Ruislip Woods
management plan 2017 to 2021

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1. Introduction

This five year management plan aims to set out the management objectives for 2017 to 2021, building on the lessons learned during the previous five year period. This document differs from previous management plans, not only in its length, which is much shorter, but also in its content which is designed to be less prescriptive and much more readable for the general public as well as for the management group. This plan does still adhere to the two main aims of the Long Term Management Plan (1982), which are nature conservation and public involvement.

The plan takes into account crucial challenges facing the National Nature Reserve (NNR)and confronts them with effective solutions which involve re-inventing some aspects of how we deliver the management of the woods for wildlife and people. The wetter weather combined with massive cuts to local government spending over the last six years has necessitated a change in the coppicing regime. Experience demonstrates that coppicing for six months of the year can leave very little time for other essential works to be carried out, in particular provision of proper access on the paths. Therefore a more targeted approach to coppicing will allow more time to concentrate on maintenance along statutory paths so that coppice areas can be connected up and as a consequence benefit the movement of plants and animals as well as people.

Similarly, elimination of alien species can consume excessive time. The removal of Himalayan Balsam, for example, can be extremely time consuming with little effect. It may be time to embrace what benefits some alien species have on the woods and concentrate attention on native invasive species such as bracken which can be more of a problem and less beneficial to wildlife.

The Forestry and Woodlands Policy Statement 2013 (1) states that it aspires to increase the amount of woodland cover nationally. This plan suggests ways in which this desire can be met within the borough of Hillingdon and its surrounding boroughs.

This plan was written by the woodland officer in close liaison with the Management Group which comprises volunteer naturalists, representatives of local residents associations, Councillors and other users of the National Nature Reserve. This group provides a forum for discussions relating to the management of the woods. The plan should be seen as a statement of intent rather than a wish list of ideas, and progress of its delivery will be made public at regular intervals.

With a more focused approach, the Management Group can adapt more easily to environmental and socio-economic changes and thus maintain and enhance the rich mosaic of habitats that make up the Ruislip Woods National Nature Reserve.

Site name	Ruislip Woods National Nature Reserve
Author of plan	Richard Hutton Community Woodland Officer Hillingdon Council
Date written	January 2017
Area of site	NNR Declaration – 295.0 ha

1.1 Key natural features

Feature	Date acquired by Hillingdon Council	Date designated
Park Wood	April 1965	May 1997
Copse Wood	April 1965	May 1997
Mad Bess Wood	April 1965	May 1997
Poor's Field	April 1965	May 1997
Grub Ground	April 1965	May 1997
Ruislip Local Nature Reserve	April 1965	May 1997
Bayhurst Wood	April 1965	May 1997
Tarleton's Lake	April 1965	May 1997

Location of main areas of Ruislip Woods

Main identifying features	Area (ha)	Grid Reference	OS map
Park Wood	100.28	TQ 095 890	176
Grub Ground	11.9	TQ 084 901	176
Poor's Field	16.2	TQ 088 898	176
Local Nature Reserve	4.42	TQ 091 898	176
Northern Finger	0.1	TQ 088 902	176
Copse Wood	63.23	TQ 084 901	176
Mad Bess Wood	55.77	TQ 075 894	176
Bayhurst Wood	39.5	TQ 068 889	176
Tarleton's Lake	2.8	TQ 065 895	176
Total	**294.20**		176

1.2 Location

Ruislip Woods NNR is situated in North West Middlesex within the London Borough of Hillingdon. It is crossed by two roads Ducks Hill Road (A4180) and Breakspear Road North. The local planning authority is London Borough of Hillingdon. It is accessible by public transport.

Bus

Location	Bus
Ruislip Common/ Ducks Hill Road	331
Ruislip Lido	H13
St Vincents Nursing Home/Haste Hill	H13

Train

Location	Distance
Ruislip Manor (Met/Piccadilly)	0.9 miles
Ruislip (Met/Piccadilly)	1 miles
Northwood Hills (Met)	0.5 miles
Northwood (Met)	1 miles
West Ruislip (Central/BR)	1.1 miles

1.3 Summery description

Four extensive woodlands (295.0 ha), Park Wood, Copse Wood, Mad Bess Wood and Bayhurst Wood together form a large complex of structurally diverse and species-rich ancient woodland known as the Ruislip Woods; this is the largest block of ancient semi-natural woodland in Greater London. The Ruislip Woods include one of the most extensive oak/hornbeam coppice woods in southeast England. The site also includes acid and neutral grassland, ponds, streams and marshland.

Ruislip Woods lie largely on London Clay with smaller areas on the sandy Reading beds and later gravels. The highest point is in Copse Wood and Park Wood (90m), the lowest in Park Wood (45m).

The woodland is predominantly hornbeam *Carpinus betulus* coppice with oak standards and is interesting because of the occurrence of both pedunculate oak *Quercus robur* and sessile oak *Qpetraea*. The mixture of hornbeam and beech *Fagus sylvatica* in Bayhurst Wood is also unusual and wild service trees *Sorbus torminalis* can be found throughout the woodland. Several tributaries of the River Pinn flow through the woods in natural meandering courses.

Other woodland include oak/birch *Betula verrucosa* and alder *Alnus glutinosa* with aspen *Populas tremula*. The wooded streams, scrub, ponds and an area of grass/ heath mosaic contribute to the diversity of the site from which around 360 species of vascular plants have been recorded. These include a number of species that are scarce or locally rare. The butterflies , moths and reptiles are also of interest.

1.4 Impact assessment
(Challenges and opportunities)

Global warming
The effects of climate change on Ruislip Woods are unpredictable and likely to be complex. The general trend is towards warmer, wetter weather and this has certainly shown itself to be the case in the last five years. The soggy ground has prevented staff and volunteers reaching some areas to carry out coppicing during the winter. It has also inhibited mowing of the grasslands and rides. Solutions include altering mowing times and a more focused approach to areas selected for coppicing.

Higher temperatures may also produce radical changes in the vegetation communities in the woods such as earlier growing times which could affect the synchrony of caterpillars with leaf burst. The intricate relationship between predators and prey could be upset by changes in growth rates. This plan underlines the need to link up a network of similar habitats to Ruislip Woods in order to give wildlife the best chance possible to adapt to whatever changes occur.

Threat of encroachment
The boundary of the site is in places heavily urbanised and the general pressure on the site continues to be substantial. Encroachment onto the site has occurred in the past and as infill houses increase so the pressure will be greater. Most of the reserve, however, is neighboured by farmland of which most is owned by Hillingdon Council.

Proximity of golf courses and farmland
A water course runs through golf courses to the NNR with the possibility of chemical/fuel spills and chemical spray drift. Agricultural chemical drift, mechanical trimming of hedges and grazing can strongly affect the woodland boundary. Buffer strips can make a big difference and protect the woods from some of the adverse affects. There could be the opportunity to work with farmers to support high nature value farming or even convert farmland to woodland for nature study, recreation or income from sales of wood.

Fly-tipping/garden rubbish
Along with the threat of encroachment, the proximity of heavily urbanised areas gives rise to garden rubbish being deposited onto the site with the possibility of garden escapees colonising areas at the expense of more fragile native species. Occasional misguided planting can also become a threat to fragile species. The 'fly-tipping' of commercial waste and garden refuse has decreased due to regular patrols by staff. Cars being dumped has all but ceased to be a problem due to the car parks being locked at night.

Public access
Due to the soil structure (London Clay) and large numbers of people using the site, some degree of trampling of vegetation and puddling of the clay subsoil occurs. This is particularly evident at entrances throughout the woodland during

winter months. This limits visitor numbers and the enjoyment of the unprepared. Many walkers will avoid using the statutory paths if they are wet and create new routes through the woods. This of course is damaging to plants during the spring months. Properly managed statutory paths should ease this problem.

Dog walking
The number of people walking dogs in the woods has seen a marked increase over the last decade. There is also an increase in the amount of people walking more than one dog. This has several impacts on the woods and its users.

1. The increase in resulting dog faeces can alter the soil structure by adding more nutrients thus encouraging nutrient rich plants such as nettles.
2. Increased dog activity will harm wildlife and cause stress to the cows. Many dog walkers want to avoid other dogs so tend to stray off the statutory paths. Over the years this has resulted in a network of paths leaving few areas in the reserve where wildlife is not chased/disturbed by dogs. Consequently, there are no ground nesting birds to be found nesting in the woods.
3. There is a serious danger of people, particularly children, catching Toxocariasis from dog faeces. This can lead to blindness and permanent brain damage. The Classroom in the Woods frequently brings children into close contact with logs and soil and therefore the risk of contact with dog faeces is high.
4. Confrontations between dogs and people become more likely.
   Possible solutions could be more control orders or dog free fenced off zones in conjunction with more publicity regarding the issue and responsible dog walking education days. A licensing system for professional dog walkers is another option to seriously consider which will also contribute towards maintenance of the woods.

Vehicular access
Due to the soil structure, vehicles using the site can have a negative effect due to rutting and a breakdown of soil structure/path construction. Vehicles should not be used in wet conditions unless absolutely essential.

Conclusions
Vigilance is required on all of these issues through communication with neighbours and users of the reserve about the importance of the site and their ability to help prevent damage.

2. Long-term management aims and objectives to 2020

The two primary aims of this plan are nature conservation and community involvement. The Hillingdon Council, as a Section 28(G) Authority, under the Countryside and Rights of Way Act (2000) has a duty to maintain and enhance the Ruislip Woods Site of Special Scientific Interest (SSSI).

To achieve these aims the Management Group has proposed the following objectives with detailed strategies of how they can realistically be followed through.

Aim 1 Community involvement

To utilise the nature reserve as an educational resource and to encourage active involvement of the local community in its management.

There is growing evidence to substantiate what common sense suggests: people are healthier, happier, less stressed and more motivated to learn when interacting positively with nature. Natural England (2), the RSPB (3) and the National Trust (4) have all written in depth reports on the effects of the lack of interaction with people and nature. Hillingdon Council is committed to continuing to play its part in ensuring as many people as possible have contact with nature.

Objective 1

Encourage educational activities in the woods

The Classroom in the Woods programme of curriculum based nature activities offers the chance for pupils to learn in a fun and stimulating way. It has been extremely popular with local schools many of whom have returned year after year. The value of connecting children with nature cannot be overrated. It is therefore vital to reach as many schoolchildren as possible. Making this connection can best be achieved at primary age before children are distracted into a world of televisions, mobile phones and social media.

This does not mean that older children should be ignored. With the loss of Cwm Pennant outdoor centre in Snowdonia, which was leased by Hillingdon Council from 1965 to 2007, many children have missed out on the opportunity of a wonderful adventure. However, it may be possible for Ruislip Woods to replace it as a source of learning and adventure. The campsite at Mad Bess Cottage would be an ideal venue for local or even national schools to visit for a woodland experience. This is something that should be investigated and initiated if supported. This facility could offer some of those activities that were available at Cwm Pennant such as archery and orienteering, plus woodland activities such as survival and bushcraft, which have seen an upsurge in interest in recent years.

At present, the site is under used. Mad Bess Campsite could be established as a means by which children can discover and experience the largest woodland in London. It has the potential to become a leading facility for education and a wilderness experience.

Objective 2

Provide continued volunteering opportunities in the woods

Volunteers have been essential to the continued management of the woods since 1993 when volunteering in the woods was first actively encouraged by Hillingdon Council. Since then varying numbers of willing volunteers have been carrying out various tasks such as charcoal production, coppicing, scrub clearance, boardwalk installation and much more. Volunteer numbers have remained steady for the last 10 years with an average of 10 participating on a weekly basis. The Management Group recognizes the efforts made by the volunteers and places a high priority on maintaining and building on the number of participants.

Objective 3

Maintain and improve the condition of the bridle paths and footpaths for public access.

Much of the bridle path system in the woods has been upgraded over the last 10 years by laying a hard surface on areas that were constantly boggy and inaccessible for much of the year. Widening work has also been carried out along the bridle paths allowing more light in to help dry them out. The stone used for surfacing could possibly be injurious to the woodland's flora due to its alkalinity. Imported materials on the paths detract from the wildness of Ruislip Woods. Many users value the fact that these woods are managed nonintrusively and that signs and paths blend in with the surrounding environment. No more hard surfacing should be carried out apart from on very small sections where there is absolutely no other alternative.

The unusual continued wet weather has caused some sections of bridle path to be wet and unsafe for horses all year round. Every effort should be made to dry these areas out at least during the summer months. A combination of allowing more light in and regular chain harrowing will certainly improve conditions. Sections of bridle path should be temporarily closed in extreme wet conditions where continued riding would cause irreparable damage to the paths and danger of injury to horses. The Sandy Gallup in Copse Wood was resurfaced with fresh sand in 2014.

As cycling in the woods is restricted to the bridle paths, any work carried out for horse riding will benefit this activity. Cycling in the woods has not been a major problem, but with the popularity of cycling growing, it could potentially become a health and safety issue. Cycling is an environmentally friendly form of transport so more people should be encouraged to cycle to Ruislip Woods. However, it would cause too much damage if too many people cycled in the reserve. Therefore a place to lock and leave bikes in a secure place at the Lido would be beneficial. This would also benefit visitors to the Lido.

As with much of the bridle path system, many sections of the statutory footpaths also become difficult to access due to the wet conditions. The solution to the problem of wet paths has been to install boardwalks and bridges in the worst affected areas. From 2003 – 2017 a total of 27 boardwalks and bridges were installed in the wettest areas of the woods on the statutory footpaths. All have been made using timber from Ruislip Woods oak. In addition, channels have been created to divert the water from the paths into the Wood. This practice will continue.

In 2014 fifty new oak footpath signs were installed throughout the woods to inform the public where the statutory paths are. People will, however frequently cut corners and there are various ways of encouraging walkers to keep to statutory paths. One way is to ensure the statutory paths are in a constant good condition for walking. Another is to create barriers of thorny material such as Hawthorn *Crataegus monogyna* to divert people from the sensitive areas.

Objective 4

Update woodland information

The main entrance signs are well overdue for updating and renewing. As these signs are usually the first thing people see when entering the woods it is essential they are welcoming and provide interesting up to date information on what wildlife to see and where to see it.

They should also include a detailed map of the statutory footpaths and bridle paths and a 'You Are Here' marker. Modern technology will be embraced, so links to blogs and other information such as byelaws will be included.

The woods have a number of historical attributes that people are mostly unaware of. These include ancient earth banks, bomb craters, ancient stubbed trees, coppice stools and wartime artefacts. To promote understanding and appreciation of the NNR's archaeological and historic heritage a new leaflet will be designed giving a self-guided walk through Ruislip Wood's past.

Aim 2 Nature Conservation

To maintain as wide a diversity of habitats as possible to include:

- deciduous woodland
- coppiced woodland
- grass/heathland
- ponds, streams and wetland
- rides
- scrub

Ruislip Woods is a mixture of intensively managed woodland and woodland left to natural processes. Therefore there are species present that are associated with the open, early successional coppiced habitat and species that require the larger trees and shadier and damper conditions of the later successional habitats. Conservation in Ruislip Woods has tended to concentrate on the pretty, popular species such as butterflies, birds and bluebells and methods for their conservation have dominated their management, often at the expense of the less visible ugly species that live under logs or in the mud. The management chosen should reflect the aims of the site, so it is an objective of this plan to maintain both types of woodland, but with a shift of emphasis placed on the latter. With continued cuts to public services it will be unrealistic to continue to coppice as many areas prescribed in past management plans.

Objective 1

Maintenance of deciduous woodland in all areas with a long history of woodland cover in a favourable condition.

Some areas of Ruislip Woods do not have a history of being coppiced so have been left for the natural process of succession to continue. In the past all the oaks were harvested in Ruislip Woods for house or ship building. This is why there are virtually no oaks over 200 years old. So there is a strong case for allowing natural woodland to develop. Leaving trees to mature will encourage and benefit fauna associated with such trees for example, some species of bat, click beetles and hoverflies. Older trees support more wildlife than younger trees of the same species. Older trees have a greater surface area and gnarled and fissured bark. In general, the damper and more structurally complex the habitat, the more wildlife it can support.

In their ground breaking paper Biodiversity Conservation in Britain: Science Replacing Tradition, (1995), Hambler and Speight make the point that more species prefer the damper, shadier conditions of unmanaged woods than the dryer lighter newly coppiced areas. They refer to the Red Data Book which lists the 150 threatened woodland species. Of these, only three are specifically threatened due to lack of coppicing, whereas 65 per cent of threatened woodland species are associated with the dead wood found in unmanaged woodland (5).

Conservation aimed at re-establishing natural processes will add to the wildness of the woods. The experience of being in a truly wild, natural place is a rare opportunity for people living near to London. Ruislip Woods offers something very close.

Objective 2

Maintenance of coppiced woodland where it is beneficial to wildlife or where the coppiced material can be used.

From a conservation viewpoint, active coppice and unmanaged forest complement one another. The coppiced areas in the wood provide a varied structure that adds to the rich diversity of wildlife in the nature reserve. The different heights and density of foliage provide habitats for a wide variety of plants and animals. Newly coppiced areas provide ideal light conditions for plants to flourish. Many birds, especially warblers, prefer the denser coppice of three to ten years growth. This also provides excellent protection for small mammals, where they would otherwise be chased by dogs. It is important therefore to continue with the coppice management, but with a fresh vision of which areas should be coppiced.

An increase in wet weather combined with a continued reduction in public spending means that less coppicing can be achieved. Experience shows that it is not always possible to reach some areas during the winter months as it is too wet and using vehicles to get to some areas causes damage to paths. Therefore, the management group has decided to start a more focused approach to coppicing by prioritising those areas that are easily accessed, for example on statutory footpaths or near entrances. Ideal conditions for wildlife to spread throughout the wood can be created by linking actively coppiced coupes with systems of carefully managed rides and glades. Those species that are dependent on coppice such as woodland fritillary butterflies will be catered for on wider better managed paths. Coppicing should be avoided next to residential gardens as this is where alien species enter the woods and tend to thrive on disturbed land.

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In addition, an emphasis should be placed on coppicing areas for the purpose of using the produce for charcoal, fencing posts and hedge laying and leaving other areas to grow to natural forest. The first 10 years after coppice are the most important for plants and birds. This is the ideal coppice rotation for hazel *Corylus avellana*. This means more coppicing can be achieved as the growth is smaller and can be done by hand by volunteers. There is plenty of hazel along rides in Copse Wood and Park Wood. Charcoal and logs can be produced from hornbeam *Carpinus betula* coppiced in Mad Bess and Bayhurst Wood. Sweet chestnut *Castanea* sativa coppice in Mad Bess Wood will provide posts and rails for fencing.

The most important factor to recognise with regards to coppicing is that less time spent on it will free up more time to improve the conditions of the statutory paths and bridle paths. There are options however of maintaining the coppicing at current levels by using contractors, but these will have to be contractors who specialise in coppicing woodlands.

Previously coppiced areas that cannot be reached during wet weather can be converted to natural woodland. This can be achieved either by non-intervention or singling during dry conditions. This involves cutting all but one stem which promotes a single-stemmed structure. Leaving more areas to develop naturally will benefit wildlife in the long run.

Due to concerns over oak sudden death and lack of regeneration of oaks in coppiced compartments, no oaks have been felled since 2005. Instead, one or two oaks have been felled every year on Poor's Field where the management prescription is to maintain as open acid grassland/heathland. Oak should be obtained from these areas when possible as required. In addition, other alternatives could be ride edges where they are casting too much shade. Several oaks will be required to be felled in the next few years as boardwalks and bridges have still to be installed on some of the wettest areas.

Oak mildew is thought to be the primary reason for the lack of oak regeneration in coppiced areas in the woods. It can cover the whole leaf, seriously impairing photosynthesis. In fields where there is less competition oak saplings seem to grow unhindered. In the newly coppiced areas however the combination of oak mildew and vigorous competition from other plants appears to be too much for oak saplings to survive. Consequently there is not a varied age structure of oaks in the Nature Reserve. This is not the case in some unmanaged areas of the wood where there appears to be oaks of all ages.

Options for limiting the impact of oak mildew

Fungicides:
The use of these are restricted in the woods, so is not an option at present.

Preventing shading:
It may be beneficial to prevent shading from other plants.

Objective 3

Maintenance of grass-heathland in a favourable condition.

Priority management has been placed on continued grazing and removing invading trees and scrub. Loss of grazing can result in the rapid loss in the species- richness of a grassland. Grazing is the optimal management for the acid grassland for the following reasons:

- the grassland owes its existence and diversity to grazing
- mowing alone reduces flower diversity and encourages coarse grasses
- ant-hills cannot be mown
- grazing by cattle can provide a varied sward height for different plants and invertebrates
- cattle grazing causes less damage to wildlife than mowing

Therefore, the continuance of cattle grazing is regarded as essential for the future conservation of Poor's Field. In the absence of grazing on the other grassland sites, mowing is the only alternative.

There are still many areas on Poor's Field where scrub needs to be mown as the cows will not graze it. Extreme wet weather has prevented the mowing from being successfully completed on Grub Ground and the Pylon Ride in five successive years. Work instead concentrated on removing more scrub and secondary woodland by hand from Poor's Field. Starting the mowing in late August should avoid the worst of the wet conditions. Areas where reptiles are known to be present will be left until later in the autumn.

Experience now highlights the fact that trying to return Grub Ground to open grassland is not an achievable objective. It is time to hold up a white flag to succession in the main area and concentrate on mowing the existing statutory paths and keeping them as wide as possible. Areas of floristic importance will also be mowed. Rotational management will allow a number of stages of succession on the same site.

Objective 4

Maintenance and enhancement of streams and open water habitats in a favourable condition.

Ruislip Woods has a rich and varied network of streams and open water habitats. Relatively few of the ponds are natural, mainly hollows or holes left by fallen trees. Some are old gravel workings, others are bomb craters from the World War Two and some were created as drink holes for livestock. Being part of a network should mean that the pond wildlife is less vulnerable to disturbance and change.

Work should now concentrate on improving the condition of some of these ponds for wildlife as many are silted and temporary ponds, i.e. only hold water for part of the year. Not including the Local Nature Reserve (LNR), only four ponds contain water all year round, two on Poor's Field, one on Grub Ground and one in Bayhurst Wood.

In restoring a pond we need to have a clear idea of what improvements we are expecting and the benefits any management will achieve. It could be that in trying to restore a semi- permanent pond to a permanent one, we actually lose flora and fauna. It is important, therefore, to establish a systematic survey and monitoring scheme for the ponds and a method of according priorities to each site.

During this five year period all the mapped ponds will be surveyed twice, once in winter when ponds are full and once in summer in dry conditions. Ponds will be surveyed for water level, signs of pollution, invasive species, notable plants, amphibians and invertebrates. The results will determine what, if any management is required after that.

Ditches and streams in the woods are a vital water source for wildlife. In the past they were cleared of silt regularly. This resulted in water leaving the woods rapidly and dry ditches for most of the year.

Management during 2003 – 2014 has been restricted to silt clearance only at entrances to culverts or where silting up causes flooding of paths or gardens. This has the benefit of keeping some small pools of water in the woods during dry periods. By actively blocking some waterways or slowing the flow down it can create more wetland areas for wildlife and help prevent flooding of some properties which are susceptible to flooding during storm surges.

The dead wood resource in ponds is as vital to invertebrates and other animals for refuge, hunting and hibernating as it is to those of terrestrial habitats, so should not be removed from ponds, streams or ditches, unless it is unavoidable.

Objective 5

Ride management for wildlife.

All of the rides in the Woods have become narrow and shaded. While some shaded rides are attractive and important for some species, especially fungi, ride management should, in general, be aimed at widening to allow in more light. Widths up to 1.5 times the height of the bordering trees are needed to ensure that some of the ride receives sunlight throughout the day. Butterflies and bees will be the major beneficiaries of this. However, it is not desirable to prescribe the same management for every ride. Each ride needs to be assessed on its own merits. Scalloping creates a more natural look and provides microhabitats for many species. Scallops or bays also provide shelter for butterflies from the wind. The most important thing is to link coppice areas by rides to facilitate passage of mobile animals between them. It is also essential not to manage whole sections of paths but to leave some growth of different heights, i.e. rotational cutting.

Objective 6

Scrub

Scrub provides an essential part of the woodland habitat mosaic. It is an important transition between grassland areas and the woodland and provides nesting sites for some birds and food source for many animals, especially invertebrates. If left unmanaged, scrub will eventually succeed to woodland, so it needs to be managed. It will continue to be managed on a rotational basis so there is scrub at different levels of succession. Thick scrub is desirable for nesting birds, whereas less dense, low scrub will benefit reptiles.

Objective 7

Understand the importance of dead wood

Ecologically speaking we have now considerably refined our understanding of just what is so important about dead and decaying timber, both lying and standing. Lying dead wood provides habitat and food for saproxilic fungi and invertebrates. Size, microclimate, density of surrounding trees all play a part in the number and diversity of species associated with dead wood.

The coppiced wood contains relatively little volume of overmature timber and so constitutes a relatively poor dead wood habitat. To actively increase the dead wood resource, coppiced wood has been left in stacks where it is cut. In addition, large trees are left whole where felled. Dead or dying standing trees are generally left to collapse naturally unless they are an obvious threat to public safety.

The practice of felling unsafe trees will be undertaken where they are close to statutory paths and rides, in the vicinity of car parks and against neighbouring properties. The lack of old trees means there is a lack of rot holes and large dead wood, both standing and lying and therefore few if any of the associated animals and fungi.

This re-enforces the need to leave more areas unmanaged and to connect them up wherever possible. There are several areas in the reserve where there are few if any signs of past management. The most valuable dead wood can be found in these areas.

Objective 8

Control of invasive species

The management group now recognises that the total elimination of all the alien species in the woods cannot be achieved. It is also probable that some of the species are not as invasive as first thought. Himalayan Balsam *(Impatiens glandulifera)* for example is restricted to the wet areas of the woods and does not appear to penetrate into the drier areas. Japanese Knotweed *(Fallopia japonica)* is present in small clumps in only three areas of the Nature Reserve and appears to be retreating even in these areas.

Time will be spent on preventing further spread of these species rather than trying to eliminate them. The majority of alien species enter the woods via residential properties which back on to the reserve. There is overwhelming evidence of this in Park Wood and Copse Wood.

The plants that are dumped in the woods from back gardens are generally the most vigorous. Unfortunately these species, such as variegated archangel *Galeobdolan luteum spp argentatum* and Spanish bluebell *Hyacinthoides hispanica* will also grow well in the woodland as they are shade tolerant and highly competitive. They have not yet penetrated more than 20 metres into the woods, but almost certainly will if allowed to spread unchecked. Targeting these species will be a priority.

Also of concern are the invasive native species such as bracken *Pteridium* and bramble *Rubus fruticosus* which are a problem on Poor's Field. More time can be allocated to eliminating these invasives if less time is spent on others.

Bracken

Areas of bracken make a positive contribution to the natural qualities of the woods, in particular cover for deer and other animals. However, if allowed to grow on Poor's Field it can degrade the grassland and form a species poor monoculture. Therefore the spread of bracken on Poor's Field should be controlled. Pulling and cutting in June and July is the least damaging method where there are numerous ant hills. Cuttings will be removed from the site and piled on the edge of the field for reptile basking sites.

Garden Archangel *(Galeobdolan luteum spp argentatum)*

The presence of this plant is usually the result of garden rubbish being dumped in the woods from residential gardens. It can be very invasive forming dense areas of ground cover vegetation and out competes native species. Glyphosate is a suitable weed killer to use as it is taken in to the perennial stems. It should be used when the plants are growing well and are moving their sap at a higher rate.

Holly

In some areas of the woods, in particular Copse Wood, holly is starting to become a problem. Much of the holly grows next to residential properties and is therefore likely to be non-native. Holly shades out other flora. The most effective way of controlling it is to winch out the roots. A large area of dense holly was cleared in this way in 2011. Some native holly is beneficial to nesting birds and other animals so will be left.

Laurel *(Prunus lauracerasus rotundifolia)*
This species of shrub is present in the woods, but is sporadic and fairly easy to deal with. The management method is to cut to a stump and then to winch out the roots.

Parrot's Feather *(Myriophyllum aquaticum)*
This weed was found in Post Pond in 2007 and was removed by hand pulling. This should be repeated whenever it appears in order to eliminate it.

Spanish Bluebells *(Hyacinthoides hispanica)*
These do occur in some areas of the woods, mainly where the NNR borders residential properties. The two main areas are in Park Wood and Copse Wood. Since 2007 the heads of the invading bluebells have been cut off to prevent further spread. This is not a very time consuming task and will continue in the future.

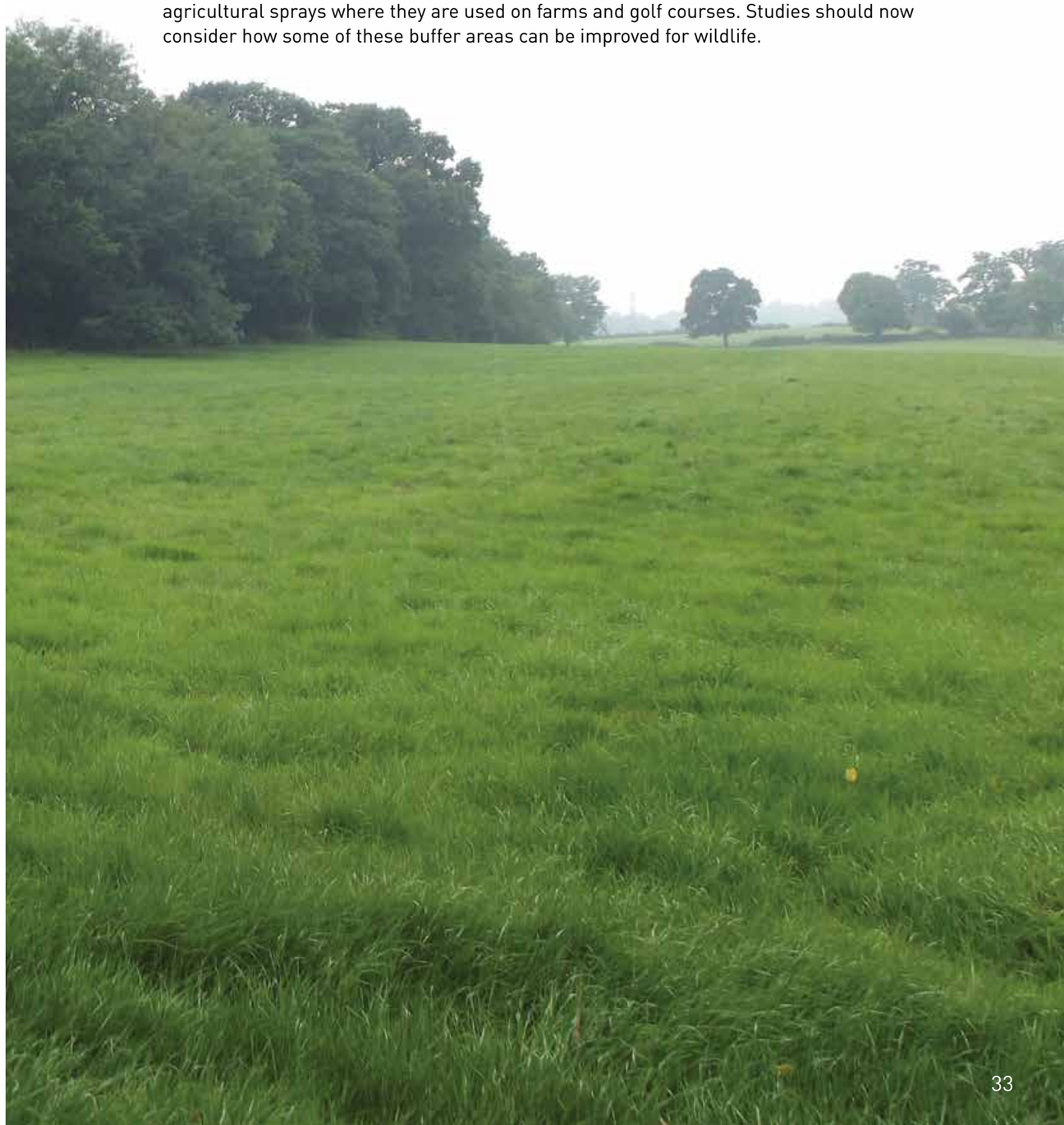
Yew *(Taxus baccata)*
Whilst yew is a native of Britain, it is not thought to be native in Ruislip Woods. Yew should be managed the same way as holly.

Grey Squirrel *(Sciurus carolinensis)*
Introduced at the end of the 19th century, this rodent is now widespread throughout most of England, Wales and southern Scotland. Grey squirrels are very abundant in Ruislip Woods. There is no management control of them and very few natural predators. It is thought that they may have a negative effect on open nesting birds such as nightingales and hawfinches (7) which were last seen in Ruislip Woods in the 1970s (8), coincidentally at the time when official squirrel shooting was still permitted. This ceased in the early 1980s. With no predators to control numbers, squirrels at present have a free roam in the woods. The only possible way to control numbers is to introduce a native predator such as the pine marten.

Objective 9

Buffer lands

Ruislip Woods are buffeted by farmland, most of which is leased under agricultural tenancy, residential properties, a golf course, a crematorium and the Lido. These buffer zones around the woods are essential to re-enforce it and gentle merging buffer strips along the woodland edge can act as a useful wind break and collection point for dust and agricultural sprays where they are used on farms and golf courses. Studies should now consider how some of these buffer areas can be improved for wildlife.



Residential

Part of Park Wood and Copse Wood back on to residential properties. It is these areas that most of the alien invasive species have their origin. Vigilance and a greater liaison with dog walkers, residents, walkers and other users of the woods can result in better reporting of such incidences.

Farmland

This forms most of the buffer zone around Ruislip Woods. Ideally, where the edge of the woods meets farmland, there should be a gradual transition rather than a sharp, abrupt edge. The reason for this is that invertebrates from the grassland may use the wood for hibernation and some woodland invertebrates may feed from the grassland flowers in the summer. The transitional zone may provide a niche for those invertebrates that cannot find a suitable home in either woodland or grassland. The majority of species rich scrub occurs at the woodland grassland transition. (Habitat Management For Invertebrates, Keith Kirby p70, 2001).

Agriculture makes an important contribution to the economy of the region and to the character of the wider landscape. The emphasis should be placed on achieving greater integration of agriculture and forestry, with woodland creation and management contributing practically and financially to farm businesses, whilst delivering other social and environmental benefits.

Studies should now consider how to implement improvement to buffer strips and to include stakeholders in a positive way. This can be by incentives for leaving set-aside or inclusion in projects that benefit the community. An example could be to use a 15 metre wide buffer strip to grow hazel, willow or alder which can be harvested for sale for hedge laying, pea sticks or kindling. Community groups or schools could participate in the project. Hillingdon already has an excellent example of community gardening in the established Rural Activities Centre in Harlington. This could be used as an outlet for selling woodland produce.

Haste Hill Golf Course

A golf course is basically a manicured garden, but on a larger scale. It requires large quantities of water in the summer months, pesticides, fertilizers, fungicides and frequent mowing on a large scale producing CO2 into the nearby areas including Ruislip Woods. A study should be initiated to research how the golf course is affecting the NNR and suggest mitigating solutions.

Ruislip Lido

In 2013 a large area of wet secondary woodland was replaced by a car park. In the following year an old fence was replaced with a new one along the railway separating Park Wood from the rest of the woods. This fence acts as a barrier to large mammals such as foxes, deer and badgers and prevents them reaching other parts of the NNR. This demonstrates that the pressures of urban development can come from within as well as from outside the reserve and that they are unlikely to decrease in the foreseeable future. This plan seeks to address further such developments by sharing information within the council and integrating conservation practices.

Objective 10

Expanding and linking habitats

We should seek opportunities to expand woodland in the borough. Habitat corridors can lessen the effects of fragmentation. Islands of habitats can lead to inbreeding and population fluctuations. The wider the wildlife corridor, the better, but even wide ones will only benefit the more mobile species. Those species favouring old, unmanaged woods will not benefit until a few hundred years has passed.

There is scope for achieving woodland expansion in Hillingdon by linking some woods that are presently islands surrounded by farmland. Bayhurst Wood is already connected tentatively to a wood behind St Mary's Church in Harefield by a continuous hedge. It would not take much to allow the hedge to grow out into woodland.

This plan will seek to initiate a study of surrounding woodland, grassland and other nature reserves and propose possible ways of linking them up. A study group will be set up comprising of all interested parties with a view of working together to link up woods and looking at possibilities of woodland creation.

Safer image option than aerial photo of the woods which require copyright permission

Objective 11

Rewilding

The subject of rewilding is an emerging new outlook that aims to restore natural processes by abandoning or decreasing management and introducing native species to promote self-regulating biodiverse ecosystems. The introduction of predators can help achieve a more balanced ecology within the woods. Of course introducing natural predators like bear and wolf is not possible in an urban woodland. Smaller predators such as pine martens on the other hand could be a worthy addition to the ecosystem as they are nocturnal, secretive and spend most of their time in the trees. Pine martens are known to cause a decrease in the number of grey squirrels wherever they are present (6). Wild boar can create open areas by grubbing up native invasives such as balsam, bramble and bracken. Pigs have been used for this purpose for many years in Burnham Beeches.

Introductions can include plants and invertebrates as well as larger animals, but any debate regarding introductions will have to go hand in hand with the subject of restoration of habitat connectivity. It will need collaboration and extensive public engagement for any species to be introduced. This plan will initiate a serious debate on these subjects. In the short term the refocusing of coppicing along paths can allow the interiors of the woods to succeed to climax woodland characterised by mature trees and high volumes of dead wood. It will also allow easier harvesting of coppiced material.

Freeing some parts of the woods from perpetual management is not a radical move. Realising that Ruislip Woods is a part urban nature reserve should not prevent initiatives to restore it to a wilder, more natural place because of the its close proximity to London. It could be maintained that it is much more important for urban folk to rediscover the physical and psychological benefits of being immersed in wild nature.

Ana to purchase high res of image

Ana to purchase high res of image

Image of a Red squirrel
to follow

3. Implementation

The Ruislip Woods Management Plan sets out the aims and objectives for the next five years and beyond. The achievement of the objectives contained in the plan will require the commitment of not only the council staff, but of all the stakeholders that use and have an interest in the woods. The plan will be implemented by the Management Group through quarterly action plans which will contain detailed updated and proposed works for each quarter.

It is nearly 15 years since the first Ruislip Woods conference was held at the Winston Churchill Hall in Ruislip. It is the right time for another such conference. Much has changed since then. It would be a good forum to inform local people about the new initiatives being undertaken in the woods and to update people on what has been achieved during this period. Most importantly, in a time of austerity and unpredictability it would be an opportunity to enthuse people and involve them in helping to protect their woods.

It is very difficult to predict what changes will occur politically, environmentally and socially over the next five years. This plan has been written with this in mind so is less strict and prescriptive than previous plans. Flexibility and sustainability will enable the aims and objectives to be achieved despite outside pressures and constraints.

Appendices

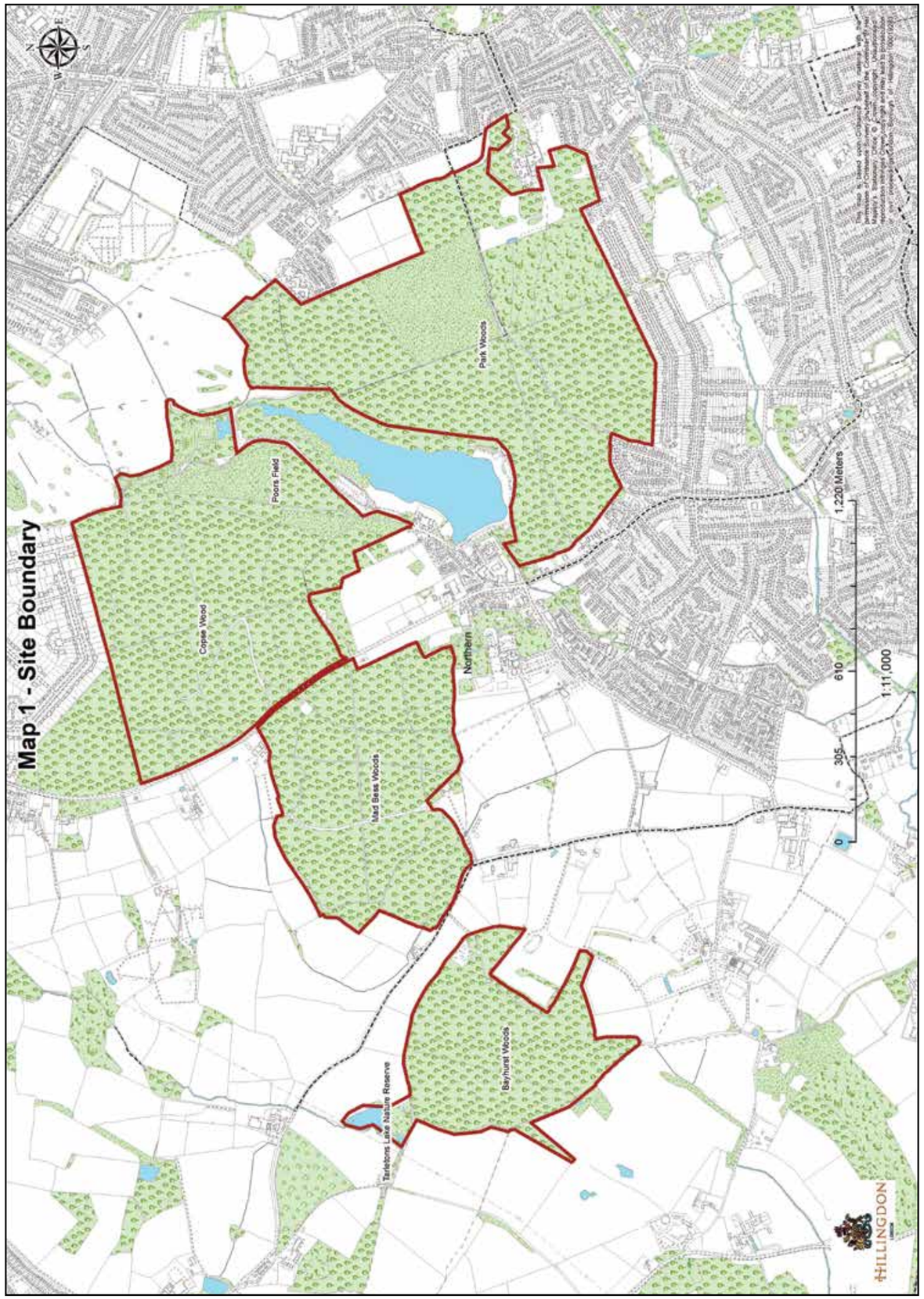
Appendix 1 - Estate Assets

Inventory		
Asset	**Location**	**Description**
Car park	Bayhurst Wood	Car parking for 100+ cars, Type 1 base, access by tarmac road. Height barriers x 2
Wooden classroom/hut	Bayhurst Wood	Timber clad building once used as storage for charcoal and processing equipment
Shipping container	Bayhurst Wood	Storage container for small tools and equipment
Four picnic sites	Bayhurst Wood	Picnic tables and benches
Trough and water supply	Bayhurst Wood	Water trough and water supply for bridleway users
Car park	Mad Bess Wood	Tarmac car park for 50+ cars, height barrier
Brick built shed	Mad Bess Wood	Brick built shed/stable. Converted into a badger hide in 2009
Cattle trough x 2 and water supply	Poor's Field	Trough and water supply for grazing animals
Woodbanks	Whole site	Whole site is traversed by wood banks
Boundary banks	Whole site	Approx 5,000m of boundary banks
Earth bank	Park Wood	Work currently being registered with English Heritage as an ancient monument
Bird hide x 2	Local Nature Reserve	Both timber buildings used for wildlife surveying
Storage room	Local Nature Reserve	Small storage room in brick building mainly for tools

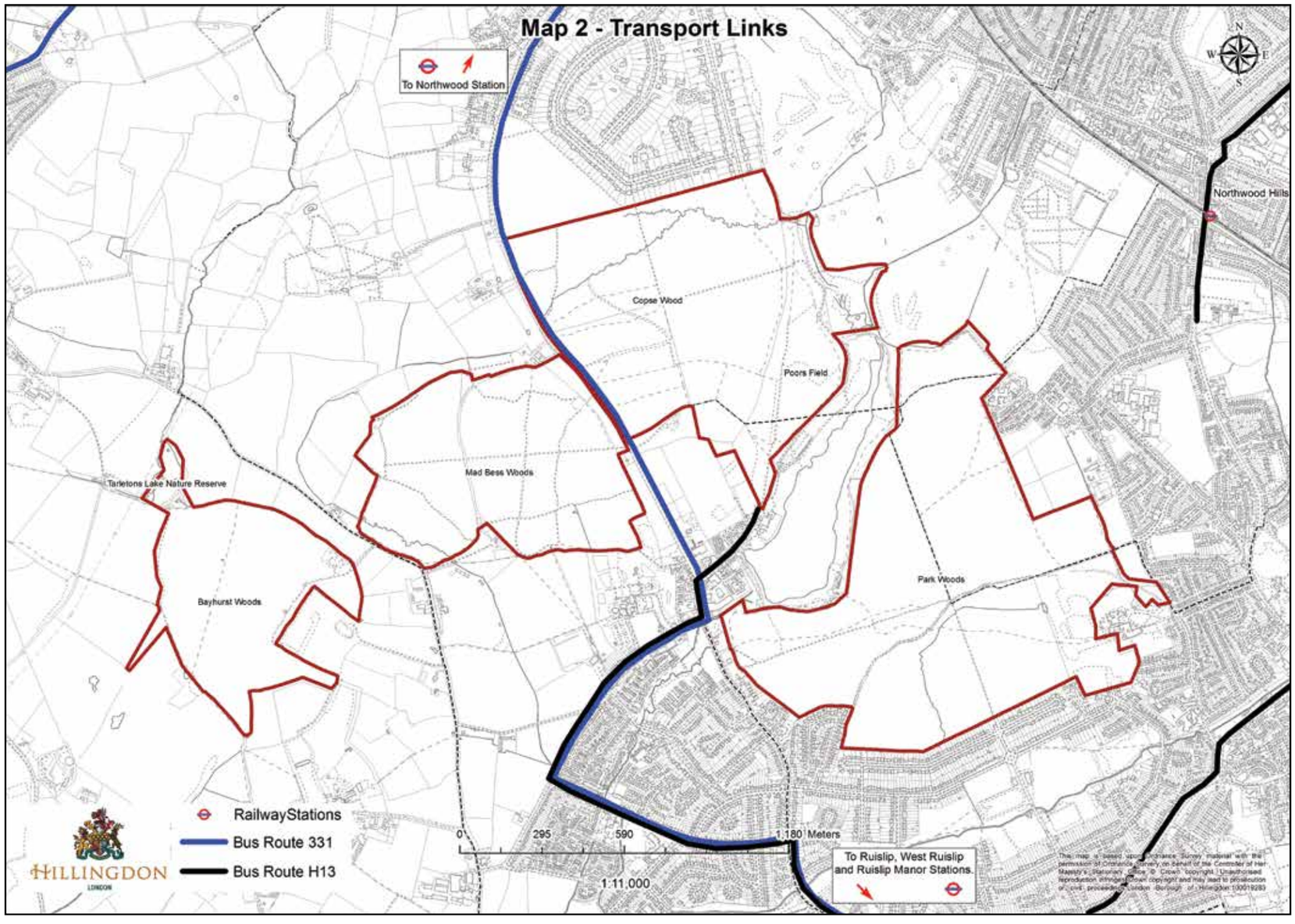
Assets not in the National Nature Reserve		
Asset	**Location**	**Description**
Woodland Centre	Ruislip Lido	New Woodland Centre erected in 2013. Currently used for education purposes and as a museum
Boat House	Ruislip Lido	Building currently used by woodland staff and volunteers as mess room and storage. New Boathouse erected 2016
Camp Site	Mad Bess Wood	Camping facility for up to 100 people
Camp site – Toilet and showers	Mad Bess Wood Camp Site	Prefabricated male and female/ disabled toilet/shower blocks
Camp Site –stand pipes	Mad Bess Wood Camp Site	Stand pipes x 2
Mad Bess Wood Cottage	Adjacent Mad Bess Wood Camp Site	Brick built dwelling – currently occupied by member of Green Spaces team under a service tenancy.

References

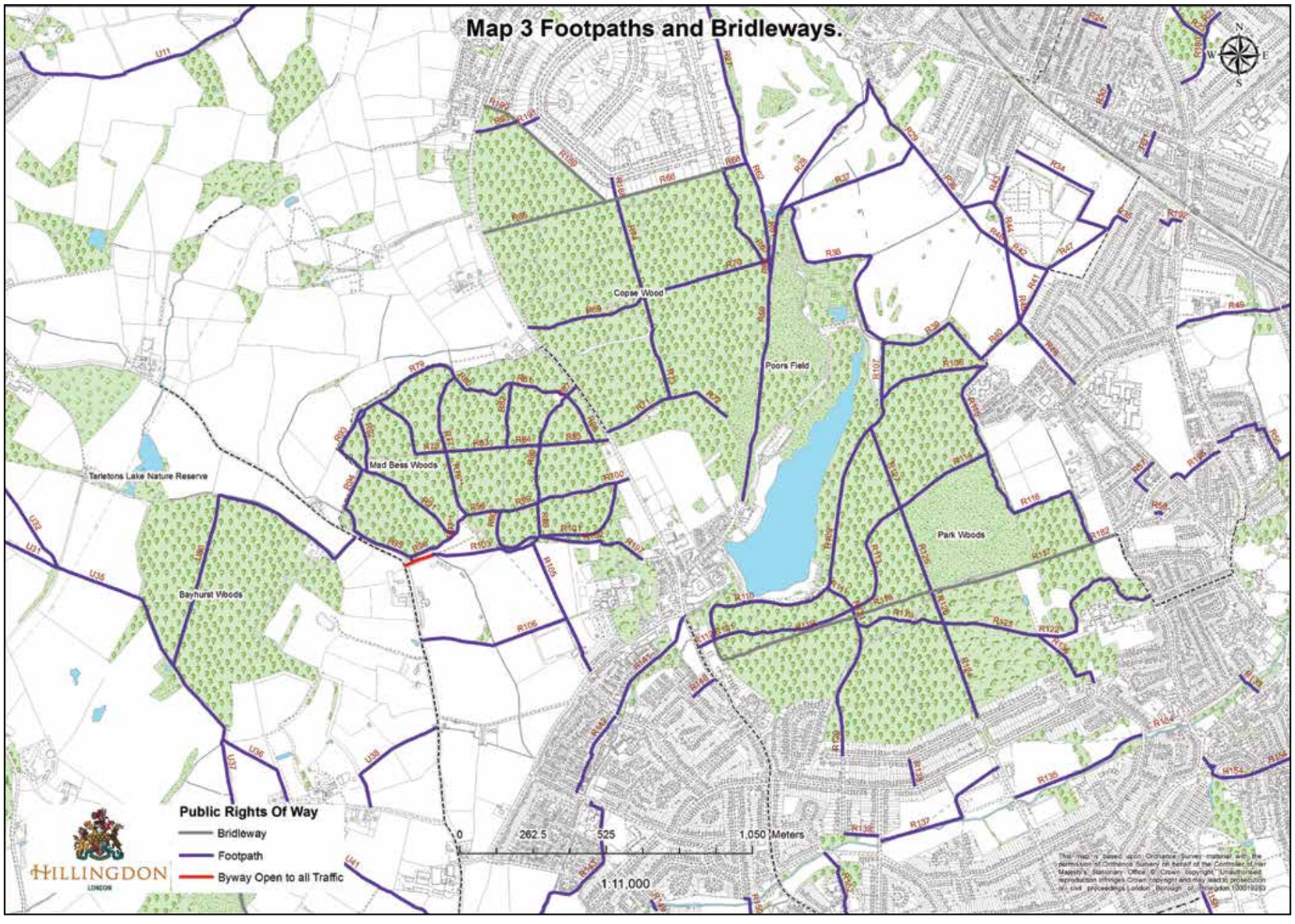
1. Government Forestry and Woodlands Policy Statement (HM Government January 2013)
2. Natural Childhood Report - National Trust 2012
3. Every Child Outdoors - RSPB 2010
4. Connecting Children With Nature - Natural England 2016
5. Biodiversity Conservation in Britain: Science Replacing Tradition. Clive Hambler and Martin R Speight. British Wildlife. Vol 5, Number 3, February 1995.
6. www.vwt.org.uk/projects/pine-marten-recovery-project
7. Possible Imapcts of Grey Squirrels On Birds and Other Wildlife. Chris Hewson, Rob Fuller, Brenda Mayle and Ken Smith. Vol 15, Number 3, February 2004
8. Ruislip Woods Long Term Management Plan 1982



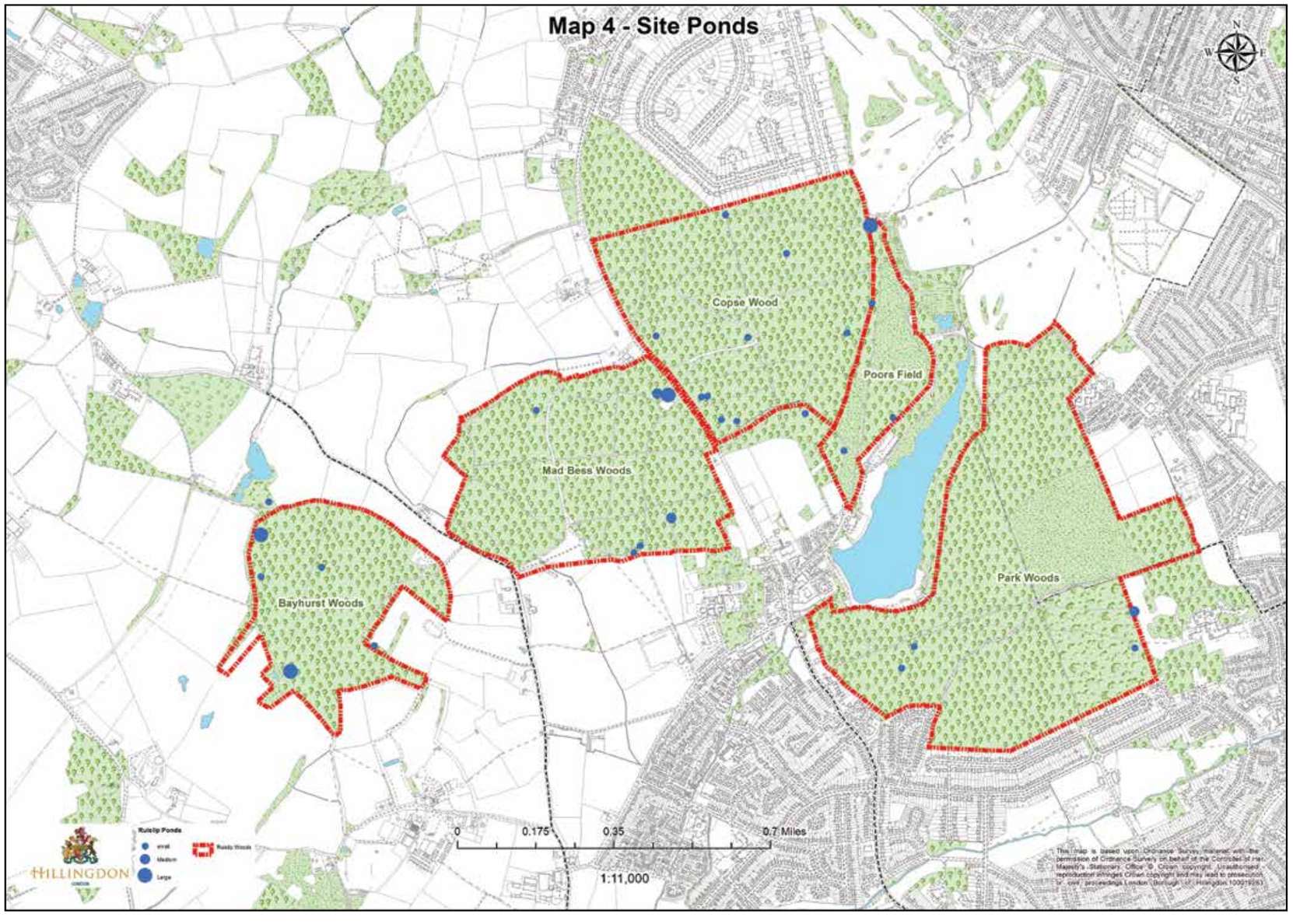
Map 2 - Transport Links



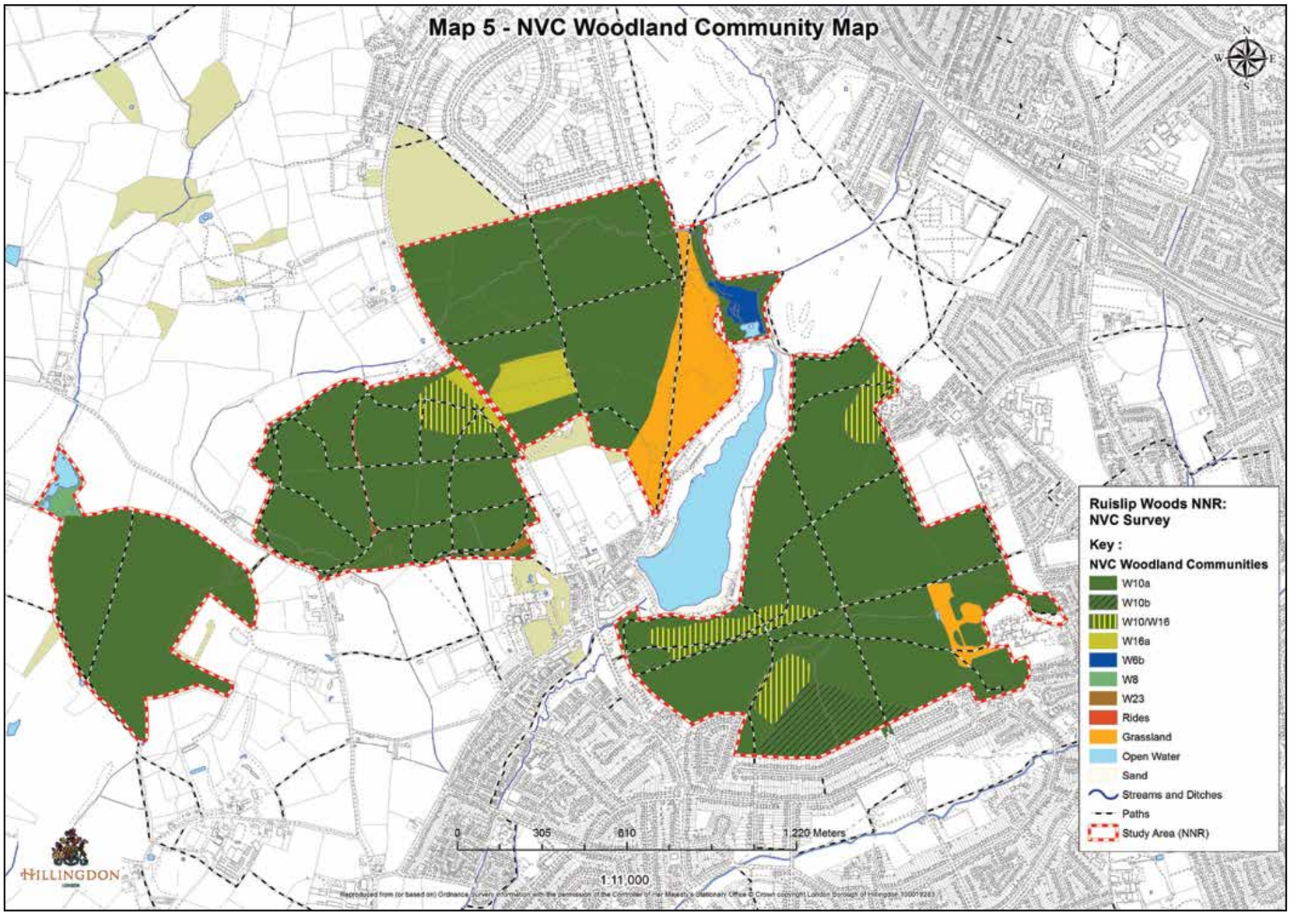
Map 3 Footpaths and Bridleways.

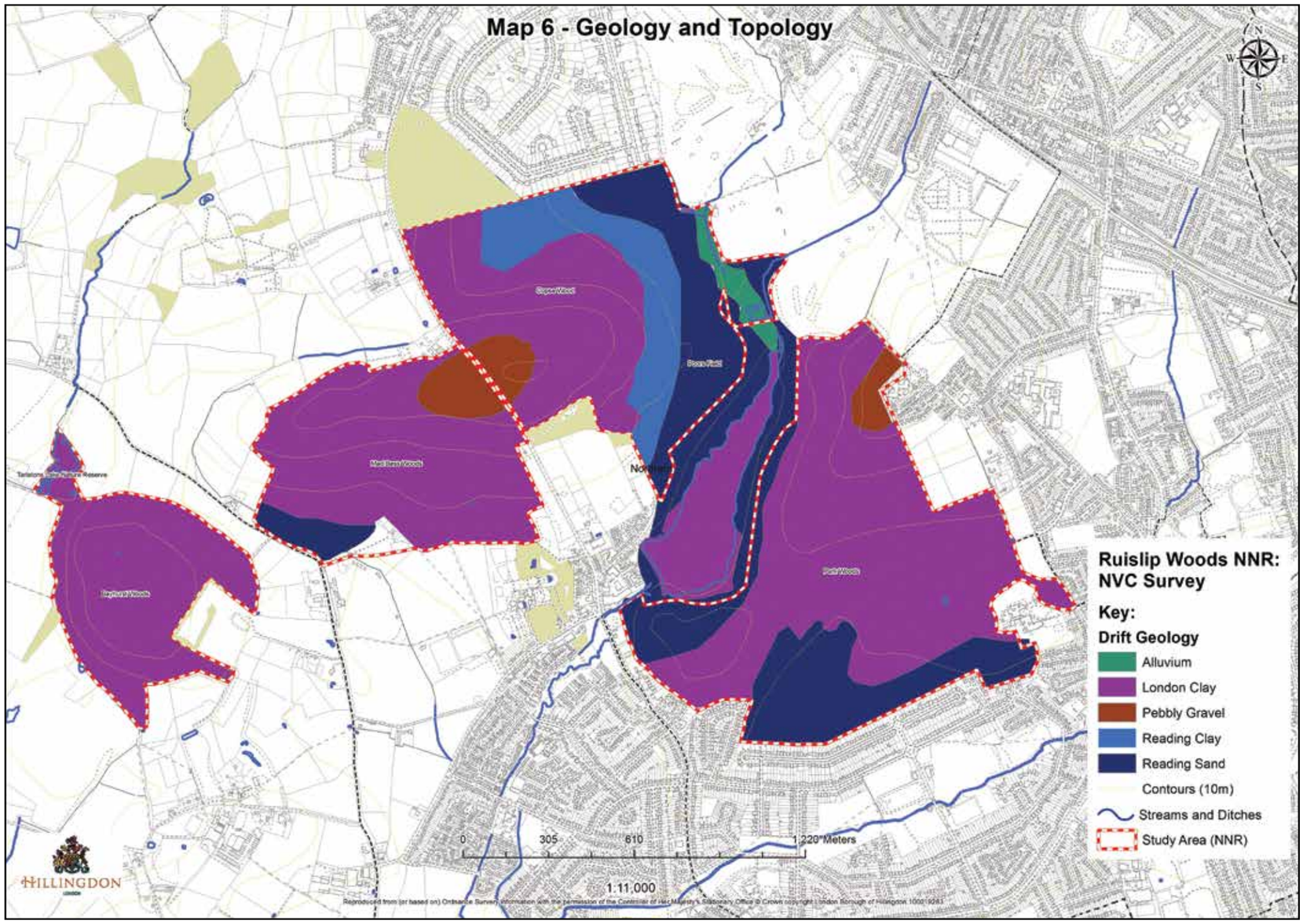


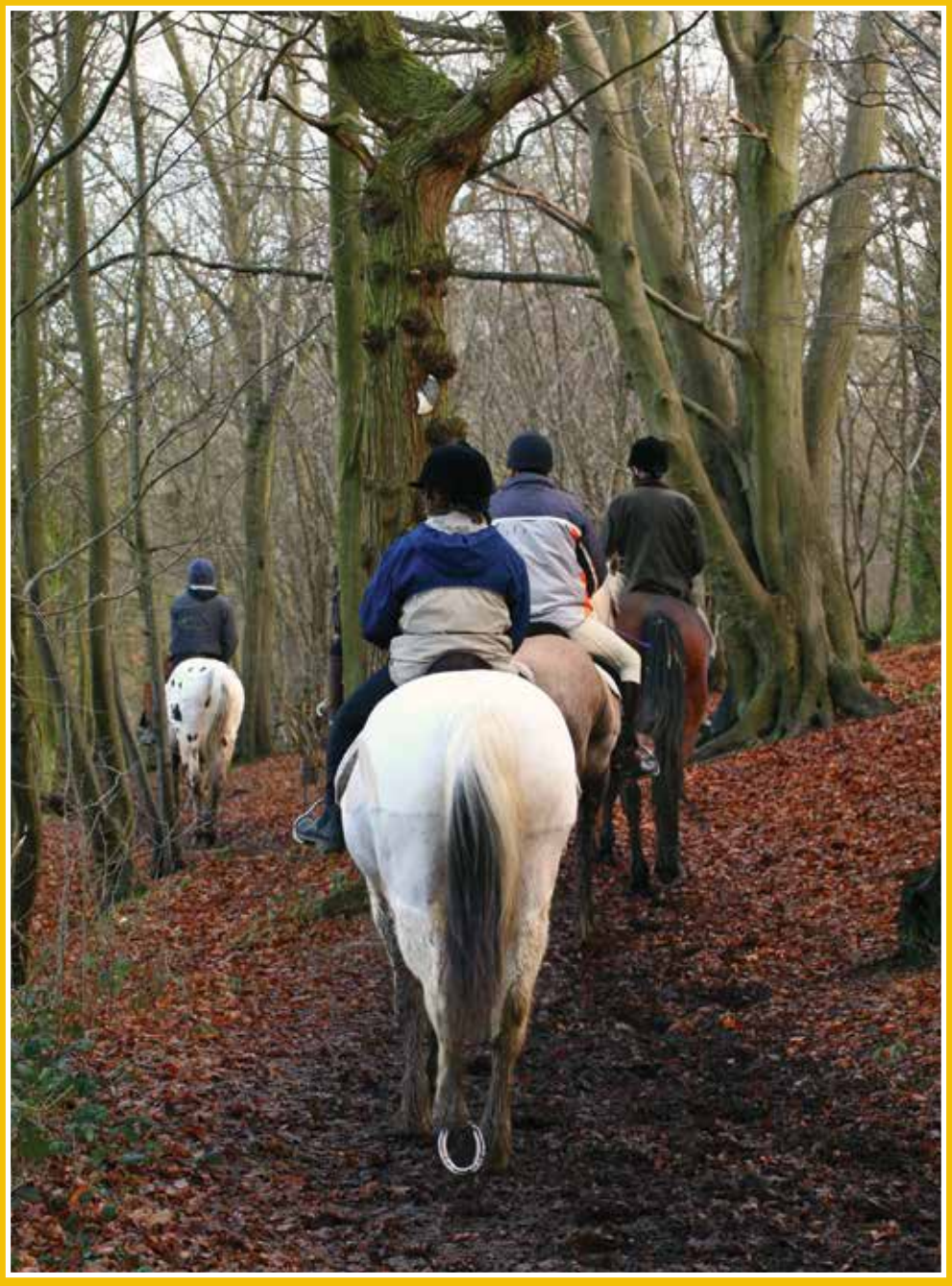
Map 4 - Site Ponds



Map 5 - NVC Woodland Community Map




Map 6 - Geology and Topology
Ruislip Woods NNR:
NVC Survey
Key:
Drift Geology
Alluvium
London Clay
Pebbly Gravel
Reading Clay
Reading Sand
Contours (10m)
Streams and Ditches
Study Area (NNR)
0
305
610
1220 Meters
1:11,000
HILLINGDON



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