is not so adapted, and therefore generally have a lower biodiversity.

However Sycamore (*Acer pseudoplatanus*), that is common in Richmond was thought to have been introduced in the 15th century to Britain and serves as host to many native species, whereas native Holly; also common in Richmond, serves as host to few organisms. Both species play little known roles in woodland ecology.

In Britain the term Ancient woodland, is defined as woodland at least 400 years old and possibly since the last ice age (about 11,000 BP). As such, this woodland usually has a considerably higher biodiversity than more recent woodland, and serves to emphasize that woodland cannot be recreated simply by planting trees and that successional ecological stability takes hundreds of years.

The London Ecology Unit considered that no Ancient woodland survives in Richmond, but wood pasture and some wet woodland have demonstrable ancient credentials. Also Richmond Park contains 400 veteran Oaks that predate the enclosure of the Park about 350 years ago.

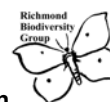
Woodland Habitats need to be linked up

Many small woodland habitats have been lost to urban development even in recent years. These 'micro-sites' perform important roles for movement of species between the other larger woodland sites. When considering appropriate measures for conservation of biodiversity, it is important to appreciate that habitats do not exist in isolation and that the more 'green corridors' linking different habitats, the more successful conservation of biodiversity will be. The scientific understanding of the interrelationships of habitats and species is still very poor. Precautionary management considerations might include regard to; seed dispersal and germination mechanisms, migration routes, disease transmission, road noise and climate change.

Therefore the proximity and interaction of habitats and biodiversity adjacent to the borough must also be considered. In Richmond these include: the SSSI of woodland / tidal flood meadow of Syon House and the wooded LNR of Isleworth Ait (both in LB Hounslow). These are separated by the River Thames from the Old Deer Park and RBG Kew. Also important are the locations and biodiversity of Wimbledon Common, Hounslow Heath and the wildlife corridor and sites of Metropolitan importance such as the River Thames and tributaries.

Broadleaved Woodland Structural Diversity

Richmond is fortunate to have a wide range of woodland habitats. The high structural diversity of new Oak forest (colonizing heath at Ham and East Sheen) and wet willow woodland (riparian Thames and river Islands), is explained to some extent by the smaller leaved species facilitating good light penetration. Whereas the closed canopy of large leaved sycamore or horse chestnut



woodland, for example, found on some islands and railway embankments, in the summer excludes much of the light. This may not benefit the ground flora, but serves as an important habitat for many invertebrates, including the millipede (*Cylindroiulus londinensis*) and the brown wood ant (*Lasius brunneus*) on Eel Pie Island, and for rare snails like the Two lipped door snail (*Lacinaria biplicata*) in several riparian sycamore woodland localities.

Woodland with good structural diversity is one that contains herb, canopy and subcanopy vegetation layers of different heights and ages. Woods with gaps in the canopy - that allow sunlight to reach the ground, probably support a much greater range of plants and animals than a closed canopy with trees of different height and shade. Sunny sheltered rides, glades and clearings provide for biodiversity and people. Features such as ponds or tidal flooding within woods also increase the number of species present.

In the past, natural events such as storms, disease and fire, together with the activities of animals like beavers, created open spaces within woodland, while grazing and browsing by deer and wild cattle delayed the succession of trees and shrubs and kept the gaps open. Early woodland management systems by man, such as coppicing, created and mimicked conditions for many species over centuries. But the widespread cessation of such management activities in the 20th century has led to the decline and loss of a number of species that require diverse structure and more open conditions.

3. Current Status

3.1 Overview

The London Borough of Richmond upon Thames is about 11 % wooded, that is about 474 hectares and more than any other neighbouring borough.

The majority of woodland is found in the Royal Parks, Petersham Common, Ham Common, East Sheen Common, Royal Botanic Gardens Kew, The Old Deer Park, Barnes and Ham Commons and along the Thames and its islands, as well as on railway land. *

Within the borough, as with other areas of London, broadleaved woodland is on the increase. Either it has been allowed to regenerate, or as in the case of Sheen and Ham Common is in the process of a natural transition from heath to woodland. Several factors in the last 100 years have meant that the deflected succession, formerly carried out by grazing animals, like rabbits or horses or other management, has drastically declined.

The borough broadleaved woodlands are very varied in composition partly due to the fact that most are between 40 - 200 yrs old and therefore are in many stages of regeneration.

In areas of woodland colonization like Petersham, Ham and Sheen Common a thriving mosaic of succession is found; with slopes, old drainage ditches and soil types contributing well to the habitat heterogeneity. In other areas, such as the parts of Ham lands and several islands, Sycamore dominates, often with unusual non-native trees such as Swamp cypress and Chinese necklace poplar. Sycamore is considered as invasive, but without further research and given the 'natural' thinning mechanisms (such as sooty bark disease), provides perhaps an equally valuable contrasting habitat, albeit perhaps less aesthetic.

Particularly unusual habitats are the tidally flooded Willow woodlands. The riparian wet woodland fragments are characterized by many Willow species including natural hybrids, and often include Elder and Hawthorn. In the past, native Black poplar and Alder would have been more prevalent along the river, and found in stands, rather than today, where they are found as isolated individuals.

* Railway land woodland and scrub are currently mostly unrecorded

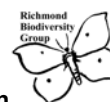
3.2 Specific woodland habitats in London Borough of Richmond upon Thames

The key examples are as follows:

(i) Old Deer Park Flood Canal Wet Woodland

Mixed wet woodland and tidally flooded Willow carr

Characterized by: Many Willow species, Hawthorn, Elm, Reedbeds (*Phragmites australis*) Sedges (*Carex* sp.), Cut grass (*Leersia oryzoides*) (Schedule 8 Countryside and Wildlife act 1981),



including other taxa e.g. two lipped Door Snail (*Lacinarina biplicata*), Violet ground beetle (*Carabus violaceus*).

(ii) Ham Common / East Sheen Common

Mixed Oak woodland colonised heath

Characterized by: Oak, Honeysuckle, Holly, Dogwood, Aspen, Sallow (in depressions with Yellow loosestrife (*Lysimachia vulgaris*). With heath relics including: Gorse, Wavy-hair grass (*Deschampsia caespitosa*) and Birch (a pioneer species now dying back).

(iii) Petersham and Ham Sea Scouts Tidal Willow Wood

Tidally flooded Willow woodland,

Characterized by: Strandline detritus rich in invertebrates, Crack Willow, Pendulous sedge (*Carex pendula*), Hemlock water dropwort (*Oenanthe crocata*) 3 Cornered leek (*Allium triquetrum*), inscrutable small leaved Elm species and 3 huge London planes! with bat roosts.

(iv) Thames towpath and Island Woods

Riparian and Island tidally flooded Woods

Characterized by: Sycamore, Willow, Poplar (including Native Black Poplar) with strandline detritus rich in invertebrates, Pendulous sedge (*Carex pendula*), Hemlock water dropwort (*Oenanthe crocata*), Himalayan balsam (*Impatiens glandulifera*) and Nesting Heron (*Ardea cinerea*)

(v) Petersham Common Woods

Mixed escarpment Ash / Oak / Hornbeam woodland

Characterized by: Tall Ash, Oak (*Quercus* spp.) and Hornbeam with subcanopy Field maple, Bird Cherry, Norway maple, Dewberry – (*Rubus caesius*)

Other types include: Wood pasture; Sycamore; Willow / Poplar; Oak / Birch; Blackthorn / Hawthorn scrub, Elm thickets.

4. Specific Factors Affecting the Habitat

4.1 Habitat destruction and fragmentation through urban development

The largest cause of habitat loss is urban development. Fragmentation of habitat is a fundamental factor contributing to the loss of biodiversity, in that genetic exchange, and therefore species survival, is threatened. It also prevents necessary species migration due to such things as resource depletion, population displacement, breeding or climate change.

4.2 Unsuitable or lack of management

Contractors and volunteers should have felling licenses that are assessed against the requirements of the UK Forestry Standard (1998), which takes into account biodiversity considerations. Good Management should be appropriate in type, timing and extent. Bad and illegal practice includes, for example, chainsaw use in the bird breeding season or removal of hollow trunks that are usually bat roosts. If tree branches have to be removed they should be surveyed for bats. Often a naturally collapsing tree is the best self management within woodland.

4.3 Loss of genetic integrity through replanting with stock of non-local provenance.

Genetic research has allowed us to see that local stock are likely to be better adapted to local conditions, and therefore have a better chance of long-term survival. Imported stocks of native species may well introduce genetic erosion, weaknesses and bring in disease.

4.4 Climate change.

After habitat loss, the effects of anthropogenic Climate change are possibly the biggest threat to Richmond woodland biodiversity over the next 100 years, although the extent and precise effects on wildlife are difficult to predict, and we do not know the tolerance of many species.

Research is beginning to suggest that root mycorrhiza (fungal symbionts) that are adapted to the more stable subsoil conditions, are not tolerant of climate change effects like drought or lack of frost. Beech trees are very sensitive the effects of prolonged dry summers on native woodlands.

Research is beginning to show that woodlands dynamics and other subtle mechanisms are changing. For example it has been shown that competitive species such as holly are growing more extensively and rapidly, as subcanopy species, due to increasing number of frost free days. As well as squeezing ecotypes and species, holly, unless managed, is likely to have a detrimental effect on woodland plant diversity, especially sub-canopy herbs, ferns, mosses and fungi, as well as preventing sapling germination.

In short the suggestions are that large changes are afoot and will undoubtedly affect the woodlands in Richmond in the coming years. Woodland should be monitored, with research theses encouraged, and results incorporated within management plans and the development of woodland corridors.

4.5 Flood prevention measures, river control and canalisation disrupting natural hydrological processes within sites

4.6 Diseases and infestation

Generally tree diseases are a natural part of any ecosystem, only in a formal setting are they normally noticed. However there are more insidious diseases assisted perhaps by climate change and international trade, like: Dutch elm disease, sudden Oak death (*Phytophthora ramorum*), beech bark disease – that is caused by a combination of an insect; the felted beech coccus (*Cryptococcus fagisuga*) and a fungal pathogen *Nectria coccinea*; and sycamore sooty bark disease (*Cryptostroma*). Woodland should be monitored carefully for these diseases including possible beneficial effects. For example, the natural thinning of sycamore and the dense stands of elm suckers - which left alone will eventually acquire the genetic capacity to become woodlands - certainly both have benefits for biodiversity.

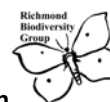
The leaf roller moth (*Tortrix viridana*) is a major cause of tree defoliation of Oak trees in Richmond. This caterpillar can cause 80% defoliation by June, meaning the trees must produce new leaves, and with the consequent expenditure of energy there is a decrease in acorn production. However the caterpillars serve as a good food source for birds and the moths for bats, both important mechanisms of bio-control.

4.7 Unnecessary removal of trees and dead wood - over-tidying

Dead Wood and Rotting Trees

It is now well understood that deadwood is essential to the wellbeing of woodland, providing habitats for about 17% of the biota. In broadleaved woodland the insects and fungi associated with unhealthy or dead woodland trees, are an essential and integral part of a woodland trees lifecycle and indeed, the ecosystem of the habitat as a whole. In the past it was often assumed that deadwood should be removed from woodlands. This may have been for reasons such as for health and safety to the public, aesthetic and economic i.e to make way for new plantings etc. The ecological importance of dead, standing and fallen trees is increasingly been recognised as one of the single most important resources in any woodland - ancient or recent - and so should be retained where ever possible.

Up to a third of woodland insects, including a number of rare species, are dependent on dead wood. It is the substrate for a large proportion of fungi. The Oak Polypore (*Buglossoporus pulvinus*) fungus, for example, that is a UK BAP priority species and on Schedule 8 of the Wildlife and Countryside Act 1981, occurs in Richmond Park on the old Oaks.



Dead wood is used by more than 200 species of fly and some 760 species of beetle, including the Stag Beetle (*Lucanus cervus*) which is becoming rare nationally, but for which Richmond is a stronghold. Dead wood also provides valuable nesting sites for birds, with one third of all woodland birds nesting in holes or cavities of dead trees. In Richmond for example; nesting nuthatches can be seen in Oak in East sheen common, treecreepers can be seen regularly on sycamore, and greater spotted woodpeckers benefit particularly from the maturing and dead birches found on Ham common and in Richmond Park (Isabella plantation for example).

Recent research has suggests that woodpeckers can be thought of as 'architects' of woodland providing 'housing' for species, in that they appear to be vectors for wood decay fungi, facilitating fungal entry to trunks and heartwood, after which a myriad of species can follow.

However in the last few years with the help of organizations like English Nature, The National Trust and the BTCV, this appreciation has been understood and dead wood is often left in place. Richmond Park has a good established policy of leaving dead wood and crown-cutting limbs. Bushy Park has identified the need to conserve more dead wood.

WWF calls on European governments and forest managers to help conserve biodiversity by increasing deadwood in boreal and temperate forests to as much as 20 - 30 cubic meters per hectare by 2030.

4.8 Pollution

Contrary to claims of forest decline, in most of Europe growth rate of trees are increasing. As well as changes in management practices, increased CO₂ concentration, nitrogen deposition and changed climatic conditions are implicated. It has been shown that frost sensitivity has increased in some tree species with increasing air pollution.

Nitrogen deposition changes soil attributes and may have effects on mycorrhizal fungi and influence bryophyte communities. Air polluted with sulphur dioxide (SO₂) has been detrimental to tree lichens since the industrial revolution, but such effects have been ameliorated by air quality control.

There is fear amongst campaigners that a proposed waste incinerator, (which will be the largest in Europe and for which permission has been granted) at Colnbrook near West Drayton, will, together with the increased Heathrow traffic, be detrimental air pollution in Richmond with the prevailing westerly winds.

4.9 Introduction and/or colonization by invasive species

Species such as rhododendron are highly invasive on light soils (which predominate in the borough) and need rigorous control or good management as in Richmond Park. Sycamore, Holm Oak, Holly, Norway maple and Cherry laurel may also become a problem crowding out more native species.

4.10 Lack of knowledge and information collation

A systematic approach to surveying and recording the whole resource is needed, as with the Ancient Parkland and Veteran Trees HAP. Railway lands woodlands and scrub need to be recorded and assessed.

The considerable biodiversity information that exists with groups and individuals in the borough has not been centralized and information exchanged - this BAP aims to redress this.

5. Current Action

5.1 Legal status of sites with broadleaved woodland and scrub

A number of mechanisms exist to ensure the protection and conservation of woodland and trees:

- The primary legislation is the Forestry Act (1967), which is administered by the Forestry Commission.
- All applications for felling licenses are assessed against the requirements of the UK Forestry Standard (1998) which takes into account biodiversity considerations.
- Tree Preservation Orders (TPOs) and those trees within residential Conservation Areas, designated by local authorities; prevent unnecessary damage to or felling of trees.

In addition, some sites have protective designations such as English Nature's Sites of Special Scientific Interest (SSSI). Other designations are identified in local authority plans and highlight the importance of these areas within the planning process (Listed below in Table 1)

Table 1: List of UK Site designations of broadleaved woodland within LB Richmond,

N.B. Other important woodland sites exist without site designations

Site name	National Nature Reserve	World Heritage Site	of Site Special Scientific	Local Nature Reserve	Metropolitan Open Land	Metropolitan Green Belt	of Site Metropolitan Importance	of Site Borough Importance	of Site of Local Importance
Acronym	NNR	WHS	SSSI	LNR	MOL	MGB	SMI	SBI	SLI
Barnes Common			√ (former)	√	√		√		
Barn Elms Playing Fields					√			√	
Bushy Park					√		√		
Crane Corridor					√	√	√		
Crane Park Island				√	√	√			
Duke of Northumberland's River									√
East Sheen Common					√		√		
East Sheen & Richmond Cemeteries					√				√
Fulwell Golf Course					√				√
Ham Lands				√	√		√		
Ham Common				√	√		√		
Heath Gardens Scrub									√
Hydes Field					√	√		√	
Kew Meadow Path					√			√	
Marble Hill Park					√				√



Site name	National Nature Reserve	World Heritage Site	Site of Special Scientific Interest	Local Nature Reserve	Metropolitan Open Land	Metropolitan Green Belt	Site of Metropolitan Importance	Site of Borough Importance	Site of Local Importance
Occupation Lane Kew									✓
Old Deer Park,								✓	
Orleans House Gardens					✓				✓
Ormond Bank							✓		
Palewell Common					✓		✓		
Pesthouse Common					✓				
Petersham Common					✓		✓		✓
Petersham Lodge Woods					✓			✓	
Richmond Park (also SAC)	✓		✓		✓				
Richmond Cemetery									✓
Royal Botanic Gardens Kew.		✓			✓		✓		
Twickenham Junction Rough					✓				✓
Twickenham Golf Course					✓				
The Cassel Hospital									✓
The Copse Ham					✓			✓	
The Copse (Hampton Wick)					✓				✓
The Crane Corridor							✓		
7 Thames wooded islands					✓	✓			
Strawberry Hill Golf Course					✓				✓

5.2 Mechanisms Targeting the Habitat

These current actions are ongoing. They need to be supported and continued in addition to the new action listed under Section 7.

5.2.1 Woodland Grants Scheme (Forestry Commission and DEFRA). For example The Copse at Ham and Ham Common have been supported.

5.2.2 Woodland Trust grants via the Community Woodland Network.

5.2.3 The Kew Society

The Kew Society green sub-committee monitors green spaces within Kew including broadleaved woodland such as the Thames towpath, Occupation Lane, Pensford field. The society has undertaken native tree planting, rubbish clearance and monitor habitat threats. Work is undertaken with Richmond borough council and BTCV.

6. Flagship Species

These special plants and animals are characteristic of broadleaved woodland in LB Richmond.

Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	The smallest and least common of the 3 British woodpeckers. They breed in broadleaved woodland, parks and orchards, and seem to like river valley alders or regenerating elm. They need decaying wood for nest sites as they make a new nest chamber each year. They are in rapid decline in the UK
European Alder	<i>Alnus glutinosa</i>	A specialist riparian or wetland tree. Shiny leaves and small cones. Has nitrogen fixing root bacteria (<i>Frankia</i> sp.). Some good examples have colonized the river revetment but not common in borough.
Native Bluebell	<i>Hyacinthoides nonscripta</i>	Grows in established woodland subject genetic erosion through hybridization with the Garden or Spanish Bluebell (<i>H. hispanica</i>)
Treecreeper	<i>Certhia familiaris</i>	Small, very active tree bark specialist, It is speckled brown above and mainly white below with long, slender, down curved bill. BTO research suggests that it is in decline.
Bats	Including <i>Pipistrellus</i> sp. Noctule bat (<i>Nyctalus noctula</i>)	Winged mammals. Many bats use healthy hollow trees for winter and summer roosts.
Two Lipped Door Snail	<i>Lacinarina biplicata</i>	A spire shelled mollusc. Its habitat is soil surface (usually with ivy cover) of occasionally flooded riparian land in the shade of closed canopy woodland.
Beetles	Including Stag beetle (see SAP) and Cardinal Click beetles (<i>Ampedus cardinalis</i>)	The greatest threat to this cardinal click beetle is the felling of veteran Oaks
Oak	<i>Quercus robur</i>	Emblematic of Richmond; one of the longest lived trees in the UK. It serves as host to more species

		of birds, bats and invertebrates than any other tree.
Purple Hairstreak (butterfly)	<i>Quercusia quercus</i>	Dark wings flash iridescent violet purple. Only foodplant are Oaks. Require undisturbed leaf litter and ground layer for pupation (leaf blowers are bad). Can be seen in hundreds flitting over Oak tree crowns.

7. Objectives, Actions and Targets

Most of these actions are specific to this habitat. Please note that the partners identified in the tables are those that have been involved in the process of forming the plan. It is not an exclusive list and new partners are both welcomed and needed. The leads identified are responsible for co-ordinating the actions – but are not necessarily implementers.

Objective 1: To Ensure no further loss of broadleaved woodland.

Target: To encourage site protection and appropriate management of woodland area in Richmond

Action	Target Date	Lead	Other Partners
1.1 Establish a working group to develop advice, promote knowledge and exchange ideas and expertise	2005	RBG Kew	LA, TRP, HRP
1.2 Increase use of WGS or its replacement Ensure all woodland sites in LB Richmond are certified	2006/7	LA	FC
1.3 Ensure all woodland sites in LB Richmond are certified by Forestry Commission	2007	LA	FC
1.4 Start process for possible stronger site designations	2007	Working Group	LA, EN

Objective 2: Carry out a survey and map the distribution of all existing broadleaved woodland in London Borough of Richmond upon Thames

Target: To input the data onto a Geographical Information System (GIS) by 2007

Action	Target Date	Lead	Other Partners
2.1 Carry out a survey of the condition of Richmond's broad-leaved woodlands including the extent to which they are managed Map the distribution of all existing broadleaved woodland with ground truthing	2006/7	RBG Kew	Working Group, LA

Objective 3: Identify biodiversity and habitats in all broadleaved woodland

Targets: (1) Collate information and input onto The Richmond Biodiversity Group website for public usage

(2) Identify the biodiversity value of all broad-leaved woodlands and ensure protection of all important woodland species

Action	Target Date	Lead	Other Partners
3.1 Record species and structural diversity as a precursor to possible active management such as: coppicing, thinning, selective felling.	2007	RBG, Working Group	London Universities LWT, LBP
3.2 Ensure appropriate practices such as natural regeneration of native species are in place within Richmond's broadleaved woodlands.	2007	RBG, Working group	London Universities London Wildlife trust LBP

Objective 4: Increase and promote public benefit, understanding and community involvement in Richmond's woodlands through education and research

Targets: (1) Encourage at least 1 Masters student to undertake research on biodiversity and ecological studies of woodlands annually

(2) Collate existing and new information in The Richmond Biodiversity Group website

(3) To provide 2 Woodland field days for local schools each year/by 2006

Action	Target Date	Lead	Other Partners
4.1 Produce information sharing website to ensure biodiversity research results are easily shared	2006	RBG, RBG Kew	LA, GIGL
4.2 Encourage and establish monitoring to measure woodland dynamics	2007	Working Group, LA	London Universities
4.3 Start Education program to stimulate understanding and involvement	2007	Working Group,	LA

Objective 5: Expand and link the area of broadleaved woodlands, especially in areas of woodland deficiency

Target: Identify where areas of deficiency are by 2007

Action	Target Date	Lead	Other Partners
5.1 Identify existing woodland corridors and gaps	2007	RBG, RBG Kew	TLS Kew Society Working group
5.2 Provide and stimulate in private gardens and other corridor areas native planting and wildlife sensitive practice	2007	RBG, RBG Kew	Kew Society

Relevant Action Plans

Local Plans

Ancient Parkland/Veteran trees, Acid Grassland, Tidal Thames, bats, Stag beetle, Mistletoe

London Plans

Woodland; Tidal Thames, Private gardens, Black poplar native (*Populus nigra* spp. *betulifolia*), Bats, Mistletoe, Stag beetle, Churchyards & Cemeteries, Wasteland, Heathland,

Open landscapes with ancient/old trees habitat audit; Tidal Thames habitat audit; Private gardens habitat statement; Marshland habitat audit, Farmland Audit, Railway Linesides audit

National Plans



Wet woodland, Lowland mixed deciduous woodland, Lowland wood-pasture, Ancient and/or species-rich hedgerows and parkland,

Bullfinch (*Pyrrhula pyrrhula*), Stag Beetle (*Lucanus cervus*) Cut-grass (*Leersia oryzoides*)

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Websites: London Wildlife Trust, English Nature, Forestry Commission, UK BAP site, DEFRA, Surrey Wildlife Trust, London Natural History Society.

Abbreviations

EN – English Nature

FC - Forestry Commission

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

HRP – Historic Royal Palaces (Hampton Court and Home Park)

LA – Local Authority (Richmond upon Thames)

LBP – London Biodiversity Partnership

LWT – London Wildlife Trust

RBG – Richmond Biodiversity Group

RBGK – Royal Botanic Gardens Kew

TRP – The Royal Parks

TLS - Thames Landscape Strategy

WGS - Woodland Grants Scheme



Contact

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Appendix

List of tree and shrub species that are native (or probably so) to the London Borough of Richmond upon Thames.

Alder	<i>Alnus glutinosa</i>
Alder Buckthorn	<i>Frangula alnus</i>
Ash	<i>Fraxinus excelsior</i>
Aspen	<i>Populus tremula</i>
Birch, Downy or Brown	<i>Betula pubescens</i>
Birch, Silver	<i>Betula pendula</i>
Bird Cherry	<i>Prunus padus</i>
Blackthorn	<i>Prunus spinosa</i>
Black Poplar, native variety only	<i>Populus nigra</i> var <i>betulifolia</i>
Crab Apple	<i>Malus sylvestris</i>
Elder	<i>Sambucus nigra</i>
Elm, English	<i>Ulmus procera</i>
Elm, Wych	<i>Ulmus glabra</i>
Elm, hybrids with <i>U. minor</i> ?	<i>Ulmus</i> sp.
Dogwood	<i>Cornus sanguinea</i>
Field maple	<i>Acer campestre</i>
Gean, or Wild Cherry	<i>Prunus avium</i>
Gorse, Common	<i>Ulex europaeus</i>
Hazel	<i>Corylus avellana</i>
Hawthorn, Common	<i>Crataegus monogyna</i>
Hawthorn, Midland	<i>Crataegus laevigata</i>
Holly	<i>Ilex aquifolium</i>
Hornbeam	<i>Carpinus betulus</i>
Lime, Small-leaved	<i>Tilia cordata</i>
Oak, English	<i>Quercus robur</i>
Oak, Sessile	<i>Quercus sessilis</i>
Privet, Wild	<i>Ligustrum vulgare</i>
Rowan	<i>Sorbus aucuparia</i>
Spindle	<i>Euonymus europaeus</i>
Willow, Crack	<i>Salix fragilis</i>
Willow, Goat	<i>S. caprea</i> - also known as Great Sallow
Willow, Grey	<i>S. cinerea</i> - also known as Grey Sallow.
Willow, White	<i>S. alba</i>
Yew	<i>Taxus baccata</i>

Sweet Chestnut, Grey Poplar, Damson and Bullace are usually treated as 'honorary natives'. The hybrid known as Common Lime, & Weeping Willow are also often accepted as honorary natives too.

Native status is ascertained by analysis of the pollen content of post-glacial deposits.

List of tree and shrub species that are not native to the British Isles, but which are known to naturalize within the wilder habitats of the London Borough of Richmond.

Cherry Laurel	<i>Prunus laurocerasus</i> (more correctly Laurel Cherry)
Cherry Plum	<i>Prunus cerasifera</i>
Cotoneaster	<i>Cotoneaster</i> sp.
Holm Oak	<i>Quercus ilex</i>
Honey Locust	<i>Robinia pseudoacacia</i>
Horse Chestnut	<i>Aesculus hippocastaneum</i>
Plane, London	<i>Platanus x hispanica</i>
Plane, Oriental	<i>P. orientalis</i>
Rhododendron	<i>Rhododendron ponticum</i>
Turkey Oak	<i>Quercus cerris</i>
Norway Maple	<i>Acer platanoides</i>
Poplars	<i>Populus</i> sp. not those listed under native.
Swamp Cypress	<i>Taxodium distichum</i>
Swedish Whitebeam	<i>Sorbus intermedia</i>
Snowberry	<i>Symphoricarpos albus</i>
Sycamore/ Great maple	<i>Acer pseudoplatanus</i>