The Ecology Consultancy

Queen's Wood / Management Plan / **Report for Friends of Queens Wood**

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Queen's Wood

Management Plan

Report for Friends of Queen's Wood

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Contents

1. Introduction

1.1 Name

Queen's Wood

1.2 Location

Queen's Wood is situated in the western part of the London Borough of Haringey. The B550 Muswell Hill Road is situated along the wood's western boundary, the A1 Archway Road lies to the south, the A504 Muswell Hill and the A1201 Park Road lie to the north and east. Most immediately adjacent land comprises the gardens of adjacent residential properties. Several sites of Metropolitan or Borough Importance for Nature Conservation are in close proximity to Queen's Wood. These include Highgate Wood on the opposite side of Muswell Hill Road, the Parkland Walk to the north and south and Crouch End playing fields to the east, while Hampstead Heath and Alexandra Park are within two kilometres. Figure 1a below shows the location of the site in relation to other nearby sites of nature conservation interest and Figure 1b shows the site in relation to roads and public transport.

Figure 1a; Location of Queen's Wood and other sites of nature conservation interest.

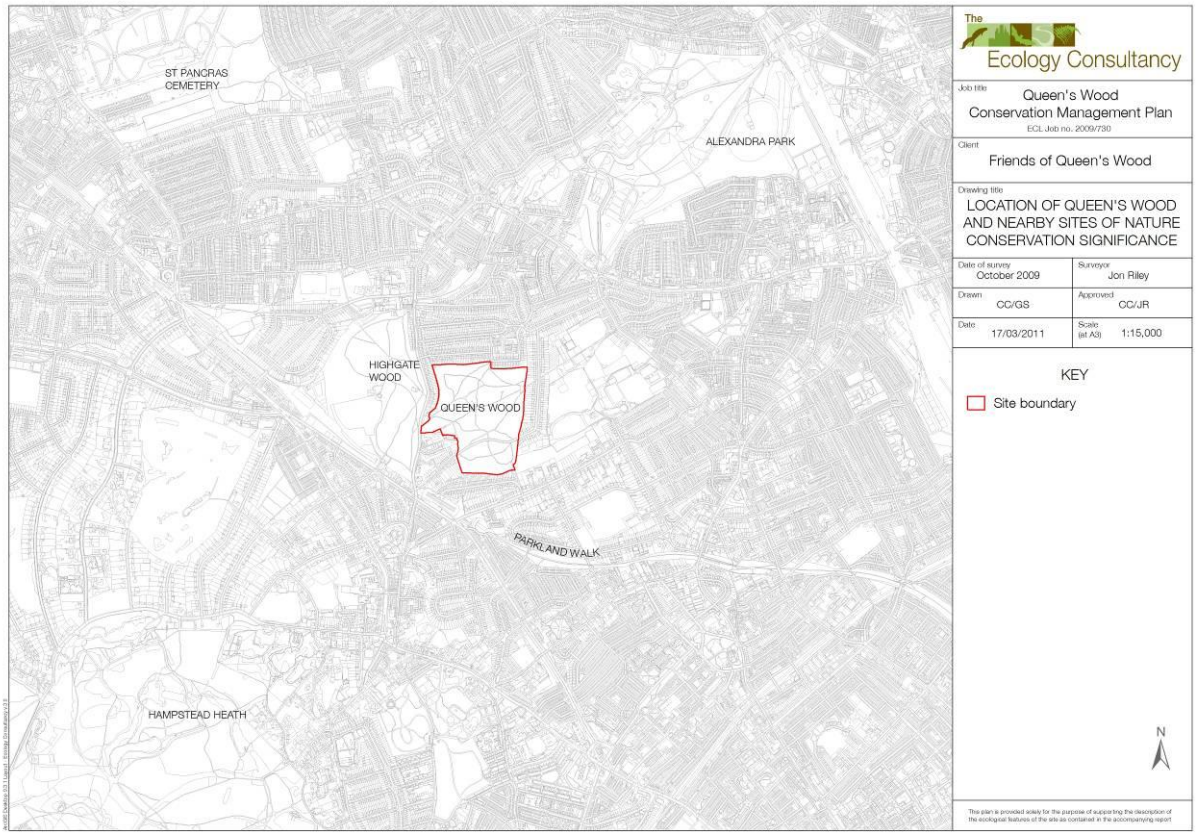
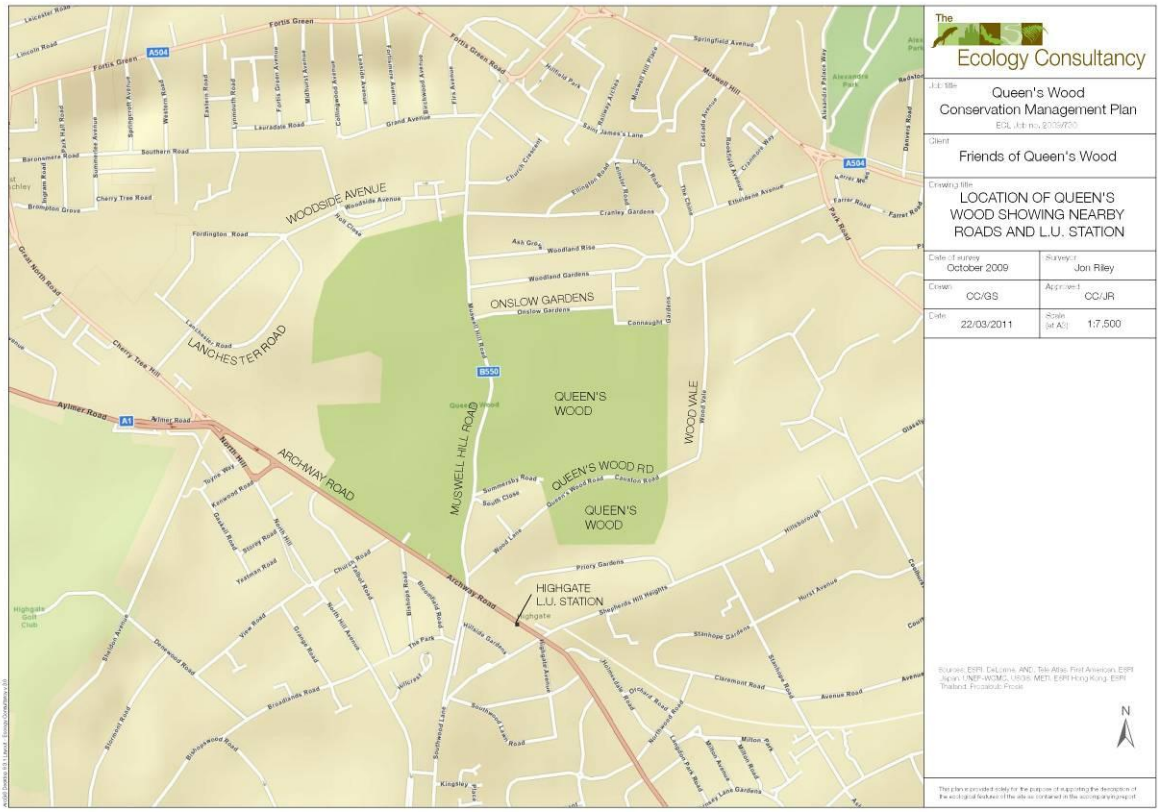


Figure 1b; Location of Queen's Wood showing nearby roads and London Underground station.



1.3 Area

21 hectares (Game 2000)

1.4 Grid Reference

TQ 288 885

1.5 Access

The site is open to the public at all times with access points through the fenced perimeter on Muswell Hill Road, from Connaught Gardens, and short footpaths from Priory gardens and Wood Vale. There is open access from Wood Lane/Queen's Wood Road which bisects the southern part of the wood. There are a number of footpaths within the wood, most of the principal paths are surfaced with asphalt and date from the late 19 century, a small section on a steep slope has been resurfaced with a hoggin type material. Queen's Wood is readily accessible by public transport being close to Highgate underground station and the 43, 134, 143, 234, 263 and W5 bus routes.

1.6 Vice County

V21 Middlesex

1.7 Map Coverage

1:25000 Sheet 173 London North

1.8 Land Tenure

Queen's Wood is owned and managed by the London Borough of Haringey with the exception of Compartment M (see Figure 2 page 15) which is owned by Homes for Haringey, and the Lodge in Compartment L which is leased from the London Borough of Haringey and run privately as a cafe. The Council's Recreation Service is assisted in site management by the Friends of Queen's Wood.

1.9 Status

Queen's Wood is statutory Local Nature Reserve designated as such in 1990. Local Nature Reserve is a designation, made under Section 21 of the National Parks and Access to Countryside Act (1949). LNRs must be controlled by the local authority through ownership, lease or agreement with the owner. The main aim must be to care for the natural features which make the site special[1].

Queen's Wood and Highgate Wood are designated as a Site of Metropolitan Importance for Nature Conservation by LB Haringey and the Greater London Authority. The citation for the site is as follows:

An extensive area of ancient woodland in the midst of suburban north London. Despite heavy visitor numbers, both Highgate and Queen's Woods support a diverse flora and fauna, and consist mainly of oak (Quercus spp.) and hornbeam (Carpinus betulus). The ground flora of both woods includes abundant bluebell (Hyacinthoides non-scripta) and wood anemone (Anemone nemorosa). Queen's Wood contains several rarer species, including thin-spiked wood-sedge (Carex strigosa), hard-fern (Blechnum spicant) and broad-leaved helleborine (Epipactis helleborine). Breeding birds include tawny owl and spotted flycatcher. Managed by the City of London, Highgate Wood has a ranger team and visitor centre with interpretive facilities, and is an important site for specially-protected bats. Highgate Wood won a Green Flag Award again for 2009/10. Queen's Wood is a Local Nature Reserve owned and managed by London Borough of Haringey. The two woods form a single composite Metropolitan site together with Parkland Walk and was

designated in 1990 as a statutory Local Nature Reserve.

Queen's Wood is included in the Ancient Woodland Inventory (Provisional) for England. Ancient woodland is defined as land that has had continuous woodland cover since at least 1600 AD. Ancient woodland is a scarce and irreplaceable habitat which receives specific protection as Habitat of Principal Importance for Biodiversity under the The Natural Environment and Rural Communities (NERC) Act (2006). Ancient woodland is specifically mentioned in Planning Policy Guidance 9 Biodiversity and Geological Conservation and is included within the UK BAP (UK Biodiversity Action Plan) for Lowland Mixed Deciduous Woodland.

Queen's Wood, Highgate Wood and the adjacent Crouch End Open Space form an area designated as Metropolitan Open Land in the Haringey Unitary Development Plan adopted July 2006.

Queen's Wood and Highgate Wood are listed as an Area of Archaeological Importance, the Haringey Unitary development Plan adopted July 2006 gives the following description:

A large Roman pottery works is situated in Highgate Wood. This has been partially excavated, suggesting that the kilns (nine have been identified to date) were in production c.AD 50-160. The woods are full of unidentified earthworks and landscape features, suggesting that there may be further kiln sites and ancillary structures.

Queen's Wood is also listed in the Register of Public Parks, Gardens, Squares, Cemeteries and Churchyards of Local Historic Interest.

Queen's Wood is also designated as Metropolitan Open Land, as a Borough Historic Park and as an Area of Archaeological Importance.

1.10 Public Rights of Way

A largely disused public right of way runs north south along the eastern boundary of the Wood from the Wood Vale entrance to Queen's Wood Road.

1.11 Planning Authority

London Boroughs of Haringey

[1] http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/lnr/default.aspx accessed 080310

1.12 Sources of Information

The main source of ecological information for the site is Game, *A Queen's Wood Management Brief* London Ecology Unit 2000. The current management plan was written in the winter months so the description of compartments provided has been largely reproduced from earlier plan. Further information on the ecology, and past and current management of the site was provided by the Friends of Queen's Wood who carry out much of the conservation work in the wood, and the present and former Nature Conservation Officers for the London Borough of Haringey. Site visits with Friends and/or Conservation Officers were carried out on the 20th October and 30th November 2009, and the 20th January 2010.

1.13 Boundaries

Most of the boundaries of the site are formed by adjacent properties and are owned by the freeholders of these properties. These boundaries appear to have been erected by the adjoining residents and it is not known if in all cases that they exactly follow the legal boundary of the site. There is open access along most of Wood Lane/Queen's Wood Road. There are some defunct railings within the wood marking former property boundary in the south western part of the wood. Wood banks of considerable age and historical interest are present in the north western part of the wood.

2. Description

2.1 Physical

2.1.1 Geology, topography and soils

Queen's Wood is largely on London Clay. Claygate beds overlying the clay are shown on the geological map as extending very close to the western edge of the wood, and in fact the high ground to the north–west is on very sandy clay. Otherwise the soils in the wood are largely heavy and impervious. Overall, the wood faces eastwards, but two valleys running roughly west to east, one to north and the other to the south of Queen's Wood Road, are the dominant topographical feature. The streams that formed these valleys are now often dry in the summer months; that in the northern valley formed one source of the River Moselle.

2.2 Biological

2.2.1 Flora

Flowering plants and ferns: The most recent and comprehensive botanical survey of Queen' Wood was carried out by David Bevan in 2007. The survey report includes records from 2007 and from the largest and most recent are of coppicing carried out in 2009, as well as historical records as far back as the 17th century.

The survey identified a total of 398 species of which 226 were recorded in 2007, 136 were historical records and 34 were additional species from the coppice area. A befits an urban wood a relatively high proportion of species (89 species, almost 40%) were neophytes (non-native species first recorded in England after 1500).

These included well established non-natives such as sycamore *Acer pseudoplatanus* as well as large number of less frequently naturalized species, including a number of garden escapes, which are most prevalent at the wood's margins. Some naturalized species such as Highclere holly *Ilex x altaclerensis* and cherry laurel *Prunus cerasifera*, along with native ivy *Hedera helix,* are regarded as invasive and are discussed in detail in later part of this plan.

By contract much of the wood retains it semi natural character and 38 ancient woodland indicator species[2] were recorded. The National Vegetation Classification (NVC) stand type to which Queens's Wood is most likely to be attributed, W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* community, is the one of the most widespread ancient woodland types in the London area[3][4].

In addition to its complement of ancient woodland indicator species, a large number of species considered rare in the London Area and the Vice County of Middlesex VC 21 are present. These species are noted in Table 1 below which lists the notable species reported in the most recent botanical survey, their status and the management compartments (described below) in which they occur. Note that table 1 excludes historical records, and garden escapes which may be of interest but do not have formal conservation status. Due to the presence of good numbers of ancient woodland indicator and locally rare species, Queen's Wood is judged to be of **Metropolitan Importance**[5] for its flora.

Table 1: Notable plant species at Queen's Wood (excluding historic records and garden escapes)

Species *(Latin name)*	Status	Notes
Acer campestre Field maple	AWI[6]	Widespread at site, but few mature trees are present
Allium ursinum Wild garlic	AWI	Compartment C only
Anemone nemorosa Wood anemone	AWI, declining nationally	Widespread at site
Blechnum spicant Hard fern	London Rare and Species of Conservation Concern[7]. AWI	Recently extinct at site. Formerly Compartment J but may reappear as it has in nearby woods
Carex pendula Pendulous sedge	AWI	Widespread at site
Carex pilulifera Pill sedge	Scarce in Haringey and Middlesex	Formerly recorded (1999), may reappear

[2] Ancient woodland indicators as listed by Rose (1999) includes 100 species believed to be characteristic of ancient woods in southeast England.
[3] Rodwell, J. S. (1991) *British Plant Communities Volume 1 - Woodlands and scrub*
[4] Greater London Council (undated) A Nature Conservation Strategy for London Woodland, Wasteland, the Tidal Thames and tow London Boroughs.
[5] Connecting with London's Nature The Mayors Biodiversity Strategy (Greater London Authority 2002) defines Sites of Metropolitan Importance for Nature Conservation those *...which contain the best examples of London's habitats, sites which contain particularly rare species, rare assemblages of species or important populations of species...*
[6] AWI = ancient woodland indicator species
[7] London Biodiversity Partnership http://www.lbp.org.uk/londonpriority.html (accessed 290610)

Table 1: Notable plant species at Queen's Wood (excluding historic records and garden escapes)

Species *(Latin name)*	Status	Notes
Carex remota Remote sedge	AWI	Widespread at site
Carex strigosa Thin-spiked wood-sedge	London Rare and Species of Conservation Concern. Declining in southeast England. AWI. Rare in VC21 (Middlesex)[8]	Rare at site. Compartment Y (formerly part of Compartment N) only
Carex sylvatica Wood-sedge	AWI	Widespread at site
Carpinus betulus Hornbeam	AWI	Dominant and widespread at site
Conopodium majus Pignut	AWI	
Crataegus laevigata Midland hawthorn	AWI	Widespread at site but predominantly as a hybrid *C x media*
Epipactis helleborine Broad-leaved helleborine	AWI, formerly London Notable	Rare at site Compartment Y (formerly part of Compartment N and P) only
Festuca gigantea Giant fescue	AWI	Widespread at site
Galium odoratum Sweet woodruff	AWI	Recently recorded (2001) possibly native
Holcus mollis Creeping soft grass	AWI	
Hyacinthoides non-scripta Bluebell	AWI	Scattered at site, *H. Hispanica* and *H x massartiana* more common
Hypericum pulchrum Slender St John's-	AWI, formerly London Notable	Rare at site Compartment P only following coppicing in 2009
Hypericum tetrapterum Square-stemmed St. John's-wort	Formerly London Notable, rare and decreasing in Middlesex	Rare at site Compartment Y (formerly part of compartment P) only following coppicing in 2009
Isolepis setacea Bristle club rush	Very scarce in London and Middlesex	Compartment K only following coppicing in 1993, now gone likely to reappear with re-coppicing.
Lamiastrum galeobdolon Yellow archangel	AWI	Rare at site Compartment U only

[8] Vice counties (VC) are used as boundaries for botanical recording in the UK

Table 1: Notable plant species at Queen's Wood (excluding historic records and garden escapes)

Species *(Latin name)*	Status	Notes
Luzula pilosa hairy woodrush	AWI	Rare at site Compartment N only
Luzula sylvatica Great woodrush	AWI	Rare at site Compartments J and O only.
Melampyrum pratense Common cow-wheat	AWI, declining nationally	Possibly declining at site
Melica uniflora Wood melick	AWI	Localised colonies at site
Milium effusum Wood millet	AWI	Rare at site Compartment W only
Moehringia trinervia Three-nerved sandwort	AWI	Rare at site reappeared in Compartment P following coppicing in 2009
Oxalis acetosella Wood sorrel	AWI	Uncommon at site Compartments P, T and U only
Phyllitis scolopendrium	AWI	
Poa nemoralis Wood meadow grass	AWI	Not recorded in 2007 but present in 1997, possibly overlooked
Polystichum setiferum Soft shield fern	AWI	Possibly increasing locally and nationally
Potentilla sterilis	AWI	Rare at site Compartment Q only
Prunus avium Wild cherry	AWI	Common at site
Quercus petraea Sessile oak	AWI	Common at site
Ranunculus auricomus Goldilocks buttercup	AWI, declining nationally	Rare at site Compartments P and W only where associated with stream.
Rosa arvensis Field rose	AWI	Rare at site. Compartment C and P only
Sanicula europaea Sanicle	AWI, rare in Middlesex, declining nationally	Rare at site, Compartment A only
Solidago virgaurea Goldenrod	AWI	Recently translocated to the site Compartment N
Sorbus torminalis Wild service tree	AWI	
Viburnum opulus Guelder rose	AWI	

Table 1: Notable plant species at Queen's Wood (excluding historic records and garden escapes)

Species *(Latin name)*	Status	Notes
Viola reichenbachiana Early dog violet	AWI	Rare at site Compartment G only

Fungi: The zoned rosette fungus *Podoscpyha multizonata* has been recorded at Queen's Wood and at other nearby woodland sites for a number of years. It is a UK and London BAP, near endemic, and rare in London and nationally, with London forming a centre of this species distribution in the UK. On the basis of the presence of this species the site is judged to be of **Metropolitan importance** for fungi. Apart from zoned rosette, cep *Boletus edulis* and the usual range of woodland fungi in good diversity are present and approximately eighty species of fungi have been recorded at the site.

Bryophytes: Thirty eight species of bryophyte, including *Rhizomnium punctatum* regarded as uncommon in north London have been recorded by Ken Adams/London Natural History Society at the site

2.2.2 Fauna

Bats: Queen's Wood is included in the National Bat Monitoring Program and surveyed most years in June, with additional data gathered from bats walks. The site supports considerable pipistrelle *Pipistrellus spp.* activity, especially above the old paddling pool. Bats of the genus *Myotis,* which include species strongly associated with woodland environments have been recorded regularly along Queen's Wood Road/Wood Lane, but have not been recorded since additional lighting has been provided. Noctule bat *Nyctalus noctula* have been recorded occasionally, usually quite high above the wood. The large number of mature oak trees with woodpecker holes indicates that this species probably roosts at the site but the presence of roosts has not been confirmed. Bat boxes have been erected within the wood and are inspected, and have not been occupied to date. The limited diversity of the bat assemblage present indicates that Queen's Wood is of **Borough importance**[9] for bats.

[9] The Mayors Biodiversity Strategy (GLA 2002) defines Sites of Borough Importance for Nature Conservation as being those where sites of similar quality may be found elsewhere in London, but damage to these sites would mean a significant loss to the borough

Birds: A breeding bird survey was carried out in May to April 2008 (Darrell-Lambert 2008). A total of 28 species were breeding or probably breeding at the site. Of the breeding species two were red listed and five were amber listed Birds of Conservation Concern (BOCC)[10]. Table 2 below listed red and amber listed birds of conservation concern recorded at the site. Of the red listed species, lesser spotted woodpecker occurs in the highest UK densities in Southeast England and its status is London is uncertain with possibly declines obscured by the difficulty in recording this species[11]. The second red-listed species, song thrush has declined most substantially in agricultural areas and to a variable extent across the UK[12]. Its decline in London has been moderate.

Fuller (1980)[13] provided a framework for evaluating the conservation importance of sites in the UK based on their breeding bird assemblage. Fuller gives the following breeding diversity criteria: National importance 85+ species, regional importance70-84 species, county importance 50-69 species, and local importance 25-49 species. On this basis the breeding bird assemblage is local importance, and should therefore be regarded as being **important at Borough level**.

Table 2: Red and amber listed breeding bird species at Queen's Wood

Species *(Latin name)*	Status at the site	BOCC/BAP status	Notes
Stock Dove *(Columba oenas)*	Breeding	Amber	Up to seven males were heard singing and seen in display flight
Green Woodpecker *(Picus viridis)*	Breeding	Amber	One or two territories were located
Willow Warbler *(Phylloscopus trochilus)*	Possible breeding	Amber	A single male was heard in April but not seen or heard on subsequent visits

[10] Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. (2009). Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds,* **102**: 296-341.
Red List species are those that are Globally Threatened according to IUCN criteria; those whose population or range has decline rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

Amber List species are those with Unfavourable Conservation Status in Europe; those whose population or range has declined moderately in recent years; those whose population has decline historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.

[11] Hewlett, J. (ed) (2002). The breeding Birds of the London Area. LNHS.

[12] http://www.rspb.org.uk/ accessed 020310

[13] Fuller, R.J. (1980) A method for assessing the ornithological importance of sites for nature conservation. Biological Conservation, 17:229-239.

Table 2: Red and amber listed breeding bird species at Queen's Wood

Species *(Latin name)*	Status at the site	BOCC/BAP status	Notes
Mistle Thrush *(Turdus viscivorus)*	Breeding	Amber	One breeding pair were present
Dunnock *(Prunella modularis)*	Breeding	Amber	Two singing males were located
Lesser Spotted Woodpecker *(Dendrocopos minor)*	Breeding	Red	One male was heard during the February survey.
Song Thrush *(Turdus philomelos)*	Breeding	Red	Up to nine territories were located

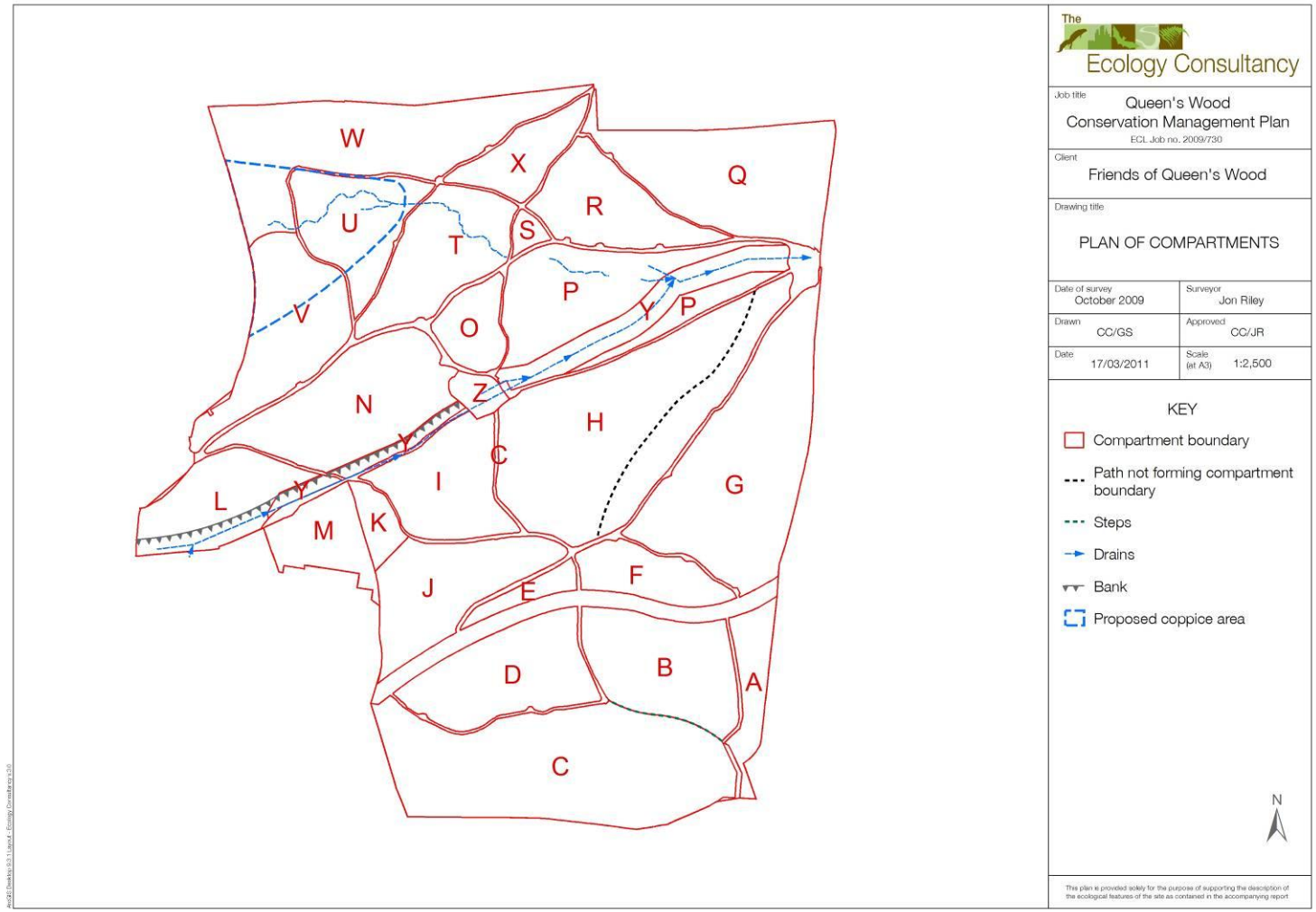
Invertebrates: There is a limited amount of data on invertebrates for the site with most data being for spiders of which 108 species including two Notable B[14] species *Coelotes terrestris* and *Philodromus praedatus* have been recorded. The spider assemblage is considered to be limited by the high level of disturbance at the wood. Other invertebrate species recorded are the Red data Book 2 (vulnerable)[15] jewel beetle *Agiljus pannonicus* which is widespread at the site and is now regarded as common or even a pest by some authorities[16]. The larvae of this species feed on rotting wood and it is likely that the site supports a notable assemblage of dead-wood dependent (saproxylic) invertebrates.

2.3 Description of compartments

Compartments identified below are reproduced from Game 2000 with amendments (including Compartments Y & Z) to account for significant changes in current or proposed management, or to highlight areas where significant management issues exist. Figure 2 shows compartment boundaries which are based on the principal path network at the site, or in some cases on drainage features. A small number of additional paths have been created or become more prominent since 2000 and it is therefore necessary to map definitive compartment boundaries at the site.

[14] Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and are thought to occur in between 31 and 100 10 km squares of the National Grid or for less well recorded groups, between eight and twenty vice- counties. From Eversham (1983).
[15] Taxa *believed* likely to move into the endangered category in the near future if the causal factors continue operating From Shirt (1987),
[16] http://www.forestresearch.gov.uk/fr/infd-7b3d3r accessed 080310.

Figure 2: Map of compartments



Compartment A: This compartment is fairly typical of much of the wood. It contains trees of a good range of species, including fine mature oaks *Quercus ssp.* and hornbeams *Carpinus betulus*, and at least some understorey, composed predominantly of elder *Sambucus nigra*, holly *Ilex aquifolium* and young trees. There is a group of dense young hornbeams near the road. When visited during this survey, the ground flora seemed sparse in the north and south ends of the compartment but better developed in the central third. However, sanicle *Sanicula europaea* is present near the southern end and is increasing through appropriate management. Wood anemone is relatively abundant in the north of the compartment and wood melick *Melica uniflora* is also found. A bank and ditch extends southwards from the road. A gate in the perimeter fence gives access to the 'Wooded Walk', an attractive linking path through secondary woodland to Crouch End Playing fields but which is outside the scope of this management plan. The compartment lies next to a frequently-used footpath leading from Queen's Wood Road to Priory Gardens and the tube station.

Compartment B: Much of the rest of this compartment is quite well structured and contains a good range of species, probably due to a combination of being further from major paths and possessing fewer large hornbeams. Here typically are found fine oaks above young hornbeams and beech *Fagus sylvatica*, holly, hazel *Corylus avellana*, hawthorn *Crataegus monogyna* and rowan *Sorbus aucuparia*, with dense bramble *Rubus fruticosus* and ivy *Hedera helix* below. Wood melick *Melica uniflora* and wood anemone *Anemone nemorosa* occur here, and common cow-wheat *Melampyrum pratense* grows in the north-west corner. There is a large patch of ivy covering the ground in this compartment. An old bank runs from the road roughly in a south-west direction.

Compartment C: This compartment slopes steeply down from the path along the northern edge to a valley on the southern perimeter. The land slopes more gradually down from the east to the west. The vegetation in the south of the compartment is very dense and the area is little visited.

A damp ditch passes along the bottom of the valley slope and forms the southern perimeter of the site, adjoining the boundaries of rear gardens of adjacent properties. In one section, towards the western end, the ditch had been dug out and two flexible pipes drain into it of which one drains water from an adjacent garden. Several entrances have been made into the wood from the adjacent gardens, and planks or other makeshift

bridges erected over the damp ditch and a limited amount of garden rubbish has been dumped. Large oak trees, hornbeams of various sizes and holly dominate much of the valley. There are several horse chestnuts *Aesculus hippocastanum* and common lime trees *Tilia x europaea* at the eastern end, and large sycamores *Acer pseudoplatanus* further west near the wooden garden fences. There tends to be little understorey apart from holly, and ground flora is apparently largely absent, although there are some patches of hybrid bluebells *Hyacinthoides x massartiana* and several clumps of ramsons *Allium ursinum* in the valley and particularly along the eastern section of the ditch. The woodland is much denser at the western end of the valley, and there is a mixture here of young wild cherry *Prunus avium*, beech and rowan, together with bramble, cherry laurel *Prunus laurocerasus*, sweet chestnut *Castanea sativa*, sycamore and hazel, and the ubiquitous holly, oak and some hornbeam. Holly is dense at the western end and there are dead boughs (e.g. of oak) lying on the floor here. A small English elm *Ulmus procera* tree grows near the southern boundary towards the western end

The northern part of the compartment is on higher ground and there tends to be a sparse understorey and either a grassy or little or no ground flora. A patch of dense tree regeneration at the extreme western end comprises hornbeam, wild cherry, sycamore, holly, rowan, beech, Norway maple *Acer platanoides* and oak. Adjacent to this a grassy clearing supports a population of common cow-wheat. Most of the path along the northern boundary of the compartment is bordered immediately by open woodland with grasses beneath, chiefly creeping soft-grass *Holcus mollis*. Further from the path, and on the sleep slope, the canopy of oak, hornbeam and holly is denser, and the ground flora is correspondingly sparser. However there is a good deal of tree regeneration, especially towards the eastern end, including wild cherry, beech, ash, oak, rowan, hornbeam, sycamore, and non-native whitebeam (cf. Swedish whitebeam *Sorbus intermedia*); a patch of dense birch *Betula sp*. seedlings includes smaller quantities of rowan, sycamore and beech. Edward Milner reports that there is a seedling of native whitebeam *Sorbus aria* in the compartment. Evidence of bark stripping by grey squirrels is evident on several young beech and hornbeam in this compartment. Field rose *Rosa arvensis*, an ancient woodland indicator species which is rare at the site (also present in Compartment P) was recorded by David Bevan in 2007.

Following recommendations (Game 2000), holly removal was carried out in part of this compartment in 1999.

Compartment D: This compartment contains some well-structured woodland with useful regeneration.

Woodland along the eastern edge is generally well structured, containing large oak trees with canopy gaps which are filled with brambles, holly and young trees. Some of the woodland near the road is rather more open beneath the large oaks, and a thicket of oaks seedlings (typically about a metre high) have grown up. However, these are badly mildewed and it is doubtful if they will survive. The western part of the compartment tends to be relatively open beneath the oak canopy, with little field layer apart from creeping soft-grass and patches of bramble, a few sapling rowans and a wild service *Sorbus torminalis* (recorded by Game 2000 but not Bevan 2009) and several large holly bushes. David Bevan recorded pill sedge *Carex pilulifera* here in 1995, and a specimen was found in or near here in 2009 during the survey for this report.

There is a patch of dense regeneration, chiefly of birch, hornbeam and oak, in the south-east corner. Further into the compartment here is some limited sycamore regeneration. Nearby is a rowan sapling which was planted as a memorial tree; this is partially shaded by a young beech behind it. There is a canopy gap a little further north, adjacent to the path with a thick cover of bramble on the ground. Other patches of regeneration occur further into the compartment. In one area oak, wild cherry, hazel and two holly bushes grow among bramble beneath a thin oak canopy or none. In another area, large holly bushes are competing with young wild cherry and a hazel stool. There is good tree regeneration at the western tip of the compartment, with beech, holly, rowan, hornbeam, birch, wild cherry, sycamore, ash, hazel and at least six oak saplings.

A population of common cow-wheat grew at the western tip but was not found in the 2007 survey, and there is a small English elm towards the western end. A small-leaved lime *Tilia cordata* had been recorded in the western/centre of the compartment (by Game 2000 but not Bevan 2009); it may have been planted. A sweet chestnut tree grows in the eastern/centre of the compartment. Edward Milner reports that the tallest rowan in London, at 22m, grew in the compartment.

Compartment E: The canopy in this compartment, largely of oak, hornbeam and holly, is generally dense, and there is little in the way of understorey or ground flora. A fine beech tree stands at the western end. Holly is common, including both native holly, Highclere *Ilex x altaclarensis* and other hybrids; hybrid hollies are quite a feature of Queen's Wood. In at

least one area, in the north of the compartment, holly bushes will soon coalesce, to the detriment of rowan, beech and hornbeam regeneration. Numerous holly seedlings are present at the eastern end of the compartment.

Compartment F: This is a good area of oak, hornbeam and beech woodland, with plentiful young regeneration with a reasonable cover of bramble beneath. Limited sycamore and horse chestnut is present. Common cow-wheat occurs near the road at the eastern tip of the compartment. This is a more widespread population than some elsewhere in Queen's Wood, with outliers under the trees along the roadside. A healthy bush of guelder rose *Viburnum opulus* grows at the path intersection in the north of the compartment.

Compartment G: This is generally a well-structured compartment. A public right of way not shown on map in Figure 2 runs parallel and near to the eastern boundary of the wood. An old boundary bank runs a metre or so from the wooden back garden fences along this edge. Garden rubbish has been dumped here at intervals along the bank. This is mostly vegetation, but rubble has been dumped on the bank in one place. Several pollarded hornbeams grow on the boundary bank, together with large hazel stools and a few sycamores; at least one of the latter had been cut back.

There are several areas within this compartment with dense, hornbeam coppice shades out most shrubs and ground flora. However, the canopy is much lighter in much of the compartment (due largely to fewer hornbeams) and here the sub canopy layers are better developed, and tree regeneration of various ages is present. A large patch of dense young trees north of a grassy clearing is particularly evident. Early dog violet *Viola reichenbachiana* grows here: this is the only location it was recorded in the 2007 survey. There is also a large patch dominated by snowberry both *Symphoriocarpos albus* and *S x chenaultii*; these reflect the history of the site being used for dumping garden material in the wood. The trees are up to 4m high and the great majority are hornbeam, but ash *Fraxinus excelsior*, rowan, oak, holly, sycamore, birch, whitebeam and hawthorn are also present. A nearby patch of regeneration further north on the northern edge of the compartment, is far less dense and set in a grassy sward. It is also dominated by hornbeam together with rowan, holly, wild cherry, wild service and oak in small quantities. Young trees are also present elsewhere in the compartment. There is a good population of cow-wheat not far from the southern tip of the compartment

Compartment H: This compartment lies on ground sloping generally down from the south-

west to the north-east.

The north-east end on this compartment is rather open, with a grassy sward beneath a canopy of large oak trees.

The lower slopes in the rest of the compartment, i.e. beside the path leading to the paddling pool (compartment Z), tend to be poorly-structured hornbeam coppice with oak standards, with a scattering of holly, a few weak hazel and hawthorn, but little else in the shrub or ground layers. However, there is another large grassy clearing roughly opposite the 'witch's coven' in the compartment to the north. Here oak standards are present but not hornbeam. There is some sparse tree regeneration, probably damaged by overuse of this area. A population of cow-wheat is present on the edge of the clearing.

The woodland further up the slope contains less hornbeam, and is generally nicely varied in structure, and containing canopy gaps with bramble and/or grasses beneath; young trees, mostly hornbeam but including other species also, large trees, mostly oaks, with fewer hornbeams and even fewer beeches; some holly; and some patches of overstood hornbeam coppice allowing little to grow beneath the canopy. A small colony of cow-wheat grows near the upper path, and a small quantity of remote sedge *Carex remota* near the western edge, near a fallen oak log (recorded by Game 2000 but not Bevan 2009).

Compartment I: Like compartment H, this compartment is also on steeply sloping ground. The woodland is well-structured on the upper slopes, and many young trees grow here, mostly hornbeam, but also including beech, rowan, sycamore, holly and wild cherry. Field maple *Acer campestre,* which is uncommon in the wood, grows near the upper edge.

The lower slopes are composed of hornbeam coppice with oak standards. Holly is quite frequent, but there is little other shrub layer and little ground flora. Small quantities of young sycamore and holly are present; some of the sycamore has been cut. Remote sedge grows by the lower edge of the compartment, near the western end.

There is an attractive grassy triangle with oak trees near the paddling pool (compartment Z), containing a limited amount of tree regeneration and a sapling common lime tree, presumably planted.

Compartment J: This compartment falls into three parts; a narrow flattish lower area along

the northern edge; a flattish upper area along the southern side; and a steep hank connecting the two

The lower edge is generally composed of poorly structured hornbeam coppice with oak and some beech standards, together with a good deal of holly. There is little ground flora. The sleep slope is a mixture of paths, grassy slopes, and patches of dense young trees (mostly hornbeam, but also including beech, wild cherry, rowan and oak) below oak trees and at least one splendid beech. A single crown of hard fern *Blechnum spicant* grew among young holly near the western end but died during a series of dry summers (2005 etc).

The upper area is a mix of grassy clearings and woodland. The clearings contain some regeneration, including brown birch, hazel, ash, hornbeam and small oak seedlings. Some of the woodland areas are well structured, with standard oak, beech, hornbeam and dense tree regeneration. There is a large dead oak tree, and dead oak wood lies on the ground. Great wood-rush *Luzula sylvatica* grows close to the junction separating compartments I and H.

Holly is dense near the south-western lip of the compartment, beneath a thick hornbeam canopy. Several sycamore trees grow on the edge of the wood here, and there is some dumped garden debris.

Following recommendations (Game 2000) holly removal was carried out in this compartment in 1999.

Compartment K: This small compartment was coppiced in February 1992. It has since regrown to a dense area of regeneration, largely of hornbeam, but with a smaller quantity of other species, including hazel and rowan. A total of 86 species of plants have been recorded in the compartment since then, compared with 16 before management; these included slender St John's-wort *Hypericum pulchrum* and bristle club-rush *Isolepis setacea*, the presence of both a result of the coppicing. Not all these species will be present now, but the flora will undoubtedly be richer than before the coppice was cut. There is a good patch of wood anemone at the edge of the coppice which has benefited from the coppicing.

When visited in January 2010 the regrowth of hornbeam coppice was relatively poor with

evidence of squirrel damage but there was considerably regrowth of wild cherry, which may excessively shade the hornbeam stools

Compartment L: This is an interestingly varied compartment, both in terms of structure and species. There is a good understorey, especially in the upper areas near the entrance to the wood. Lower down mature oaks and hornbeam coppice shade out the understorey, but even here there are patches of shrubs. The parts of the compartment away from the path are probably relatively little visited, being on the edge of the wood and with a forbidding boundary along the builder's yard.

Large common lime and plane trees grow near the road and nearby along the builder's yard boundary; there is a good deal of standing and lying dead wood. Oak and hornbeam coppice are common, but the shrub layer tends to be quite dense here, and includes a good deal of hazel. Towards the lower, eastern end of the compartment maiden hornbeams are present; although these are fine trees, they cause shading, and beneath them there is little in the way of shrub or ground layers.

The area of woodland between the entrance from Muswell Hill Road and the Lodge, north of the entrance path, contains plentiful lesser celandine *Ranunculus ficaria* and regenerating Indian horse-chestnut *Aesculus indica* - one of only two known British sites where this tree has been noted as regenerating.

Japanese knotweed is present in this compartment and is managed by pulling by the Friends of Queen's Wood on an ongoing basis, with material being removed to less sensitive infested areas in compartment M. Due to shade from the tree canopy it is not considered that the colony will spread and the current management is sufficient to achieve control and potentially removal of the colony.

A drain and wood bank along the southern boundary, close to the builders yard is now included in a new compartment (Y)

Compartment M: This compartment is separated from the rest of the wood by iron railings. These are mostly in good repair but at least one large section is missing, allowing easy access into the compartment. It lies outside the boundary of the ancient wood, demarcated by the ditch and bank along its edge, to the west of the old stubbed

hornbeams. It was once part of Highgate Common, previously (in the 17th century) Sow Wood Common.

Fine old hornbeam pollards line the northern and eastern edges of this compartment; one hornbeam has been re pollarded, and is re-growing. A stream-bed (compartment Y) runs along part of the northern boundary, it was damp and muddy at the time of visit (July 1999), but held no standing or running water. However, it does hold water in winter.

Immediately to the south is a mounded area dominated by Japanese knotweed *Fallopia japonica*.

The south-eastern part of the compartment is characterised by dense bramble beneath ash and hornbeam; there is no Japanese knotweed here. Holly is abundant towards the south-eastern corner.

Compartment N: Much of this compartment consists of oak standards (both native species pedunculate oak *Quercus robur* and sessile oak *Quercus petraea*) and overstood hornbeam coppice, with some holly and small quantities of hazel and hawthorn. The latter tend to be stressed, due to the shade cast by the oak and hornbeam. Towards the western edge there tends to be a dense carpet of ivy, with very little tree regeneration. In the east the ground tends to be bare apart from a few patches of bramble. Some of the hornbeam stools show severe damage from bark stripping by grey squirrels. A large windblown field maple is regenerating from the rootball.

An old bank passes through the compartment, and is used for a path (not marked on the map). This is a continuation of the boundary bank to the east of compartment M, and probably demarcates the boundary of the ancient woodland. Early maps suggest that much of the western edge of the wood was 'waste', and this may be where plague pits were dug (see Silver-town 1978). Holly is particularly abundant near this bank.

Fine wild cherries grow near the former changing rooms in the southeast corner of the compartment with box elder, bramble and birch. This area was coppiced in 2003.

Former changing facilities (now demolished) and a paddling pool adjoin the southernmost part of the compartment and are now described separately as compartment Z.

The bank of a defunct ditch (parallel to a more recent ditch) close to the path, forming the southern edge of this compartment, is now described as a new compartment (Y).

Hairy woodrush *Luzula pilosa* and translocated plants of goldenrod *Solidago virgaurea*, both ancient woodland indicator species were recorded only in Compartment N in the 2007 survey, but it is not known whether their location remains in Compartment N or if it is now in Compartment Y.

Compartment O; Much of this compartment consists of typical hornbeam coppice with holly and standard oak trees, and little else. However, there is a patch of dense hornbeam regeneration near the centre, not up to 5m high, together with very limited amounts of hazel, beech, rowan and holly. Saplings of ash, goat willow and wild cherry grow among bramble at the western corner.

Towards the south is an area which was previously fenced off when it enclosed the old wood-keeper's buildings; the fence is now broken in several sections. Cherry laurel, wild and garden privets (reflecting the wood-keeper's plantings) grow immediately to the east of this. Himalayan honeysuckle/ Pheasant berry *Leycesteria formosa* also grows here.

Compartment P: This compartment can be divided into three sections.

Towards the south-west corner is a large open, grassy clearing surrounded by large oak trees. A fallen oak branch has been made into an informal seat in the centre of the clearing. The area is an attractive and well-used amenity, but of limited interest for nature conservation. It is sometimes called the ‘witches coven'. There is limited tree regeneration in the north-west corner. Due to ongoing visitor pressure the grassy flora of this area has been suppressed and it becomes bare in summer.

The woodland to the east of the Witches Coven is very poorly structured oak standards with hornbeam coppice and some holly, but otherwise containing little shrub layer. The ground is mostly bare. However, it is visually attractive and seems to be well used; it is opposite the main entrance on the eastern edge of the wood. The lack of understorey probably makes it appear 'safe' to visitors by allowing high visibility. This area was coppiced in 2009, mainly with the removal of hornbeam and with the timber used for dead-hedging around the coppiced area, and to create seats and log piles. Coppicing has been followed by a spectacular increase in plant diversity including some woodland species and

wetland species (close to the drain – compartment Y) as well as weedy species. Oak regeneration has not yet occurred but this may be linked to poor acorn production in the year following coppicing.

The best part of this compartment for nature conservation is to the west of the Witches Coven. A magnificent wild cherry tree grows near the paddling pool (compartment Z), and the better light conditions here have maintained a better-structured woodland here. However, as the Witches Coven is approached, there is an area of tall holly trees – interesting visually, but not of special note ecologically. A particularly interesting area lies at the north-west comer. Again, fine wild cherries grow near the corner, with a tall ash tree nearby – one of very few old ashes in Queen's Wood. The bed of the former stream enters the compartment here, and, crucially, this section and its surrounds are well-lit. It supports an excellent flora, including wood sorrel *Oxalis acetosella*, remote and wood sedges, tutsan *Hypericum sp.*, common dog-violet *Viola riviniana*, enchanter's nightshade *Circaea lutetiana* and guelder rose. The population of the latter spreads into the drier woodland to the south. Broad-leaved helleborine *Epipactis helleborine* was recorded here as single plants in 1990, 1991 and 2008, but following coppicing 11 plants were recorded in 2009. Slender St. John's Wort, a locally rare and ancient woodland indicator species was also recorded following coppicing.

Following recommendations (Game 2000) holly removal was carried out in this compartment west of the witch's coven about 2 years ago.

The drain flowing through the small valley oriented southwest to east along the length of the compartment has been placed in a new compartment (Y). It is understood that most of the records for broad-leaved helleborine noted above are from this area.

Compartment Q: This is an excellent area of mixed woodland: mixed in species, tree age and structure. Wild service is relatively common. Much of the compartment is too dense with bramble and young trees to permit easy access and, combined with the fact that it lies in a comer of the wood, this makes much of it little visited and little disturbed. Several dead oaks have had their upper limbs removed and the wood placed in piles on the ground. It is the only compartment in which the ancient woodland indicator species barren strawberry was recorded in the 2007 survey.

There is a patch of Japanese knotweed on the northern edge of the wood, adjacent to the

garden of the second house from the east on Connaught Gardens. This is growing amongst other vegetation but in fairly well-lit conditions. Some sycamore regeneration is present, especially near the northern boundary.

There is a patch of dense tree regeneration adjacent to a path roughly in the centre of the compartment. This is mostly hornbeam, but oaks up to 2m high are present, as well as rowan and perhaps other species.

Compartment R: This compartment is a mixture of rather open and attractive oak woodland with grass beneath, and denser vegetation of bramble, young trees and holly. It is notable for the number of young oak trees it contains.

Compartment S: This is a small triangle of mostly dense woodland of hornbeam, oak, holly of mixed provenance, wild cherry, hawthorn, and a Norway maple sapling.

Compartment T: Much of this compartment consists of hornbeam coppice typical of Queen's Wood, with oak, holly, some hazel, but little else. There are several patches which are more varied, e.g. alongside the path on the south side of the compartment. The stream is more-or-less dry. Magnificent ash trees grow near it, but largely it is heavily shaded and supports little ground flora apart from mossy banks. David Bevan has recorded tutsan at the upper end of the stream (tutsan is in fact increasing in the wood and is now recorded from several places). The lowest 20m or so of the stream is also interesting, and supports wood sorrel, remote sedge, wavy bitter-cress *Cardamine flexuosa* and broad buckler fern *Dryopteris dilatata*. Wood anemone is abundant, especially to the north and east of the former stream. There is a sapling sycamore, about 7m high, near the eastern side of the stream. Non-native Himalayan honeysuckle grows in this compartment, perhaps as a self sown garden escape.

Following recommendations (Game 2000) holly removal was carried out in this compartment about 5 years ago.

Compartment U: As with the previous compartment, much of this is overstood hornbeam coppice with the course of a former stream through it. There are magnificent hornbeam and wild cherry trees near the lower end of the stream. At the lower end the stream is heavily shaded, but the canopy becomes slightly lighter further upstream. The stream bed is split in two towards its upper end, and around here the ground flora is very interesting,

with guelder rose, three-nerved sandwort *Moehringia trinervia* (still present in 1999), wood sorrel (a good population), both remote and wood sedges, and a small population apparently of yellow archangel *Lamiastrum galeobdolon* (the native species, not the variegated form); the latter is on the southern side of the southern branch. Soft shield fern *Polystichum setiferum* was reported from this area, and its presence was confirmed by David Bevan in September 1999. Two wild pear *Pyrus sp.* trees grow near the western edge of this compartment.

Following recommendations (Game 2000) holly removal was carried out in this compartment about 10 years ago.

Compartment V: The western boundary of this compartment, bordered by housing, and was formerly an open area known as the 'Strawberry field'. It is dominated by fine plane *Platanus sp.,* silver maple *Acer saccharinum* and common lime *Tilia x europaea* trees. These and the edge of the wood let sufficient light for a good understorey to have developed, chiefly of bramble and holly. Elsewhere hornbeam is commoner. There is a band of dense young hornbeam and lime saplings near the centre of the compartment.

The stream, on the northern boundary of Compartment V/W, is a very important feature. It no longer flows although there was .stagnant orange water near the edge of the wood when visited. It is surrounded by a dense growth of vegetation, including nettle *Urtica dioica*, bramble, elder *Sambucus nigra*, field maple, great willowherb *Epilobium hirsutum*, meadow-sweet *Filipendula ulmaria*, dogwood *Cornus sanguineus*, and guelder rose, plus remote sedge, lady fern *Athyrium filix-femina* and goldilocks buttercup *Ranunculus auricomus* (the latter recorded by David Bevan). Some judicious cutting back of the canopy here was carried out in 1992 and in 2010.

Compartment W: On the northern edge of this compartment, there is a former small entrance to the wood which, being illegal, has been gated off. The compartment is relatively undisturbed, especially the north-west corner. There is some dumping of garden refuse along the boundaries.

Much of the compartment consists of hornbeam coppice with oak and holly, the latter dense in places. It is the only compartment in which the ancient woodland indicator grass wood millet was recorded in the 2007 survey. There are sycamore trees in the north-west corner; bluebell, possibly native (*Hyacinthoides non-scripta*), grows near here. West of the

entrance there is a better structure and mix of species, with breaks in the canopy and young wild cherry, elder and hazel. A large sycamore tree grows here, and there are fine large-leaved lime and silver maple near the north-east corner

An area adjoining compartment X is better structured, and includes seedling and sapling trees, with dead wood lying on the ground beneath bramble, as well as dead standing timber. The area forming the boundary with Compartment V supports a similar stream side assemblage as noted in Compartment V, and further plants of goldilocks buttercup were recorded in 2007 survey in this area.

Japanese knotweed appears from time to time in the north-east corner of this compartment near the Connaught Gardens entrance and notice board. It is removed by the Friends of Queen's Wood.

Compartment X: The north-eastern corner of this compartment is open, and contains coarse species such as nettle and hogweed *Heracleum sphondylium*. Elsewhere the woodland is well-structured.

Compartment Y: This is a new compartment comprising the course of a drain (a tributary of the Moselle) that runs southwest to northeast through the centre of the wood, from the builder's yard on Muswell Hill Road to the access point on Wood Vale. The drain runs to the north of the path along the southern boundaries of compartments L and N and then flows through a valley in compartment P.

Possibly as long ago as the 19th century the drain was directed through ceramic pipes. These are now largely exposed, blocked and broken and the drain has reestablished a channel at the surface over much of its length.

Compartment Y has been isolated from these compartments because of the botanical and historical interest of the drain and bank, the potential for several projects at various points along its length, and vulnerability to adverse impacts from recreational use. The compartment does not include the branch of the drain further to the northwest, which is largely at the surface and is described in compartments P, T, U and V.

The following description of the compartment is based largely on information provided by Game (2000) and David Bevan

The drain or ditch runs alongside the boundary with the builder's yard. Initially dry, lower down from the corner of the yard it was wet with very brown water at the time of visit in July 1999. There is a good flora here, including guelder rose, remote sedge and wood sedge *Carex sylvatica.* There is an old bank and slight ditch parallel to the wall of the builder's yard, towards the lower end, and about 10m from it. Wood sedge grows on the bank and cut-leaved elder nearby.

Along the southern boundary of the compartment N the bank of a defunct ditch (parallel to a more recent ditch) close to the path supports broad-leaved helleborine *Epipactis helleborine* and thin-spiked wood sedge *Carex strigosa*. Small quantities of wood sedge and remote sedge are also present.

Northeast of the paddling pool (compartment Z below) and running through compartment P the drain comprises two channels. The northern branch runs from Muswell Hill Road and was almost dry during the 1999 survey (and it was believed that flow had been cut off by works on Muswell Hill Road), but in full flow at various times during the winter of 2009/10. The southern stream leads from the paddling pool; its bed is very shallow at first but become more defined further down stream. It too is heavily shaded and vegetation was restricted to small amounts of the two sedges but broad-leaved helleborine have also been recorded.

The two drains meet at the Dog Pond. This is a concrete-lined and heavily shaded small pond which that does not retain water. However, conditions were sufficiently wet for a single plant of square-stemmed St. John’s wort to appear following coppicing and it is likely that other wetland plants could reappear from the seed bank if wetter conditions can be provided. The outlet from this pond leads to a manhole a short distance down stream. Beyond the manhole the drain is an apparently deep drain to the access from Wood Vale where it passes through a grille and becomes part of the storm drainage system. A substantial flow of water could be heard at the grille in 2009/10. The grille or adjoining storm drain has become blocked in the past leading to flooding of an adjacent property on Wood Vale, but this has not occurred since works were carried out five or six years ago.

Compartment Z: The former paddling pool and the changing rooms (now demolished) and other facilities were previously in compartment N. These have been derelict for many years, and it is now the focus of a project proposed by Froglife to restore the area as a wildlife pond. The elements of the project are as follows:

- To redirect a proportion of water flowing in the drain (compartment Y) from under the existing damaged concrete liner to flow into the new pond, thereby providing a means of recharging water levels.
- To excavate and re-profile the pond to approximately 16m diameter and 1m deep.
- To reline the pond with a Geoesynthetic Clay Liner
- To reduce overhanging tree canopy in order to increase light reaching the pond
- To plant with native wetland species with species chosen to reflect those recorded in the wood
- To provide a dipping platform large enough for a school educational visit.
- To record the geomorphology/archaeology of paddling pool site, which is believed to be of Holocene origin.
- Creation of amphibian hibernacula in the vicinity of the pond

3. Policy

The following section sets out general policies that inform the remainder of the management plan which is more site-specific. These policies were developed by the London Wildlife Trust (LWT) to inform the management of their reserves and have been adapted below. They include policies on ecological principles and amenity, as well as those on health and safety and volunteering. These policies may not reflect current LWT policy and it is anticipated that they will have to reviewed and amended to reflect LB Haringey's requirements.

3.1 General principles on ecological issues

3.1.1 Continuity of habitat and community assemblages

The primary interest of Queen's Wood is as ancient woodland which is a highly valued and irreplaceable wildlife habitat. This means that the management proposed does not seek to alter the predominantly wooded nature of the site, rather to maintain various ecological and historic aspects of the wood, including the creation of areas of coppice as suitable locations. Management to maintain or reinstate non-woodland habitats maybe recommended in areas outside of the ancient woodland boundary (compartment M) where the target habitat would have greater value than the existing habitats.

3.1.2 Prevention of local extinctions

Management to prevent accidental local extinctions, particularly of plant species, and to encourage natural recolonisation, will be carried out.

3.1.3 Survey and monitoring

A survey is carried out to establish baseline ecological interest and monitoring to assess the effects of management. It is important that protocol adopted is designed to assess the effects of management rather than gather large amounts of species data. For example, moth surveys are of interest in establishing the value of the site and the management requirements for important species, but are too specialised and expensive to be carried out on a regular basis. Conversely bird or butterfly transects carried out regularly over a number of years will yield information on the effectiveness of management and can be carried out cheaply by non-specialists. Bird and bat monitoring should be carried out on an annual basis and vegetation surveys regularly but less frequently. Records should be sent to the local

biodiversity records centre (BRC) - Greenspace Information for Greater London (GIGL). Of equal or greater importance to species survey and monitoring is monitoring the quality and timeliness of management and the condition of features such as bird and bat boxes.

3.1.5 Invasive species

Queen's Wood has retained a largely native flora dominated by species such as oak, hornbeam, bramble, ivy and holly.

The holly at Queen's Wood comprises a range of hybrids involving the native species and Highclere holly *Ilex x altaclerensis* (and *Ilex aquifolium* x *Ilex perado)*, and possibly other species. The overall abundance of holly has been identified as a management issue through out-competing native shrub and ground flora and inhibiting tree regeneration. By blocking views, particularly near paths, it can reduce the amenity attractiveness of the wood and lead to a sense of insecurity. On the positive side it helps to reduce access thereby limiting damage to soils and ground flora, as an evergreen it is attractive, and it provides habitat structure for birds. There is uncertainty over the degree to which it suppresses other vegetation. Holly can grown in dry shaded locations (characteristic of much of the wood), and these areas probably naturally support a limited amount and variety of vegetation below the canopy. For these reasons further holly removal is recommended only in areas where this is likely to result in improvements to the ecology or amenity value of the wood.

Ivy is dominant in parts of the wood and its abundance may be due to ground disturbance or to heavily shaded conditions beneath areas of hornbeam dominated canopy. There appears to be potential for ivy to suppress other ground flora species because it is evergreen and can overtop smaller species, such as wood anemone. It has been suggested that ivy may inhibit recruitment of ground flora species in secondary woodland[17]. Non-native species of ivy have been noted being among the few non-native species that can colonise the interior of ancient woodland, where they may form dense carpets[18]. No published information on the effectiveness of control of ivy in woodland is available. However, in areas where

[17] Biological Conservation Volume 101, Issue 3, October 2001, Pages 291-304 Vegetation changes during 100 years of development of two secondary woodlands on abandoned arable land Ralph Harmer, George Peterken b, Gary Kerra and Paul Poulton

[18] British Wildlife Volume 8, number 4, April 1997 The effects of urbanisation on urban woodlands David Bevan, Oliver Gilbert.

ground flora may be adversely affected by excessive shading from outgrown coppice, it seems possible that control of ivy may have a beneficial effect on vernal species. Experimental control of ivy through mechanical removal, or even through herbicide treatment, when native ground flora is dormant, could be considered.

Non-native species such as snowberry, pheasant berry and cherry laurel are present in limited amounts and are unlikely to aggressively colonise, and therefore require management rather than removal. Other horticultural species as present in such low numbers that their presence is of interest as examples of colonisation and management is not currently required.

Japanese knotweed is present in limited amounts in compartment L where it is managed by pulling and compartment M where treatment with glyphosate has been proposed. Due to shading it is not considered a significant issue in compartment L, which is ancient woodland, and continuing management will provide adequate control. Eradication from compartment M is recommended as a precursor for future management of the site. .Japanese knotweed is included in Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2) which makes it an offence to plant or otherwise cause these species to grow in the wild, although it is **not** an offence to have it on your land per se. Care must be taken that management activities do not cause it to spread either on or off site.

Grey squirrels are native to North America and were introduced to the UK in the late 19th century. They are well documented as causing damage to trees and woodland though eating buds and stripping bark. They were once shot in the wood, presumably because of the damage they caused. In Southeast England grey squirrels cause very conspicuous bark damage to hornbeam. They also damage a wide range of other species, including sycamore, beech, oak, sweet chestnut, pine, larch and Norway spruce.

Trees younger than 10 years are not normally damaged because their stem and branches are too small (<50 mm diameter) to support a grey squirrel. Bark on the main stem of trees older than 40 years is normally too thick to strip, but grey squirrels will strip the thinner bark on the larger branches in the crown. Trees from which the bark is most easily stripped by squirrels are generally the fastest growing

and those with the most sap[19]. A study at Lady Park Wood found that squirrels preferentially debarked intermediate sized (10–25 cm d.b.h.) and stems in stands aged 40–50 years. Other species and stand areas of <100 years' growth remained largely unscathed. Within the 10-year period squirrels had critically affected the successional development of the wood[20]. Other reports note that intermediate sized stems to 40cm diameter at breast height (d.b.h.) are most severely damaged, with most damage occurring at around 4 metres.

Bark stripping results in the death of only 5% of trees, but significant damage occurs through reduced growth rate, snapped stems, crown die back and reduced seed production (Forestry Commission 2007).

The prevalence of damage to rapidly growing stems of intermediate size suggests that maturing coppice regrowth, particularly of hornbeam will be significantly affected. The potential for grey squirrels to affect successional development within woodlands suggests that near permanent changes in habitat structure and species composition could arise in coppice areas.

Control measures frequently employed are shooting, live trapping (both single and multiple animal traps) and Warfarin poisoning (Forestry Commission 2007). Trapping can achieve up to 90% capture but should be carried out collaboratively with adjacent landowners for best effects. This is potentially possible here with City of London, LB Haringey (at Parkland Walk) and LUL but not with private landowners. The welfare of animals would be a difficult issue to resolve if culling was implemented as the site is heavily used by the public. The cost of implementing any of the above measures is unlikely to be met by any of the organisations that would need to be involved.

For reasons above it is considered unrealistic to recommend squirrel control at Queen's Wood. Rather, management proposals should take account of squirrel damage, and in particular coppicing and pollarding should be on a small scale and with proposals to compensate for squirrel damage, should it occur, if necessary though planting or selection of seedlings of less susceptible species such as silver

[19] Controlling Grey Squirrel Damage to Woodlands Forestry Commission August 2007

birch, wild cherry or ash..

3.1.6 Planting and other introductions

Natural regeneration and colonisation is the preferred option for conserving and enhancing woodland habitat. However, Froglife has proposed planting in the scheme to create a wildlife pond at the paddling pool site, which is necessary to hasten its development as an educational resource.

3.1.7 Ivy

Mature, arboreal ivy should always be retained because of its value to birds, bats and invertebrates. Ivy is occasionally perceived as a threat to trees but rarely damages healthy specimens. While ivy removal is not recommended, arboricultural inspections should include monitoring trees with heavy ivy cover close to the pathways and site boundaries.

3.1.8 Dead wood

This is an essential habitat for many species of birds, invertebrates, bats, bryophytes and fungi. Removal of dead wood and 'tidying-up' leads to relatively sterile conditions and takes away an essential part of the woodland ecology. The aim is to provide as much standing and fallen dead-wood as possible without compromising other management aims or safety. Currently there is a limited amount of deadwood in Queen's Wood, as such, all timber produced through woodland management should be retained on site in order to build up a supply of deadwood in varying stages of decay.

There are good quantities of standing deadwood throughout the site ranging from entirely dead trees to those with small areas of rot and a number of trees are likely to have internal cavities of value to birds and bats. All standing deadwood should be retained and ideally the amount should be increased. Where it is necessary to thin the canopy, for instance to favour a particular species, consideration should be given to killing selected trees in a standing position by ring-barking (i.e. removing a strip of bark around the trunk, which kills the tree but leaves it standing). If this is not appropriate trees should be felled leaving a long stump to provide nesting sites for some species. However, public safety must always take precedence in areas of high public use, consequently any trees which are in a demonstrably unsafe

[20] UK Forestry Volume 70, Number 1 Pp. 17-29 1995 A decade of grey squirrel bark-stripping damage to beech in Lady Park Wood, P. MOUNTFORD

condition must be made safe (though not necessarily felled) especially where they are near boundaries or footpaths - although a precautionary approach erring on the side of minimising habitat damage must be taken. Information should be provided for visitors about the role of dead wood in the reserve and that they should be aware of the potential hazard that it may pose to those who stray off the designated paths.

3.1.9 Use of herbicides

Herbicides are damaging to the environment to a greater or lesser extent, and can be a danger to the public. Consequently their use should be restricted to necessary tasks, and only if other management methods are inappropriate or have failed. Use must be in accordance with the relevant pesticide policy.

3.1.10 Climate change

Appropriate future management of the wood could, to a limited extent, mitigate the predicted effects of climate that could affect the wood. These are broadly, an increase in summer droughts, increased winter rainfall, and the potential for new plant pathogens, both due increased climate stress to trees and the possibility that altered climate may favour new pest species. These issues are reflecting in later sections of the plan in a number of ways. Recommendations for reinstating surface drainage and reducing runoff would enable damp habitats a moisture loving species to be retained, if drought becomes more prevalent. The design of new drainage features would have to accommodate the potential for very wet weather and the intense runoff and erosion associated with it. A cautious approach to coppicing had been recommended in terms of extent of additional areas. Maintaining the majority of existing woodland cover is likely to minimise the potential for any invasive and pathogen species to alter the species composition of the wood.

3.1.11 Review of Management Plan

This management plan is written to cover the next 5 years and should be reviewed at the end of this period. In addition, the plan should be reviewed annually by the site staff and the Friends of Queen's Wood to ensure that the work is being carried out and that it is having the desired effect.

3.2 General principles on amenity issues

3.2.1 General safety

Safety is a priority as there is free public access to the site. All boundaries, steps, bridges, footpaths and other visitor facilities need to be inspected regularly and any necessary remedial action taken immediately. Regular inspections must also be carried out of all trees near boundaries and footpaths, to ensure they are in a safe condition, i.e. not about to fall over or shed dead branches onto an area frequently used by the public. Appropriate action should be taken but in recognition that standing dead wood is an essential feature of the woodland ecosystem. Vegetation should be regularly cleared to maintain sightlines in areas which may become very enclosed and create a real or perceived threat to the public. This is most likely to be the case at access points which are often quite narrow and bordered by dense vegetation.

3.2.2 Access

The reserve has pedestrian access to the public 24 hours a day, 365 days a year. Consequently the local authority has a responsibility to ensure that all footpaths and other visitor facilities are in good condition. There is currently a byelaw prohibiting cycling in the wood. The existence of the byelaw is appropriate given the high levels of pedestrian use, the steepness and narrowness of the paths, and the damage to the site that would arise from any increase in off-path access. Any proposals to alter current access must take account of the site's designation as an LNR, as management of LNRs must be based principally on the site's nature conservation interest.

There is evidence of informal access, with alternative routes to the main path present in much of the site. Off-path access is causing soil compaction and damage to ground flora at a number of locations and measures to reduce damage, such as dead hedging or the formalisation of access with steps or paths, should be implemented.

A small number of residents whose back gardens adjoin Queen's Wood have created access points into the wood directly from their properties. These encroachments can be detrimental to the wood by creating additional footpaths which cause damage to the ground flora. Additionally informal access is unsightly and detracts from the wood's value as a public space. The Friend's of Queen's

Wood are already engaged with adjoining residents and seek to resolve these issues on a case by case basis. Such an approach is likely to be the most effective, and is most efficiently carried out by The Friends as they work in the wood on a regular (almost weekly) basis. The Local Authority should provide additional support where necessary by issuing letters to adjoining residents requiring all unofficial access points to be removed and by carrying out enforcement action if required.

3.2.3 Litter

Litter makes a site look untidy and uncared for and can spoil the enjoyment of visitors. Some litter can also be unsafe, or lethal to small mammals and some invertebrates. Litter will be cleared on a regular basis. Hazardous waste (syringes) must be removed from the site regularly and safely by an approved contractor.

The wood also suffers from fly tipping by some adjoining residents who have tipped garden and building waste into the wood, and by the public along Queen's Wood Road. Fly tipping damages the wood by smothering ground flora and potentially introducing invasive species and hazardous substances, as well as reducing the aesthetic value of the wood and being a possible health hazard. As noted in Section 3.2.2 above, when requested, the Friends already engage with residents on management issues and should be supported by the Local Authority. Fly tipping along public highways should be removed by the Local Authority as soon as it is reported.

3.2 4 Dogs

Dog walking is likely to be among the main recreational activities at the site but the associated issue of fouling is also evident, and disturbance to wildlife and the threat of uncontrolled dogs to people, may also be an issue on occasion. The ancient woodland ground flora at the site is likely to be adversely affected by soil nutrient enrichment caused by dog fouling. It is important that existing dog bins are regularly emptied and well maintained to ensure that dog owners can dispose of dog waste in a responsible manner as easily as possible. Relevant byelaws and information on responsible dog walking at the site should be included on information boards.

3.2.5 Fires

Fires are not likely to a major issue at the site except in drought conditions. Fires should be tackled only by the fire service.

3.2.6 Firearms

All incidents of people carrying firearms should be immediately reported to the police; no action should be taken by staff or volunteers against individuals carrying firearms.

3.2.7 Signs and interpretation boards

There is a need for more interpretation of the wood both on site and through written material and the website. Interpretation should be addressed by a separate strategy and is not covered in this management plan.

3.2.8 Lighting

Queen's Wood is of borough-level interest for bats. Bat boxes have been provided to increase the numbers roosting at the site, the creation of the wildlife pond in the former paddling pool is likely to further increase the numbers present, and additional recommendations for bats are provided below. Lighting is known to deter some species of bat and some woodland species are particularly sensitive to increased light[21].

Night time illumination is currently present on the path from Queen's Wood Road to Priory Gardens and at the Lodge where there are also security lights. Any replacement of refurbishment of lighting in these areas should aim to minimise light spillage, for instance by directing light downwards and using hoods to reduce glare. Additional lighting within the woodland should not be provided under any circumstances, in accordance with the site's designation as an LNR. Any severe light spillage from adjacent properties should be addressed if possible through contacting the owner (in some cases this may be achieved simply by lowering the angle of security halogen lamps). It is understood that lighting along Queen's Wood Road has deterred bats from using the woodland edge (C. Blaney pers. com.). The highways department should investigate ways of reducing light spillage with advice from an experienced bat worker.

[21] Refs Jones 2000 and BCT 2009 for woodland bats

3.3 General principles on management practice

The following policies relate to management activities carried out by staff or volunteers and are included for guidance only. They will need to be updated and expanded to reflect LB Haringey policy.

3.3.1 Health, safety and risk assessment

It is essential that all activities take place with adequate consideration of health and safety. Management of the sites for nature conservation poses a number of potential risks, which anyone working there must be aware of. All tasks must be carried out with a specific risk assessment to highlight any particular dangers, which must be reviewed bi-annually. All tools must be use only after an initial safety induction. Works must be led by an individual with authority to ensure that all health and safety measures are implemented and with the ability and recourses to deal with any accidents.

3.3.2 Tools

All tools should be of good quality. They should be regularly and properly maintained and they should be securely stored in good dry conditions. Training should be given in the safe use of tools for all new volunteers or where unfamiliar tools are being used. Volunteers using tools should be made aware, or reminded of, safe practice every time they are used. Appropriate tools should be used at all times.

3.3.3 Use of powered tools

There are occasions when use of powered tools is necessary, e.g. strimmers, chainsaws, etc. Powered tools must only be used by a certificated operator having all due regard for health and safety. All power tools must be kept in good working order and stored appropriately when not in use. Vegetable-based chain oils, such as BioSafe, should be used in their operation.

3.3.4 Use of herbicides

There will be a presumption against the use herbicides, although exceptions will be made. Herbicide use must accord to all relevant Health & Safety and COSHH guidelines, and LB Haringey Policy and the person administering it need to be qualified and properly equipped.

3.3.5 Tree-felling

Tree felling must only be done in accordance with the legislation relating to tree felling licences which are issued by the Forestry Authority. Tree felling is a specialist activity and can be very dangerous. Any felling should only be carried out by experienced persons and only if there is no danger to people or property. If there is any doubt the work should be carried out by specialised contractors. Chainsaws should only be used by fully qualified operators.

3.3.6 Movement of felled trees

Felled or windblown trees should be left in situ unless they cross official paths. If large trunks need to be moved this should be usually be carried out through human effort – aided with a mechanical winch if necessary.

3.3.7 Burning

There is a presumption against burning in the site's management plan.

3.3.8 Working with volunteers

Much of the practical management work of the site could potentially be undertaken by volunteers and there is an active voluntary interest in the site through the Friends of Queen's Wood and BTCV. If volunteer involvement is to be encouraged at the site it should take place in accordance with LB Haringey equal opportunities, health and safety, and volunteer policies and with reference to current best practice provided in the NCVO's Management of Volunteers: National Occupational Standards 2008.

4. Aims

4.1 Aims

The principal aims of site management are set out below. They deliberately broad cover both the ecological and recreation aspects of the site. They reflect the policy preceding section and form a basis for the more detailed information on conservation features, management objectives and management procedures provided in the following sections.

- To preserve the largely ancient semi-natural woodland habitats and informal 'rural' atmosphere of Queen's Wood
- To promote the structural and plant species diversity of woodland where appropriate
- To provide additional opportunities for faunal species (birds and bats) where appropriate
- To ensure that that high standards of amenity management are maintained and to enhance amenity value
- To maintain improve aspects of public safety and security where possible
- To maintain the volunteer led management of the wood and increase the involvement of local schools and community groups to maintain and enhance the educational value of the woods.
- To record and monitor wildlife at Queen's Wood in sufficient detail to inform the management of the site.
- To increase public understanding of the site and its value through talks and walks in the wood
- To attain UKWAS status

4.2 Analysis

Table 3 below provides an overview of the issues and trends that should be addressed in the management plan for Queen's Wood. Rather than the broad management aims stated in 4.1 above, the aims stated in Table 3 below are intended to address more specific management issues. They are also reflected in the management prescriptions in the following section.

Table 3: Analysis of the main issues affecting management of Queen's Wood

Issue	Trend (+ or -)	Aim
Regeneration: there is limited regeneration of oak and patchy regeneration of hornbeam in the wood	-	• To protect existing regeneration of desirable tree species • To encourage greater regeneration
Invasive species: certain species notably holly and ivy are over abundant	+	• To continue management of holly and other invasive species in appropriate areas (defined above see invasive species) • To initiate experimental control of ivy
Coppicing: the wood was formerly managed as coppice with standards but coppicing lapsed until reinstated in the 1990's	+	• To extend coppicing in appropriate areas taking account of issues such as squirrel damage • To manage existing coppice
Visitors: visitors are welcomed to enjoy the wood, but create problems in managing the ecology of the wood	-/+	• To encourage greater use of the wood • To manage damage from excessive recreational use • To continue to use volunteers and increase voluntary involvement • To increase onsite interpretation • To continue providing educational walks and talks • To consider providing an education/visitor centre.
Climatic conditions: the wood is vulnerable to unpredictable weather, particularly drought	-	• To ensure that management doesn't exacerbate climate effects
Size: in management terms the wood is small	NA	• To ensure that management is of the correct scale for the wood
Connectivity: although in an urban area the wood is in close proximity to other woodland and open space	NA	• To promote complementary management with nearby sites
Rare species: The wood is of metropolitan importance for plants and possibly fungi. Some species that are not currently found may remain in the seed bank	+	• To continue management aimed at preserving locally rare species • To develop new management projects to retain or re-establish rare species through natural regeneration
Drainage: the wood's drainage has been heavily modified and is now in poor condition	+	• To restore the paddling pool as a wildlife pond • To restore surface drainage and increase wetland habitat in the wood

5. Projects

5.1 Access maintenance

Most of the formal paths in Queen's Wood are surfaced in asphalt, much of which is in poor condition and in need of repair. In some areas steep slopes would benefit from being replaced by steps either to provide better access for visitors or to channel informal access to a particular location to reduce damage to the wood. Timber steps constructed from sleepers or similar are recommended as they are fit for purpose, easy to maintain and replace, and can be built by volunteers. Information on how to build timber steps is provided in Footpaths a practical handbook (BTCV 2001) which can be downloaded from http://handbooks.btcv.org.uk/handbooks/content/section/2352?keywords=steps.

Possible projects to improve access could be considered:

- A survey of the condition of paths is needed prior to scheduling work on specific paths: for example, in Compartment P - provide steps to direct access down slope from path at boundary with compartment H to Witches' Coven to reduce trampling and compaction of drain-side habitat (compartment Y).

- Paths should be inspected regularly and any cracking in asphalt repaired promptly. Steps should be inspected to check if the tread has become muddy and uneven and if the tops of the railway sleepers or other timber forming the risers have become slippery. Any muddy or uneven areas should be scraped clean and refilled with hoggin in the early winter. Tops of risers should be covered in chicken wire or staples as necessary.

- Many of the entrances to the wood are overgrown and uninviting to new visitors. Consideration should be given to improving sightlines and making them more welcoming.

5.2 Arboricultural inspection

A walk over inspection of the entire site should be carried out annually by the borough's arboricultural officer, so that there is an up to date risk assessment of potentially hazardous trees near the path and boundaries.

5.3 Bat boxes

There are already bat boxes in the wood but the creation of a new pond and coppicing of part of compartment P will improve foraging habitat and increase the chance of occupancy of new boxes.

Schwegler 'woodcrete' bat boxes offer considerable advantages over wooden boxes as they are long lasting and, due to the density of materials, provide relatively stable temperatures favoured by bats. The following models are recommended: 2F for smaller bats including brown long-eared bat, 1FS large colony box especially suitable for brown long-eared and Nathusius bats, 1FF – for inaccessible places as droppings fall from the opening, and also suitable for hanging on walls.

Boxes should be situated on a tall mature trees at least four metres above the ground (five or six metres or even higher for noctule bats) with the access facing south west or south east. Six boxes over a 20 by 20 metre square area, facing differing aspects, should be provided at each location to increase the chance of occupancy. Boxes should be sited in sheltered woodland edge locations, away from possible frost pockets and areas where they are unlikely to attract vandals. Boxes should be monitored for evidence of use and cleaned annually by a licensed bat worker. If they are not occupied in two years they should be moved to a new location. Inspection and maintenance of bat boxes should be carried out in April and October, when they are least likely to be in use.

Bat boxes are recommended at the following locations but numbers and location should be confirmed with an experienced bat ecologist

- Compartment H – close to Paddling Pool wildlife pond
- Compartment I – close to Paddling Pool wildlife pond
- Compartment N - close to Paddling Pool wildlife pond
- Compartment P - close to paddling pool Wildlife Pond and on trees at edge of newly coppiced area.

5.4 Bird boxes

Several types of boxes should be used and all (where required) should have protective metal plates to stop woodpeckers or squirrels breaking into them to steal young birds or eggs.

Small hole-entrance nest boxes should be used to encourage Coal Tits and Nuthatches. Medium hole-entrance nest boxes should be used for Starlings and Great Spotted Woodpeckers. Large hole-entrance nest boxes are suitable for Stock Dove and Tawny Owl and small open-fronted nest boxes should be used that could potentially attract Spotted Flycatchers. Providing nest sites will help to contribute to and improve the success rate of the breeding species and must be maintained. It is recommended approximately 1/3 of nest boxes are inspected in late winter (on a rotational basis) and any repairs carried out. After they have been used they should be cleaned out with the nesting material removed and any parasites larva/eggs present. A useful source of information is The British Trust for Ornithology Nest box Guide by Chris du Feu. ISBN 1- 902576-81-0 (copied from Darrel – Lambert 2008)

5.5 Coppicing and coppice management

Game (2000) provides a rationale for forest management of Queen's Wood, which remains relevant to the current plan. Historically Queen's Wood was managed as hornbeam coppice with oak standards. Coppicing probably ceased in the 19th century as the wood became enclosed by suburban development and took on an amenity role. Subsequently hornbeam coppice formed a dense canopy, creating heavily shaded conditions on the woodland floor for much of the year. Excessive shade is the main contributing factor to the poor development of the shrub layer, dominance of holly and poor tree regeneration in the wood

The wood could be allowed to develop to high forest consisting mostly of tall standard trees that develop naturally or can be selected from over-mature coppice stools. Over decades canopy gaps would develop due to wind throw, squirrel damage or other causes, and this would light to the woodland floor, allowing regeneration of ground flora and shrub layer, and the establishment of young trees. The creation of natural gaps would be slow and unpredictable process, and may not be sufficient create the conditions to diversify age structure or promote development of woodland ground flora in areas where they are needed. Due to the

wood's small size this could result in the loss of some species, and, at some point, a lack of mature and over mature trees.

Coppicing enables open areas to be created where they will have the greatest benefit. However, it is dependent on re-growth from coppice stools or seed to re-establish a canopy of trees and shrubs to create conditions favouring shade bearing species and unfavourable to light demanding species. The vulnerability of coppice re-growth discussed above (*3.1.5 Invasive species*) and various issues affecting oak regeneration mean that coppicing should be carried out cautiously to avoid changes to the site that may be difficult to remedy.

Recommendations for further coppicing have been made with the following considerations:

- The creation of coppice areas in keeping with the site, the area coppiced in 2009 is sufficiently large to be of benefit.
- Establishing an overall area of coppice that can be managed by volunteers
- The generally negative attitude of the public to tree felling
- The potential for using other management methods such as holly or ivy removal or felling individual or small numbers of trees to achieve beneficial effect, with less risk, effort and expense than coppicing.
- Particular opportunities or constraints in different locations, for instance a lack of regeneration would favour coppicing but the presence of a well-developed ground flora may not.

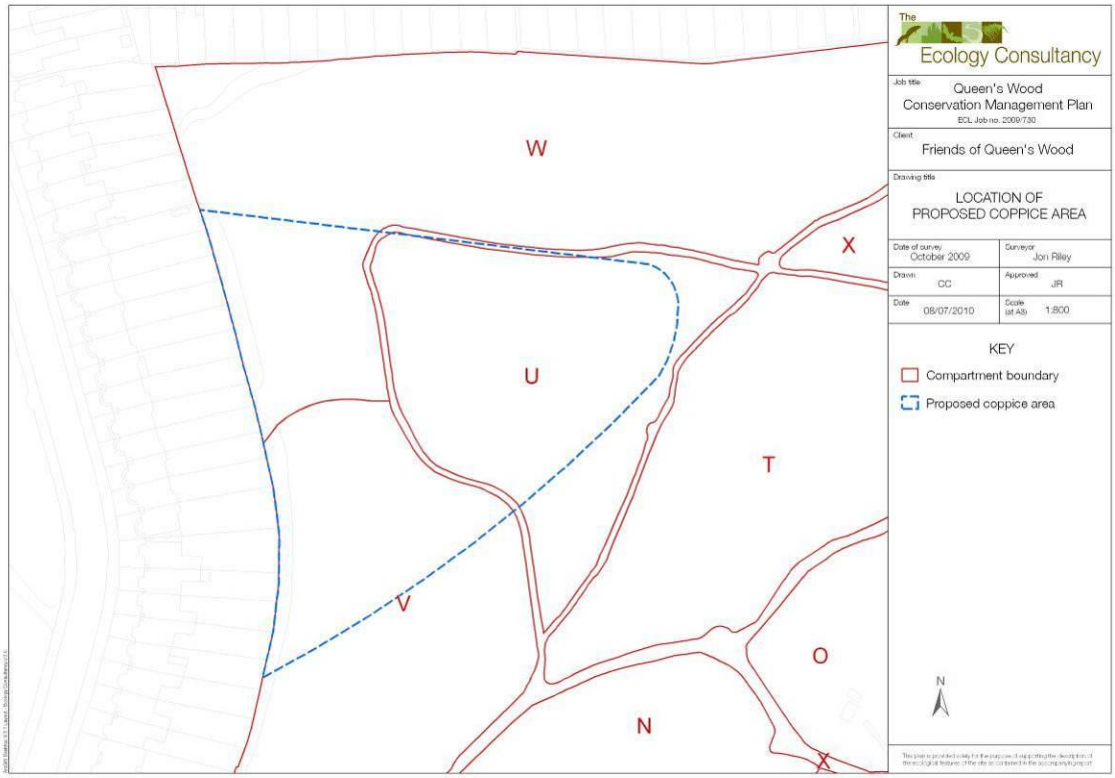
Details on how to carry out coppicing are provided in the BTCV handbook on woodlands http://handbooks.btcv.org.uk/handbooks/content/section/3758. This includes basic and more specialised techniques for restoring over-grown coppice, with the key issues being to carry out the work in the winter months, to cut as low as possible and angle the cut outwards to avoid water collecting around the stems. Coppice areas should be periodically weeded to remove unwanted species that may affect re-growth, and select the best-positioned and strongest seedlings. An abundance of fast growing species such as wild cherry, which could out-compete target species (oak and hornbeam), should be heavily thinned. As soon as they fall acorns from the wood should be heeled into the ground in new coppice areas. It may also be necessary to consider restocking of oak in the coppices, in which case stock of local (SE England) provenance should be used.

Information on bats and felling licenses that may be a consideration if felling some trees is provided in Section *5.17 Tree felling* below.

Coppicing or coppice management is proposed in the following compartments:

- Compartment K – assess coppicing and thin wild cherry to promote re-growth of hornbeam, which is badly affected by squirrel damage.
- Compartment K – if there is significant re-growth by 2015 this compartment should be considered for re-coppicing.
- Compartment N – monitor coppice re-growth from 2003, carry out selective management of regeneration if required
- Compartment P – monitor coppice re-growth from 2009, carry out selective management of regeneration if required
- Compartment V – Coppice the full extent of wet woodland
- Compartment W – Coppice the full extent of wet woodland
- Compartment U – Coppice 50% of stream-side woodland i.e. that adjoining Compartments V and W.
- Figure 3 below shows the approximate extent of proposed coppicing of wet woodland in Compartments V, U and W

Figure 3: Approximate location of proposed coppicing of wet woodland



5.6 Dead hedging

Dead hedging is already used extensively and effectively in the wood to control access and protect uncommon species or vulnerable areas, including new coppice.

Dead hedging is proposed in the following compartments, either to protect existing features or as management associated with other projects described later in the plan. The extent of dead hedging that can be carried out may be limited by the amount of material produced by management activities elsewhere at the site. If this is the case chestnut paling could be used as alternative or work can be prioritised according to need (to be determined during the course of the plan)

- Compartment A – dead hedge to continue to protect and encourage expansion of sanicle
- Compartment C – dead hedge to protect common cow-wheat and young oaks in north west of the compartment near the road
- Compartment H - dead hedge to protect cow-wheat and any tree regeneration of note
- Compartment N - provide dead hedging between foot path and drain (compartment Y) to reduce human and dog access to drain-side flora
- Compartment P - provide dead hedging close to drain (compartment Y) to ensure that activities associated with the Paddling Pool wildlife pond does not damage wet habitat in compartment Y, as may arise if large numbers of school children using the pool for educational visits spread out from its immediate vicinity.
- Compartment P - provide dead hedging close to path at boundary with compartment H to Witches' Coven to channel informal access to reduce trampling and compaction of drain-side habitat (compartment Y)
- Compartment T – create dead hedges at 90^{o} to the drain, up and down stream of areas of good ground flora to deter walkers from following stream and damaging ground flora
- Compartment U – create dead hedges at 90^{o} to the drain, up and down stream of areas of good ground flora to deter walkers from following stream and damaging ground flora

5.7 Deadwood and hibernacula

The provision of deadwood is among the general projects described at the end of the management plan. The proposal to convert the Paddling Pool into a wildlife

pond includes the provision of hibernacula. It is recommended that these are placed within disturbed areas and former garden planting in compartment O, and the area of the former changing rooms in compartment Z.

5.8 Drainage

As described above (Section 3), Queen's Wood is drained by two small channels that meet at the Dog Pond in northeast part of the wood and flow into a storm drain on Wood Vale. Compartment Y comprises the main channel flowing out to Wood Vale and southerly branch of the drain in the southwest of the wood. Parts of the southern drain are piped below ground, but some sections flow above the surface where pipes have broken or become blocked. The main part of the drain is entirely below ground.

These drainage features are heavily modified and damaged by excessive public access, but have historical and nature conservation interest. In the upstream section a surface channel should be recreated by removing sections of redundant piping, to provide bank-side habitat for a range of characteristic sedges. Down stream of the Dog Pond wet woodland habitat should be created through re-establishing the surface channel of the drain and damming its flow to create a series of wetland areas. Such management will complement the proposal to replace the disused paddling pool with a wildlife pond, and will assist in delivering the London Biodiversity Action Plan for wet woodland.

The implementation of these projects is beyond the scope of volunteers or a nature conservation NGO and should be designed by engineers, hydrologists and ecologists. The depth of the pipe from paddling pool to Wood Vale is not known and a key issue will be to provide a surface channel with the correct gradient to provide conditions for habitat creation and storm water storage, and avoid any potential for flooding on Wood Vale. There is some potential for increased siltation with the removal of pipe work from the channel upstream of the Dog Pond, but current storm water runoff is not very silty, and as such any increase in siltation is likely to be short term only.

The main tasks associated with the above drainage works are as follows:

- Compartment Y – remove remaining sections of ceramic pipe where appropriate (adjacent to compartment N and in compartment P)

- Compartment Y – restore and reline Dog Pond and direct overflow from Paddling Pool wildlife pond to it.
- Compartment Y – investigate potential to re-establish surface drainage downstream of Dog Pond to grille at Wood Vale access. Dam the course to reduce runoff.
- Compartment Y – carry out any drainage works necessary at the grille and drains at Wood Vale to facilitate the proposal to restore surface drainage.
- Consult Richard Barnes (GLA) re possible funding for the works from the London Biodiversity Action Plan for wet woodland.

5.9 Education and interpretation

The Friends of Queen's Wood, in cooperation with Haringey Council, have recently renewed the interpretation boards at the entrances to the wood. The Friends also hold public meetings to increase awareness and understanding of the work being done in the wood and run regular guided walks on the history and ecology of the wood both for the public and for specific groups such as BTCV.

School groups are encouraged to visit the woods. Two groups are currently using the woods for educational purposes. They are the Rudolf Steiner Schools and the Forest Schools organisation. Both groups involve the children in woodland activities and nature education and simple craft activities that do not harm the wood's resources. In addition the RS schools have musical activities, such as songs and dances, in the woodland setting. These groups have had permission from the wood manager and the Conservation Officer. Other school groups seem to use the woods informally from time to time for walks and woodland activities such as tree climbing and building dens. As Highgate Wood is so near and has better resources they cream off the formal activities for local schools. We hope that the Frogpond will provide a resource for local schools and other groups in the future.

Although accessible to huge numbers of people, the potential for involving schools and the general public is limited by a lack of teaching and associated welfare facilities. A resource centre at the wood would be readily accessible by residents and schools in the west of the borough, and could complement the ecology centre at Railway Fields in the east.

A resource centre cannot easily be added to an ancient wood. One possibility might be compartment M, which is not part of the ancient woodland or possibly the Lodge should its lease come up for renewal. Any centre could be used as a classroom and meeting room, office space, storage, loos etc.

It is beyond the scope of a conservation management plan to consider how this proposal could be funded or implemented and any proposals should take into account the possible impacts it might have on the funding and sustainability of other environmental education within the borough such as at Railway Fields and Wolves Lane.

5.10 Holly, cherry laurel, snowberry removal

The potentially adverse effects of holly and some other non native species through shading and competition with native plants have been discussed above (*Section 3.1.5 Invasive species*), and *Section 2.3 Description of compartments* noted where holly removal has already been carried out in accordance with the 2000 management plan. The following recommendations for clearance refer to additional areas in the 2000 plan where holly was noted as an issue, to features described in the plan that would be particularly vulnerable to dense shade, and to areas recorded during site visits in 2009/10. It is recommended that holly is removed by coppicing i.e., cut to ground level in the winter months (see section 5.5), and grubbing up of smaller plants, with arisings used for dead hedging as described in Section 5.6

- Compartment A – remove holly (by coppicing ideally followed by stump treatment) from bank running southwards from road - of potential value for flowering plants and bryophytes
- Compartment B – remove holly from bank running southwest from road - of potential value for flowering plants and bryophytes
- Compartment C – remove cherry laurel and any holly encroaching on to bluebell or other native ground flora (carry out a spring survey)
- Compartment D – remove holly within and competing with regeneration in the centre, east and west of the compartment and in the vicinity of wild service trees in the west (protect and open up habitat around pill sedge during clearance)
- Compartment E – remove holly affecting tree regeneration

- Compartment F – monitor holly and remove any competing with tree regeneration/guelder rose or shading common cow-wheat.
- Compartment G – monitor snowberry, grub out any affecting vernal ground flora
- Compartment J – remove holly around site of hard fern (now gone) to provide more open habitat that may favour development of young plants. Remove holly close to fallen wild service tree in the southwest of the compartment
- Compartment N – thin holly from wood bank (running northwards from the eastern boundary of compartment M) – of potential value for flowering plants and bryophytes

5.11 Ivy control/monitoring

The potential for ivy to have an adverse effect on ground flora, was discussed above *(Section 3.1.5 Invasive species).* In some parts of the wood the control of ivy may be a means of maintaining or improving ground flora without the risk of coppicing old hornbeam, which may result in poor regeneration and invasion of weedy species.

There is no information on the value of ivy removal in managing ancient woodland ground flora, or on how to remove it. As such an experimental approach should be developed and only small areas should be attempted initially. Due to variation in the wood there would be little value in attempting to assess effects through comparison with a control plot. Rather a before and after comparison should be made, which will require a baseline survey and comparison with abundance of ivy and ground flora species in subsequent years. Management activities and recording must be standardised to allow comparison of data in different years. Findings should be distributed through Conservation Evidence *www.conservationevidence.com/* and at some stage could be published.

Ivy control is likely to be labour intensive but could readily be carried out by volunteers if manual control is carried out, the possible control options are as follows:

- Manual control by pulling/surface digging which is likely to rapidly decrease ivy cover and allow easy removal or arisings, but would involve soil compaction and disturbance

- Manual control by strimming or cutting with shears which is likely to have slower effects than pulling and will spread propagules, but would result in limited soil compaction and disturbance
- Chemical control would be possible as ivy is evergreen and could be treated with a systemic herbicide when ground flora is dormant, however some species such as yellow archangel are present during the summer and chemical control is therefore problematic.

It is considered that careful manual control through pulling is likely to be the most effective method of control. If carried out in the late summer or early autumn when vernal species are fully dormant, it may not result in damaging levels of disturbance.

Experimental ivy control should be carried out in the following compartments

- Compartment B – survey extent of ivy and whether encroaching on vernal ground flora
- Compartment T - carry out experimental ivy control in areas with good ground flora
- Compartment U - carry out experimental ivy control in areas with good ground flora

5.12 Japanese knotweed management

Japanese knotweed management is already being carried out or is proposed in the compartments listed below and should be continued

- Compartment L – continue to manage Japanese knotweed by pulling stems during the summer and removing arisings to the colony present in compartment M
- Compartment M – remove Japanese knotweed (spray with glyphosate for three years +) in advance of improving the nature conservation value of this area.
- Compartment Q - manage Japanese knotweed by pulling stems during the summer and leaving arisings on top of the colony

5.13 Litter and dog bins

Litter and dog bins are already present in areas where LB Haringey staff can regularly empty them.

- Compartment A –path from Queen's Wood Road
- Compartment E –path from Queen's Wood Road
- Compartment L –close to path to Muswell Hill Road
- Compartment P –at the exit to Wood Vale

Bins should be inspected four times yearly and requirements for repairs or replacement reported to LB Haringey's Recreation Services Department.

5.14 Logs and brash

All trunks and branches from tree felling should be retained on site. They should be left as large timbers that cannot be readily moved or rolled down slopes, and in partially shaded areas where they can provide the best conditions for invertebrates. Where possible, twiggy material (brash) should be retained on-site and used for site management (screening, blocking informal access points and paths etc. However, excessive amounts could be unsightly and a fire risk and should be chipped and removed from site.

5.15 Ownership

Compartment M is the responsibility of Homes for Haringey. Responsibility is to be transferred to LB Haringey Recreation Service. The change in control would reflect the compartment's designation as part of the LNR, consolidate responsibilities in a single, more appropriate department.

5.16 Pond management

Manage Compartment Z and other wildlife ponds in accordance with Froglife management notes in Appendix 2 of their project plan (01.08.09).

5.17 Private properties - access from

A number of owners of properties backing on to the wood have created illegal access points from their back gardens to the wood through which they have dumped garden and building waste. This is potentially damaging as it can smother small woodland plants, introduce invasive species and cause local changes to soil chemistry, as well as affecting people's enjoyment of the wood. The Friends of Queen's Wood should monitor access or dumping and where sufficiently severe the council's Enforcement Department should write owners and charge them for any remedial work carried out. Current issues of illegal access and/or dumping are present in the following locations

- Compartment C
- Compartment G
- Compartment V
- Compartment W

5.18 Sight lines maintenance

Dense holly can obscure sightlines and should be removed to enhance the public's sense of security and safety. Currently holly growth either side of the path from Queen's Wood Road between compartments A and B needs to be cut back considerably. More generally, the Friends of Queen's Wood should carry out an audit to identify if there are any other areas where sight lines should be improved

5.19 Surveys and monitoring

Monitoring is proposed for species groups that can be identified by non-specialists and that are considered most likely to provide information on the effects of management if carried out regularly and over the entire period of the plan. In all cases the inferences drawn from management can only be indicative as there are a great number of additional variables that will affect the distribution of species at the site.

Birds: Bird monitoring is proposed in order to assess the effects of woodland management. The presence of nest boxes may also result in a positive change in the numbers and diversity of breeding species. It is recommended that an approach based on the discontinued Common Bird Census is adopted.

A territory-mapping approach should be used to estimate the number and positions of territories of each species present at the site during the breeding season. Eight to ten visits should be made between late March and early July and all contacts with birds, either by sight or sound plotted on 1:2500 maps. Each bird's species, with sex and age where possible, and also activity such as song or nest-building should be noted. It should then be possible to match the distribution of bird territories with habitat features.

Plants: Plant surveys should be carried out in all compartments where management is proposed the year before management is implemented and annually thereafter, ideally by the same recorder. Surveys of particular populations should record the whole compartment using the DAFOR scale and fixed point photography. The

extent, number and condition of rare species or those that reflect management aims should be recorded species. A list of notable species at the wood is provided in Table 1 above. Key species to be considered for monitoring, because they are ancient woodland indicators or associated with specific conditions such as damp areas are listed below. Species which are very rare at the wood have been omitted as they may naturally be of sporadic occurrence, or may decline for reasons unrelated to management.

- *Anemone nemorosa* Wood anemone
- *Carex remota* Remote sedge
- *Carex sylvatica* Wood-sedge
- *Conopodium majus* Pignut
- *Hyacinthoides non-scripta* Bluebell
- *Lamiastrum galeobdolon* Yellow archangel
- *Melampyrum pratense* Common cow-wheat
- *Melica uniflora* Wood melick
- *Milium effusum* Wood millet
- *Oxalis acetosella* Wood sorrel
- *Ranunculus auricomus* Goldilocks buttercup

Bats: Bat activity may also provide additional information on the effects of management and provide an indication of good positions for erecting bat boxes. A protocol based on the National Bat Monitoring Programme should be adopted. The location of 12 marked stopping points along the site should be identified, reflecting habitat type, the location of management activities (including bat boxes), and off site commuting routes. Monitoring visits should be carried out on two evenings in July. At each of the 12 stopping points heterodyne ultrasonic detectors should be used to listen for common and soprano pipistrelles for two minutes then re-tuned for noctule, natterer's and serotine bats whilst walking to the next stopping point. The survey should start twenty minutes post sunset.

5.20 Tree regeneration management

As discussed throughout Parts 2 and 3 of this plan there is poor regeneration of dominant tree species – oak and hornbeam – in most of the wood. The surveys carried out in 2000 and 2009/10 were not sufficiently detailed to assess the condition and management needs of regeneration patches and they should be

revisited in the summer months to determine their viability and management needs. Areas requiring consideration are listed below.

- Compartment C – assess and thin tree regeneration to favour oak at both eastern and western end of the northern part of the compartment
- Compartment D – assess oak regeneration the east, centre and west of the compartment and whether thinning and/or felling of mature trees to promote saplings, or restocking is warranted
- Compartment F – thin tree regeneration to favour oak if sufficiently vigorous to warrant selection, otherwise thin generally.
- Compartment G – assess oak regeneration the northern part of the compartment and whether thinning and/or felling of mature trees to promote saplings is warranted
- Compartment I – assess tree regeneration and whether thinning and/or felling of mature trees to promote saplings is warranted
- Compartment L – assess hornbeam regeneration in the lower and eastern end of the compartment and thin if required
- Compartment Q - assess oak regeneration close to the paths between compartments Q and R and whether thinning and/or felling of mature trees to promote oak saplings is warranted
- Compartment R - – assess oak regeneration and whether thinning and/or felling of mature trees to promote oak saplings is warranted

5.21 Tree felling

Based on the information provided in Section 2.3 and recommendations in 5.16 above, recommendations for felling to improve light levels to notable trees, areas of tree regeneration or to shrub or ground layers are made below. These are initial recommendations made on the basis of a review of the 2000 management plan and site visits carried out in the winter. Recommendations should be confirmed or revised on the basis of a spring/summer site inspection/

- Compartment B – remove 3 hornbeam in southern part of the compartment
- Compartment C – remove sufficient overhanging trees in the vicinity of oak regeneration at both eastern and western end of the northern part of the compartment (protect grassy clearing with cow-wheat in the west)
- Compartment M – remove all trees (including any low-quality trees in adjacent compartments) encroaching on old hornbeam pollards and wood banks along the northern and eastern edges of the compartment.

- Compartment N – subject to extent of squirrel damage thin hornbeam regrowth shading areas of hawthorn and hazel shrub layer.
- Compartment N – remove 1 or 2 hornbeam close to compartment Y that are excessively shading ground flora (thin spiked wood sedge etc.

Tree work should be carried out following advice from the borough's arboricultural officer, as to whether the work can be carried out by parks maintenance staff/volunteers, or requires a trained arborist. If the former, then adequate training, PPE and health and safety precautions will be required. Long stump (1-1.5m) should be left to increase the amount of standing dead wood at the site.

Depending on the numbers, size and species of trees involved a felling license may be required. Further information is available in the Forestry Authority leaflet "Tree felling: getting permission" (July 1997) http://www.forestry.gov.uk/pdf/wgsfell.pdf/$FILE/wgsfell.pdf

All trees to be felled should be assessed for their potential to support roosting bats. Any tree considered to have value for bats, due to the presence of holes, splits or heavy ivy cover, or considered to be of notable value for nesting birds, should not be felled for reasons other than safety. Any tree with roost potential should be felled only after the presence of bats has been determined[22]. If bats are present, work may require a European Protected Species (EPS) License from Natural England. In other cases, where the risk of bats being present is sufficiently low, section felling may be necessary to avoid killing bats in the process of tree removal. Tree felling should be carried out in the winter, outside of the bird nesting season. Refer to Appendix 1 for legislation pertaining to bats and nesting birds.

[22] Trees posing an immediate risk to public safety can be felled immediately, ideally in sections

6. Ten-year work programme

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Access maintenance														
Carry out condition survey of paths to confirm need for maintenance and upgrading	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carry out repairs to paths and steps as required.	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Compartment P - provide steps to direct access down slope from path at boundary with compartment H to Witches' Coven		✓				✓								
Bat boxes														
Compartment H – provide 1 or 2 bat boxes close to Paddling Pool Wildlife Pond (TBC by bat ecologist)		✓			✓									
Compartment I – provide 1 or 2 bat boxes close to Paddling Pool Wildlife Pond (TBC by bat ecologist)		✓			✓									
Compartment N - provide 1 or 2 bat boxes close to Paddling Pool Wildlife Pond (TBC by bat ecologist)		✓			✓									
Compartment P - provide 1 or 2 bat boxes close to Paddling Pool Wildlife Pond (TBC by		✓			✓									

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
bat ecologist), and 4 or 5 boxes on trees at edge of newly coppiced area.														
All compartments – monitor and bat boxes and consider moving if there is no evidence of use				✓				✓			✓			✓
Bird boxes														
Erect birds boxes throughout wood, initially at 10/ha and type (Darrel Lambert 2008) with more subsequently if there are high levels of occupancy				✓	✓				✓					✓
Clear and repair approximately 1/3 of boxes per year (subject to access)														
Coppicing and coppice management.														
Compartment K – assess coppicing and thin wild cherry to promote regrowth of hornbeam, which is badly affected by squirrel damage.	✓			✓		✓						✓		
Compartment K – if there is significant regrowth by 2015 this compartment should be considered for recoppicing.	✓			✓					✓					
Compartment N – monitor coppice regrowth from 2003, carry out selective management of regeneration if required (year TBC by monitoring)	✓			✓	✓									
Compartment P – monitor coppice regrowth from 2003, carry out selective management of	✓			✓	✓									

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
regeneration if required (year TBC by monitoring)														
Compartment V – Coppice the full extent of wet woodland	✓			✓		✓	✓							
Compartment W – Coppice the full extent of wet woodland	✓			✓				✓	✓					
Dead hedging														
Compartment A – dead hedge to continue to protect and encourage expansion of sanicle	✓	✓				✓			✓					
Compartment H - dead hedge to protect cow-wheat and any tree regeneration of note	✓	✓				✓				✓			✓	
Compartment N - provide dead hedging between foot path and drain (compartment Y) to reduce human and dog access to drain-side flora	✓	✓			✓					✓			✓	
Compartment P - provide dead hedging close to drain (compartment Y) to ensure that activities associated with the Paddling Pool wildlife pond does not damage wet habitat in compartment Y	✓	✓				✓			✓				✓	
Compartment P - provide dead hedging close to path at boundary with compartment H to Witches' Coven to reduce trampling and compaction of drain-side habitat	✓	✓			✓				✓				✓	

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Compartment T – create dead hedges at 90o to the stream, up and down stream of areas of good ground flora to deter walkers from following stream and damaging ground flora	✓	✓			✓				✓				✓	
Compartment U – create dead hedges at 90o to the stream, up and down stream of areas of good ground flora to deter walkers from following stream and damaging ground flora	✓	✓			✓				✓				✓	
Deadwood and hibernacula														
Compartment O – create hibernacula associated with wildlife pond at the disused paddling pool site within disturbed areas and former garden planting in this compartment.			✓				✓						✓	
Drainage/Siltation														
Compartment Y – remove remaining sections of ceramic pipe where appropriate (adjacent to compartment N and in compartment P)			✓				✓							
Compartment Y – restore and reline Dog Pond and direct overflow from Paddling Pool wildlife pond to it.			✓				✓							
Compartment Y – investigate potential re-establish surface drainage downstream of Dog Pond to grille at Wood Vale access. Dam the course to reduce runoff.	✓			✓		✓								

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Compartment Y – carry out any drainage works necessary to grille and drains at Wood Vale access to facilitate proposal to restore surface drainage.		✓	✓						✓					
Education and interpretation														
Compartment M – develop proposal for educational building to provide resources for activities in the wood and habitats (pond etc primarily for education rather than conservation)	✓			✓					✓					
Holly, cherry laurel, snowberry removal														
Compartment A – remove holly from bank running southwards from road - of potential value for flowering plants and bryophytes	✓			✓	✓						✓			
Compartment B – remove holly from bank running southwest from road - of potential value for flowering plants and bryophytes	✓			✓	✓						✓			
Compartment C – remove cherry laurel and any holly encroaching on to bluebell or other native ground flora (carry out a spring survey)	✓			✓	✓						✓			
Compartment D – remove holly within and competing with regeneration in the centre, east and west of the compartment and in the vicinity of wild service trees in the west (protect and open up habitat around pill sedge during	✓			✓		✓						✓		

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
clearance)														
Compartment E – remove holly affecting tree regeneration	✓			✓		✓						✓		
Compartment F – monitor holly and remove any competing with tree regeneration/guelder rose or shading common cow-wheat.	✓			✓		✓						✓		
Compartment G – monitor snowberry, grub out any affecting vernal ground flora	✓			✓			✓						✓	
Compartment J – remove holly around site of hard fern (now gone) to provide more open habitat that may favour development of young plants. Remove holly close to fallen wild service tree in the southwest of the compartment	✓			✓			✓						✓	
Compartment N – thin holly from wood bank (running northwards from the eastern boundary of compartment M?) - of potential value for flowering plants and bryophytes	✓			✓			✓						✓	
Ivy control/monitoring														
Compartment B – survey extent of ivy and whether encroaching on vernal ground flora				✓	✓									
Compartment T - carry out experimental ivy control in areas with good ground flora				✓	✓	✓	✓	✓	✓					
Compartment U - carry out experimental ivy				✓		✓		✓						

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
control in areas with good ground flora														
Japanese knotweed management														
Compartment L – continue to manage Japanese knotweed by pulling stems during the summer and removing arisings to the colony present in compartment M			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Compartment M – remove Japanese knotweed (spray with glyphosate for three years +) in advance of improving the nature conservation value of this area.			✓		✓	✓	✓							
Compartment Q - manage Japanese knotweed by pulling stems during the summer and leaving arisings on top of the colony			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ownership														
Compartment M - investigate transfer of ownership of this area from LB Haringey Housing Department Recreation Services	✓						✓							
Pond management														
Compartment X – Froglife/Groundwork to provide management proposals for Paddling Pool wildlife pond to be incorporated into this plan														
Private properties - access from														
Compartment C – monitor access and any	✓	✓	✓	✓	✓	✓								

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
dumping or damage from adjacent properties. LB Haringey to write to resident if damage is being caused														
Compartment G – monitor access and any dumping or damage from adjacent properties. LB Haringey to write to resident if damage is being caused	✓	✓	✓	✓	✓	✓								
Sight lines maintenance														
Compartment A – maintain clear sightlines along path from Queen's Wood Road forming the western boundary of the compartment				✓	✓		✓		✓		✓		✓	
General audit and improvements		✓	✓			✓		✓		✓		✓		✓
Tree regeneration management														
Compartment C – assess and thin tree regeneration to favour oak at both eastern and western end of the northern part of the compartment	✓			✓		✓					✓			
Compartment D – assess oak regeneration the east, centre and west of the compartment and whether thinning and/or felling of mature trees to promote saplings is warranted			✓			✓					✓			
Compartment F – thin tree regeneration to favour oak if sufficiently vigorous to warrant selection, otherwise thin generally.			✓			✓						✓		

Queen's Wood management plan 2010 - 10 year management schedule

Management tasks	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Compartment G – assess oak regeneration the northern part of the compartment and whether thinning and/or felling of mature trees to promote saplings is warranted			✓				✓					✓		
Compartment I – assess tree regeneration and whether thinning and/or felling of mature trees to promote saplings is warranted			✓				✓					✓		
Compartment L – assess hornbeam regeneration and in the lower and eastern end of the compartment and thin if required			✓					✓					✓	
Compartment Q - – assess oak regeneration close to the paths between compartments Q and R and whether thinning and/or felling of mature trees to promote oak saplings is warranted			✓					✓					✓	
Compartment R - – assess oak regeneration and whether thinning and/or felling of mature trees to promote oak saplings is warranted			✓					✓					✓	
Tree thinning														
Compartment B – remove 3 hornbeam in southern part of the compartment	✓			✓				✓						
Compartment C – remove sufficient hornbeam in vicinity of tree regeneration at both eastern and western end of the northern part of the compartment	✓			✓			✓							

Queen's Wood management plan 2010 - 10 year management schedule														
Management tasks	**Jan-Mar**	**Apr-Jun**	**Jul-Sep**	**Oct-Dec**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
Compartment M – remove all trees (including any low-quality trees in adjacent compartments) encroaching on old hornbeam pollards and wood banks along the northern and eastern edges of the compartment	✓			✓		✓								
Compartment N – remove 1 or 2 hornbeam close to compartment Y that are excessively shading ground flora (thin spiked wood sedge etc.	✓			✓		✓								
Compartment U – remove 1 or 2 hornbeam close to ditch that are excessively shading ground flora.	✓			✓		✓								

Appendix 1 Breeding Birds of Queen's Wood 2008

Species *(Latin name)*	Status at the site	BOCC/BAP status	Notes
Blackcap (*Sylvia atricapilla)*	Breeding	Green	Up to eleven territories were located
Great Cormorant *(Phalacrocorax carbo)*	Non-breeding	Amber	Seen flying over the site
Lesser Black-backed Gull *(Larus fuscus graellsii)*	Non-breeding	Amber	Seen flying over the site
Stock Dove *(Columba oenas)*	Breeding	Amber	Up to seven males were heard singing and seen in display flight
Green Woodpecker *(Picus viridis)*	Breeding	Amber	One or two territories were located
Willow Warbler *(Phylloscopus trochilus*)	Possible breeding	Amber	A single male was heard in April but not seen or heard on subsequent visits
Redwing *(Turdus iliacus)*	Winter visitor	Amber	Up to ten birds present during February and March.
Mistle Thrush *(Turdus viscivorus)*	Breeding	Amber	One breeding pair were present
Dunnock *(Prunella modularis)*	Breeding	Amber	Two singing males were located
Sparrowhawk *(Accipiter nisus)*	Breeding	Green	Mewing heard and a male seen hunting
Feral Pigeon *(Columba livia 'feral')*	Non-breeding	Green	Seen flying over the site
Woodpigeon *(Columba palumbus)*	Breeding	Green	Up to thirty singing males were located
Tawny Owl *(Strix aluco)*	Breeding	Green	One male was heard, an adult was seen in May and a young bird was rescued.
Great Spotted Woodpecker *(Dendrocopos major)*	Breeding	Green	Up to ten territories were located
Eurasian Jay *(Garrulus glandarius)*	Breeding	Green	Up to five pairs were located
Common Magpie *(Pica pica)*	Breeding	Green	Up to five pairs bred
Carrion Crow *(Corvus corone)*	Breeding	Green	Up to four territories were located
Great Tit *(Parus major*)	Breeding	Green	Up to thirty two territories were located

Species *(Latin name)*	Status at the site	BOCC/BAP status	Notes
Blue Tit *(Parus caeruleus)*	Breeding	Green	Up to thirty eight territories were located
Coal Tit *(Parus ater)*	Breeding	Green	Up to three territories were located
Long-tailed Tit *(Aegithalos caudatus)*	Breeding	Green	Two pairs were located
Chiffchaff *(Phylloscopus collybita)*	Breeding	Green	Four territories were located
Goldcrest *(Regulus regulus)*	Breeding	Green	Up to three territories were located
Winter Wren *(Troglodytes troglodytes hiemalis)*	Breeding	Green	Up to forty two territories were located
Eurasian Treecreeper *(Certhia familiaris)*	Breeding	Green	Two territories were located
Eurasian Nuthatch *(Sitta europaea)*	Breeding	Green	Up to five territories were located
Eurasian Blackbird *(Turdus merula)*	Breeding	Green	Up to thirty six territories were located
European Robin *(Erithacus rubecula)*	Breeding	Green	Up to forty territories were present
Chaffinch *(Fringilla coelebs)*	Breeding	Green	Up to five territories were located
European Greenfinch *(Carduelis chloris)*	Breeding	Green	One singing male was located
Eurasian Siskin *(Carduelis spinus)*	Non-breeding	Green	Heard flying over the site
European Goldfinch *(Carduelis carduelis)*	Non-breeding	Green	Heard flying over the site
Grey Heron *(Ardea cinerea)*	Non-breeding	Green / London BAP	Seen flying over the site
Canada Goose *(Branta canadensis)*	Non-breeding	No status	Heard flying over the site
Harris's Hawk *(Parabuteo unicinctus)*	Non-breeding	No status	An escaped falconers bird was seen on two dates

Species *(Latin name)*	Status at the site	BOCC/BAP status	Notes
Ring-necked Parakeet *(Psittacula krameri)*	Non-breeding	No status	Seen flying over the site
Lesser Spotted Woodpecker *(Dendrocopos minor)*	Breeding	Red	One male was heard during the February survey.
Starling (*Sturnus vulgaris)*	Non-breeding	Red	Family groups were seen in May but no evidence of breeding on site was discovered
Song Thrush *(Turdus philomelos)*	Breeding	Red	Up to nine territories were located

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