HORTON COUNTRY PARK LOCAL NATURE RESERVE

MANAGEMENT PLAN

May 2005

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INTRODUCTION

This management plan covers approximately 100ha of Horton Country Park Local Nature Reserve (LNR). Excluded from the plan are areas of land within the Country Park managed by the Equus Equestrian Centre and the Horton Park Country Club (golf course), together with the Horton Park Childrens' Farm[1] (Map 1). Throughout the remainder of the plan, unless otherwise stated, reference to Horton Country Park relates only to the Local Nature Reserve.

The management plan has been produced following a number of site surveys; a review of available ecological, historical and other information; and liaison with appropriate bodies. It focuses upon, and attempts to achieve a realistic balance, between a range of issues that include:

- Nature conservation
- Maintaining and enhancing the historical, landscape and cultural value
- Providing appropriate facilities for public recreation and enjoyment
- Encouraging opportunities for education in all aspects of the Country Park's ecology, history, culture and landscape.

This is the second management plan that has been prepared for the Horton Country Park, the previous document dates from 1992 (available on the EEBC website: www.epsom-ewell.gov.uk).

[1] The Horton Park Childrens' Farm includes the 5.12ha "Cabbage Field" (Compartment 30), which is in the LNR but is leased to the Horton Park Childrens Farm for a period of 125 years. This field may in future be used for grazing.

STAGE ONE - DESCRIPTION

1.1 Introduction

Horton Country Park (Map 1) covers a total area of approximately 100.13ha[2] and represents land that once formed part of a mediaeval manor estate in the north-west of the Parish of Epsom. In the 1890s the Horton Manor Estate was purchased by London County Council who developed a complex of large psychiatric hospitals on the estate, all of which possessed their own farms. Around 1960, two of these farms, namely Long Grove Farm and West Park Farm, were leased to independent tenant farmers and run as separate, autonomous units. In 1972 the Regional Health Authority decided to sell off the farmland as surplus to hospital requirements and it was purchased in 1973 by Epsom and Ewell Borough Council with financial assistance from Surrey County Council and the Countryside Commission, to be established as Horton Country Park in 1974.

The Horton Country Park Local Nature Reserve (LNR) (Map 1) was officially designated in May 2004. Significant portions have also been designated as Sites of Nature Conservation Importance (SNCI) identified under the Local Plan (Map 1). In addition, the whole area of Horton Country Park LNR lies upon land designated in the local plan as Metropolitan Green Belt.

Horton Country Park comprises a mosaic of habitats that includes woodland of varying maturity and composition, together with a range of grasslands, plus scrub and hedgerows. There are also a number of ponds, the largest of which is Meadow Pond.

There is good public access to the Country Park, and it forms an important local amenity for a variety of informal recreation activities. The main access point for visitors is the West Park Farm complex, where the main car park and toilet block are situated[3].

As already outlined, also forming part of the Country Park (but for the most part outside the LNR) are three amenities operated by the private sector in co-operation with Epsom & Ewell Borough Council, namely the Horton Park Country Club (Golf Centre), Horton Park Childrens' Farm[4] and the Equus Equestrian Centre. Within certain guidelines the development of these centres is in the hands of their operators, although control is exercised by EEBC through their respective leases and management agreements. Also lying within the Country Park, but excluded from the LNR, are four residential dwellings, namely Keeper's Cottage, Laundry Cottage, Primrose Cottage and West Park Farm House (which includes the offices of the Lower Mole Countryside Management Project and the Lower Mole Countryside Trust).

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[2] This area relates to that of the Horton Country Park Local Nature Reserve (excluding the "Cabbage Field") being considered under this management plan. The total area of Country Park is c.180ha.

[3] The Epsom & Ewell Borough Council Ranger's Office and associated storage facilities are also situated at West Park Farm. This complex is used as the operational base for whole Borough and not just Horton Country Park.

[4] "Cabbage Field" (compartment 30) is leased by the Horton Park Childrens' Farm. It is included within the LNR, but is largely excluded from this plan.

1.2 Location

Horton Country Park lies to the west of Epsom and is bounded to the north by residential areas of West Ewell (Map 1). The western edge lies along the Epsom & Ewell Borough boundary; beyond this lies agricultural land occupied by Park Farm in the Royal Borough of Kingston. To the east lies new residential housing constructed on the site of the former Long Grove Hospital, whilst the extant West Park Hospital adjoins the Country Park's southern boundary.

County: Surrey

District/Borough: Epsom and Ewell

Local Planning Authority: Epsom & Ewell Borough Council

National Grid Reference: TQ 191 617 (Ranger's office)

Map Coverage:

First Edition of the Ordnance Survey (1871 – available from www.old-maps.co.uk).

Ordnance Survey Landranger series at 1:50,000 scale, sheet number 187.

Ordnance Survey Explorer series at 1:25,000 scale, sheet numbers 161.

Ordnance Survey 1:10,000 series sheets TQ16NE, TQ26NW.

Ordnance Survey maps at 1:2500 series sheets TQ1863, 1963, 2063, 1862, 1962, 1861, 1961.

Ordnance Survey map at 1:1250 scale.

1843 Tythe Map of Horton (held at Bourne Hall)

1.3 Land Tenure

All of the land covered by this plan is in the ownership of Epsom and Ewell Borough Council and was purchased from London County Council in 1973. The Country Park also includes an area of 'exchange land' resulting from the construction of new housing on the site of the former Long Grove Hospital. Part of this land became available in 1998, with the remainder still to be exchanged. The various conveyance documents can be found in the Town Clerk and Chief Executives Department of the Council.

Of the four residential dwellings within the Country Park, two are privately owned, whilst the remaining two are occupied by Epsom & Ewell Borough Council employees.

Excluding the Epsom & Ewell Borough Council-owned, but privately-operated, Horton Park Country Club (Golf Centre), Horton Park Childrens' Farm and the Equus

Equestrian Centre, the adjacent land is owned by a variety of individuals and organisations. Most significantly this includes land owned by Park Farm and the Regional Health Authority.

Services

Crossing beneath the Country Park are a newly installed water main between Epsom and Chessington, a major gas pipeline installed during the 1970s, a high capacity electricity supply to a mobile telephone mast, major sewers linked to the West Park Hospital, plus services such as electricity, telephone and sewerage to individual buildings. The appropriate utilities should be contacted for up to date information, immediately before any work likely to affect any of these services is undertaken.

1.4 Photographic Coverage

The EEBC Planning Department hold a series of aerial photographs of the site covering the period 1971-2003.

Photographs depicting the Horton Light Railway, constructed to serve several of the psychiatric hospitals (see Section 1.5.3.2), are held by the Epsom and Ewell Borough Council. Many views have been taken by EEBC staff since 1980 for use in displays etc. A digital picture library is now being compiled on the Epsom and Ewell Borough Council computer network.

The Lower Mole Countryside Management Project holds a collection of slides from the 1980s onwards, depicting views of the Country Park.

1.5 Summary Description

1.5.1 Physical

1.5.1.1 Climate

Meteorological Office data (1961-1990 averages) for Wisley (approximately 10km due west), show an annual rainfall of approximately 650mm per year (no measurements have been taken on Horton Country Park itself). During this period, there was an average of 110 days per year with more than 1mm of rainfall recorded. In addition, an average total of c.1500 hours sunshine were recorded per year, along with 51 days of air frost. The average monthly maximum temperature was 14.2^{o}C (July being the hottest, at 22^{o}C), whilst the average monthly minimum temperature was 5.9^{o}C (with February being the coldest at 1.2^{o}C).

1.5.1.2 Geology

The greater portion of Horton Country Park is situated on the London Clay. There are local surface deposits of gravel (S. Cocker, pers. comm.). The extent of such deposits may require further investigation.

Further details of the geology can be seen in the Geological Survey maps for the area, although these do not show in sufficient detail the changes in geology which are important for detailed land management.

1.5.1.3 Topography and Hydrology

Horton Country Park lies to the north of the dip slope of the North Downs in the London Basin and has a gently undulating, but complex topography. The highest area of the Park (around 55m AOD) lies to the south-east adjacent to West Park Farm. West of here, a broad, shallow valley runs from the southern boundary with West Park Hospital, in a roughly northerly direction towards Pond Wood, before the land rises again before approaching Four-Acre Wood. To the extreme north lies the fairly level area comprising Butcher's Grove with, to the south-east of here, a further shallow valley that drains in a north-easterly direction towards West Ewell, along the southern edge of land that now forms part of the golf course.

The clay nature of the soils across much of the Country Park means that most rainfall runs off this relatively impermeable substrate. Movement of water is along two main watercourses. The first of these (known as Green Man Stream) arises at the Park's southern boundary adjacent to West Park Hospital. It flows along the base of the more southerly valley as far as Pond Wood, whereupon it skirts the northern edge of the wood before leaving the Park and draining into the catchment area of the Bonesgate Stream, a tributary of the Hogsmill River. There is a small pond along this watercourse within Pond Wood itself (known as Pond Wood Pond), with a further, smaller pond a little further upstream, to the south (known as Field Pond).

The second flow of water, known as Horton Stream, lies along the base of the more northerly valley along the golf course boundary, and drains in the direction of West Ewell. This is joined part way along by Lambert's Stream, which originates within the Lambert's Orchard area. Meadow Pond (the largest water body within the Country Park) lies along Horton Stream, as does the larger golf course pond (outside the LNR boundary). Two ponds lie along Lambert's Stream, namely the overgrown Lambert's Pond and the new Orchard Balancing Pond. Unconnected with Horton Stream is the more northerly Poplar Pond, a further, newly constructed balancing pond beside the A284 Chessington Road.

1.5.1.4 Soils

The predominant soil types are Windsor pelo-stagnogleys, comprising heavy clay to medium clay loams, which also occur on much of the adjacent Epsom Common (the word 'Horton' means 'muddy place'). The presence of such soils leads, in many parts of the Park, to waterlogging during the winter months, whereas in summer, the ground

surface dries hard. There is no information available on soil pH, but this is likely to be circumneutral.

1.5.2 Biological

There has been a fairly limited level of biological recording activity at Horton Country Park (mostly on an informal basis). The following two sub-sections outline some of the more important surveys and other biological recording undertaken. Appendix III lists all known recorded species.

The first known botanical list for the park was compiled in 1974. Further recording was undertaken in 1990 and most recently in 2003 (see below). Most recording of fauna dates to recent times, following the formation of the Friends of Horton Country Park in 1999. Such records are compiled into quarterly newsletters and are primarily concerned with birds. However, there are also some records for invertebrates such as dragonflies and butterflies. Mammal records are very sparse and have been drawn from a variety of sources.

1.5.2.1 Flora and Vegetation Communities

The site has a varied vascular plant flora, with around 350 taxa recorded (including non-native species), reflecting the variety of habitats present (see below). A list of vascular plants of 'Horton Lands' was compiled by R.C. Stern and J. E. Smith in 1974. Subsequently, a series of species lists were prepared for various localities within the Country Park in 1990 (source – EEBC files, but origin and recorder unknown). Additional plant species information was complied in 1998 for a number of blocks of woodland within the Country Park that were the focus of surveys conducted by Surrey Wildlife Trust as part of the 'SNCI' project. More recently, certain areas of the Park (Pond Wood and an area at "West Ewell, south-east of Butcher's Grove") were examined by J.F. Leslie and K.W. Page in 2003.

With the exception of the Surrey Wildlife Trust surveys, previous habitat surveys of the Park have been very 'broad-brush' in their approach (e.g. the simplified map of 'broad habitats' produced for the Country Park information leaflet). As a result, a more detailed survey of habitats and vegetation communities was conducted to form a baseline for this management plan (Appendix II). Much additional information on the occurrence and distribution of various vascular plant species was obtained during this period. A brief outline of the main habitats is given below, with more detailed information being provided in Appendix II. Map 2 shows the distribution of the main habitat types.

Grasslands

Grassland of various types represents the most extensive habitat type within Horton Country Park. As well as making up many of the individual component fields, grassland vegetation lines many of the track-sides and often forms glades or more extensive areas within wooded portions of the site. Fundamental factors influencing

what type of grassland occurs are the underlying geology as well as current and past management regimes.

One of the more extensive grassland communities is characterised by a dominance of False Oat-grass (*Arrhenatherum elatius*). This vegetation occurs in areas that are unmanaged or mown/hay-cut only occasionally and thus the vegetation is very tall and coarse in character. Often this vegetation is very species-poor, with False Oat-grass overwhelmingly dominant. However, locally, and where False Oat-grass is not quite so dominant, a greater species diversity occurs supporting, for example, Cut-leaved Cranesbill, (*Geranium dissectum*), Grass Vetchling (*Lathyrus nissolia*), Meadow Barley (*Hordeum secalinum*), Hairy Tare (*Vicia hirsuta*), Common Knapweed (*Centaurea nigra*), Smooth Tare (*Vicia tetrasperma*), Lesser Stitchwort (*Stellaria graminea*) and, very rarely, Common Spotted-orchid (*Dactylorhiza fuchsii*).

Another extensive grassland type is characterised by rank, tussocky growth of Tall Fescue (*Festuca arundinacea*) and is indicative of a low level of management on clay soil types. The most extensive areas of this type of vegetation occur in the complex of fields that appear to have been formerly managed as permanent pasture, in the area between Great Wood and the golf course.

Around the car parking/barbecue area, grasslands regularly mown for amenity purposes are dominated by Perennial Rye-grass (*Lolium perenne*), and are presumably of sown origin, comprising a generally species-poor sward. Similar vegetation occurs along frequently-mown track margins.

Several fields within the Country Park are let for almost year-round horse-grazing. Here, a resulting closely-grazed sward tends to be dominated by a combination of Creeping Bent (*Agrostis stolonifera*), Common Bent (*Agrostis capillaris*), Rough Meadow-grass (*Poa trivialis*) and Yorkshire-fog (*Holcus lanatus*). Often there is much bare ground present due to trampling. A generally similar suite of dominant grasses occurs in some generally ungrazed and seldom-mown grasslands, once again, probably former pasture-land. Herb composition can be quite variable, ranging from rather species-poor swards to moderately diverse.

Woodlands and scrub

There are extensive areas of woodland within the Country Park. A significant proportion of this is of recently planted origin (i.e. within the last 30 or so years), often upon what was originally grassland habitat. In such locations trees are often present in formally planted rows. Species include Norway Maple (*Acer platanoides*), Hornbeam (*Carpinus betulus*), Limes (*Tilia* spp.), Ash (*Fraxinus excelsior*), Narrow-leaved Ash (*Fraxinus angustifolia*), Pedunculate Oak (*Quercus robur*), Poplars (*Populus* spp.), Aspen (*Populus tremula*), Willows (*Salix* spp.), Cherries (*Prunus* spp.) and Pines (*Pinus* spp.).

The main areas of such woodland include Lambert's Wood, Hollymoor Grove, Godbold's Copse, Porter's Grove, Sherwood Grove and Hendon Grove. The mainly Aspen-dominated Stone's Copse has not been planted but appears to have regenerated spontaneously. It originally formed a southerly portion of Pond Wood, shown as

woodland as late as the 1933 OS map, which was probably grubbed up for cultivation during WW2 and the present day fragment supports a poor ground flora.

Whilst many woodland stands have a closed canopy, there are several areas where the planting has been thinned in recent years to create a habitat of scattered trees over grass-dominated vegetation. The main locations are Sherwood Grove (which also supports good regeneration of coppiced Hazel and Hornbeam), in addition to Godbold's Copse and parts of Hendon Grove. In addition, a part of Porter's Grove opposite the equestrian centre received a first thinning during the late 1990s. A small area of rather older plantation woodland (Sandy's Copse) occurs within what would have been the grounds of the former Long Grove Hospital.

In contrast to these recent stands, there are several areas of more established woodland which are primarily ancient in origin – i.e. continuously managed as woodland habitat since at least 1600AD. The main areas of older woodland are Pond Wood, Great Wood, Four Acre Wood and Butcher's Grove.

Butcher's Grove (Compartment 1) represents the largest single area of broad-leaved woodland within the Country Park and is primarily a mixed coppice with Oak standards. It has a long history of woodland management (see 1.5.3.2), although it is not included in the Surrey Inventory of Ancient Woodland because it was not depicted as woodland on early 19th Century maps.

The canopy is dominated by Pedunculate Oak, but with a range of other species, including Scots Pine (*Pinus sylvestris*), Hornbeam (*Carpinus betulus*), Poplars (*Populus* spp.) and, more locally, False-acacia (*Robinia pseudoacacia*). In some areas the Oak standards are old and closely-spaced with well-developed crowns, whereas elsewhere they are younger and crowns are smaller. In these latter areas, similar-sized over-stood coppice stools of Ash coppice (*Fraxinus excelsior*) can also form a component of the canopy.

The shrub layer is patchy, but mainly comprises over-stood Hazel (*Corylus avellana*) coppice beneath the mature Oaks, mainly in the south-western corner of the wood. The Hazel is mixed with Wych Elm and other species such as Hawthorn and Ash. Elsewhere within the wood, the shrub layer is more varied, with less Hazel overall and includes some Hornbeam coppice.

The field layer is also variable in both its diversity and extent. Thus, some areas are quite species-poor, in part due to winter waterlogging as a result of poor drainage caused by the construction of the former railway line. Other areas, including some of those opened-up by recent coppicing, are more diverse and include Bluebell (*Hyacinthoides non-scripta*), Hairy Brome (*Bromopsis ramosa*), Greater Stitchwort (*Stellaria holostea*), False-brome (*Brachypodium sylvaticum*), Wood Avens (*Geum urbanum*), Wood Melick (*Melica uniflora*), Wood Millet (*Milium effusum*), Wood Anemone (*Anemone nemorosa*), Three-veined Sandwort (*Moehringia trinervia*) and Violets (*Viola* spp).

A number of compartments within Butcher's Grove have been re-coppiced since 1984 and are in varying stages of regeneration. The most recent coppicing was undertaken during the winter of 2004/2005.

Pond Wood (Compartment 8) comprises two distinct areas. In the east is an area of ancient woodland with an Oak (and Ash) canopy and a coppiced Hazel understorey. The northern and western portion corresponds to an enclosure known as "Peaked Riding", clearly indicated on the 1871 Ordnance Survey Map. The old boundary between these two areas is still clearly visible within the wood.

Field layer characteristics of the two areas are markedly difference. The original Pond Wood supports an ancient woodland flora characterised by species such as Bluebell, Wood Melick, Wood Millet and Wood Anemone. In contrast, Peaked Riding generally has a dense field layer of Bramble (*Rubus fruticosus* agg.), accompanied locally by Bracken (*Pteridium aquilinum*) within some open glades.

Stone's Field (Compartment 10) was shown as woodland, contiguous with Pond Wood, on the 1933 OS map. It is thought to have been grubbed and subsequently ploughed during WW2. The extant woodland of Pond Wood also appears to have been largely felled at this time, although there is no evidence to suggest that it was ploughed.

Four Acre Wood (Compartment 4) is a further small area of ancient woodland appearing on the 1843 Tythe Map, but not included within the Surrey Inventory of Ancient Woodland (Drucker *et al*, 1988) [see 1.5.3.2]. The southern portion supports a well-structured canopy of Oak (and Ash) standards, a coppiced Hazel shrub layer and a well-developed field layer (e.g. Bluebell, Wood Melick, Wood Millet, Wood Anemone). In contrast, the northern portion supports a dense shrub layer dominated by small Elms (*Ulmus* spp.), with only occasional Hazel. The wood is surrounded by well-defined wood banks, one of which supports two old boundary trees of Small-leaved Lime (*Tilia cordata*).

Great Wood (Compartment 46) is an area of much-modified ancient woodland. The canopy has been much influenced by planting of trees such as White Willow (*Salix alba*) and Hornbeam. A number of large boundary Oaks occur on the northern and eastern boundaries, some of which support a Heronry. As a result of past management much of the woodland is quite open and scrubby, with dense Hawthorn and other shrubs. Much of the field layer is dominated either by Bramble and Stinging Nettle (*Urtica dioica*) or Ivy (*Hedera helix*), possibly reflecting past disturbance of the soils [it is known that the wood was used extensively for cattle grazing during the 1960s (S. Cocker, pers. comm.)].

Other more established woodlands occur more locally and include, on the south-western fringe of the Park, an area of damp woodland characterised by Crack Willow (*Salix fragilis*).

A number of scrub types are present, occurring in a variety of situations, e.g. alongside linear features such as tracks, paths and drains. Scrub also tends to be associated with previously disturbed, but generally unmanaged parts of the site – such as within a number of old gardens, the Burning Area (Compartment 12) and the demolished 'piggery' (Barn Platt – Compartment 39). In some cases, narrow sections of scrub appear to have developed by growing outwards from previously managed hedgerows (see below). The main scrub types include examples dominated by

Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Bramble and/or Willows (*Salix* spp.).

Features of particular historical interest are the old orchards of the former Long Grove Hospital. The Pear trees in Lambert's Orchard are believed to represent the variety "Bellesime D'Hiver", a 17th Century French Cooking Pear (EEBC website – www.epsom-ewell.gov.uk).

Hedgerows

These occur alongside many of the track and field margins. Many are single-species dominant and include Hawthorn (including some fairly recently-planted examples), Blackthorn and less frequently, Elm. There are known to have been some fine old Elm hedgerows before the arrival of Dutch Elm disease (e.g. alongside the Equestrian Centre boundary). Other hedgerows are much more varied in their species composition and may include a range of more mature trees. Many of the recently-planted hedgerows have been augmented by a fence to render them stock-proof. More established hedgerows can, in places, represent effective stock-proof barriers in their own right, whilst elsewhere, they can be 'gappy' and essentially in a 'defunct' condition. A number of hedgerows appear to follow boundary lines depicted on the 1843 Tythe Map and are therefore important landscape and historical features, as well as being of high nature conservation value.

Non-woodland trees

Away from woodlands, mature trees, mainly of Oak, are generally associated with old boundary features (e.g. hedgerows). Evidence from historical maps suggests that some apparently open-grown trees also lie on old boundary lines that no longer exist in the landscape.

A variety of mainly planted trees occur elsewhere, such as around the main car park/barbecue site, within the former Long Grove Hospital site, within the two old orchards, and as a roadside avenue. Species include ornamental Cherries (*Prunus* spp.), Cherry Laurel (*Prunus laurocerasus*), Sweet Chestnut (*Castanea sativa*), Turkey Oak (*Quercus cerris*), London Plane (*Platanus* x *hispanica*), Red Horse-chestnut (*Aesculus carnea*), Tulip Tree (*Liriodendron tulipifera*), Hornbeam, Larch (*Larix* sp.) and Apple (*Malus* sp.).

Weed Communities

A number of areas of 'weed'-dominated vegetation occur within the Country Park, often as a mosaic within other vegetation types. Most common are stands of Common Nettle (*Urtica dioica*), often with species such as Cleavers (*Galium aparine*), Thistles (*Cirsium* spp.), Hogweed (*Heracleum sphondylium*), False Oat-grass and Bramble. Of more local occurrence are stands of Greater Willowherb (*Epilobium hirsutum*) – primarily occurring along watercourses. Other types of weed-dominated vegetation include species such as Teasel (*Dipsacus fullonum*), Mugwort (*Artemisia vulgaris*), Hoary Ragwort (*Senecio erucifolius*), Hedge Parsley (*Torilis japonica*), Scentless Mayweed (*Tripleurospermum inodorum*), Black Horehound (*Ballota nigra*), Burdock

(*Arctium* sp.), Red Bartsia (*Odontites vernus*), Melilots (*Melilotus* spp.) and Black Medick (*Medicago lupulina*).

Water Bodies and Swamp Vegetation

A number of ponds and small watercourses are present within the Country Park (Map 3). These are described below.

Meadow Pond (within compartment 48)
This is the largest water body, created in 1986 by damming a stream originating in the vicinity of Lambert's Orchard. It supports extensive emergent stands of Bulrush (*Typha latifolia*) with smaller stands of Common Spike-rush (*Eleocharis palustris*) and emergent Reed Canary-grass (*Phalaris arundinacea*). Southern and eastern pond margins support mixed inundation communities of Hard Rush (*Juncus inflexus*) and Common Fleabane (*Pulicaria dysenterica*).

Pond Wood Pond (within compartment 8)
The pond within Pond Wood is thought to be many centuries old. It has been reinstated in recent years after it was drained following a bombing raid in World War 2, which breached the dam. This pond supports extensive stands of emergent Bulrush.

Field Pond (within compartment 9)
Situated to the south of Pond Wood, this small pond, as its name suggests, is thought to represent an old field pond, probably used in the past as a cattle-drink (providing further evidence of past pasture-management) and is marked on the 1871 Ordnance Survey map. It includes areas of swamp vegetation dominated by Floating Sweet-grass (*Glyceria fluitans*).

Lambert's Pond (within compartment 47)
This too appears on the 1871 Ordnance Survey Map. At present, it is very overgrown by aquatic and swamp vegetation and is over-shaded by mature trees of Oak and Willow. The vegetation of the pond includes stands of Bulrush, Yellow Flag (*Iris pseudacorus*) and marginal fringes of Floating Sweet-grass. The open water supports colonies of Water-starwort (*Callitriche* sp.) along with species such as Brooklime (*Veronica beccabunga*).

Recent Balancing Ponds
There are two recently-constructed balancing ponds, namely Orchard Balancing Pond (compartment 44) and Poplar Pond (compartment 51). The former has been provided in association with new housing construction on the site of the former Long Grove Hospital. It supports extensive stands of Bulrush, with dense marginal growth of Rushes (*Juncus* spp.). At times of high flow, the pond is by-passed by an overflow channel. Poplar Pond has been provided to drain storm water from the newly-constructed dual-carriageway section of the B284 Chessington Road. It again supports stands of emergent Bulrush, plus fringes of Greater Willowherb (*Epilobium hirsutum*).

Other Water Bodies

Small ponds in both Butcher's Grove and Great Wood both occasionally dry out during the summer months. There is also evidence that there was once a pond situated east of where the Horton Light Railway crossed the southern boundary of the Country Park.

Other areas of wetland vegetation

A tiny patch of swamp vegetation dominated by Common Spike-rush occurs in a wet area close to the southern boundary of the Country Park, within the field known as Emmett's Mead (compartment 18).

Alien and invasive non-native species

In addition to many of the planted trees (see above), there are a number of non-woody non-native species at Horton Country Park (Appendix III). Whilst some of these can be regarded as 'casual', others can be regarded as undesirable invasives. Of particular concern is New Zealand Pigmyweed (*Crassula helmsii*), which has recently infested the margins of Meadow Pond. Others include Michaelmas Daisy (*Aster novi-belgii*) – also present around Meadow Pond and Goat's Rue (*Galega officinalis*), which has formed a large colony on the 'exchange land' area.

Bryophytes

There has been no systematic recording of bryophytes within the Country Park, although a number of species have been recorded during site visits made whilst preparing this management plan. A well-developed community of common mosses has developed on the concrete bases of the old piggery, situated within the area known as Barn Platt (compartment 40).

Fungi

The EEBC files hold a list of fungi dated 06/11/1984, although the origin of this information is not known, nor is the status of any species on the list. In addition, there are records from 1990 (primarily from Pond Wood) for a limited number of common woodland fungi.

Lichens

There has been no known recording of lichens from within the Country Park.

1.5.2.2 Fauna

Invertebrates

John Biglin, former countryside development officer for Epsom & Ewell Borough Council, undertook some recording of moths (Lepidoptera) during the 1990s. More recently there has been casual invertebrate recording, namely of butterflies (Lepidoptera) and Dragonflies (Odonata) since the formation of the Friends of Horton

Country Park in 2000. The newest record, by Ian Menzies, is as recent as March 2005 (see below).

Some 15 species of macro moth and one species of micro moth have been recorded (Appendix III). The majority of records relate to the main track adjacent to Pond Wood. This probably reflects where recording took place (presumably with a light trap), rather than suggesting that this area has any preferential abundance of moth species.

A total of 15 butterfly species have also been recorded, mainly common and abundant ones, generally from unspecified localities within the Park. However, three are of particular note, namely Purple Emperor (*Apatura iris*) and Silver-washed Fritillary (*Argynnis paphia*), both noted within Butcher's Grove, and White Admiral (*Lagoda camilla*), recorded within Pond Wood.

There are six recorded species of dragonfly and one damselfly: Broad-bodied Chaser (*Libellula depressa*), Emperor Dragonfly (*Anax imperator*), Southern Hawker (*Aeshna cyanea*), Migrant Hawker (*Aeshna mixta*), Brown Hawker (*Aeshna grandis*) Common Darter (*Sympetrum striolatum*) and Common Blue Damselfly (*Enallagma cyathigerum*). Again, most records do not specify where the species have been observed, although Broad-bodied Chaser has been recorded from Meadow Pond and it is likely that many of the other sightings were from here. However, dragonflies were seen at some of the other water bodies in the Park during the 2004 habitat survey and an exuva was noted on the fringe of the Orchard Balancing Pond.

At present there are only two beetle records. The Common Jewel Beetle (*Pryochroa serraticornis*) was observed during a botanical survey of Pond Wood by Surrey Wildlife Trust in 1998. Recently, the nationally rare (RDB1) Ladybird *Clitosthetus arcuatus* was found within the 'old part' of Pond Wood and subsequently also in Butcher's Grove by Ian Menzies (March 2005).

Vertebrates

Birds

Birds are the best-recorded group of fauna within the Country Park, mainly as a result of the efforts of certain members of the Friends of Horton Country Park (primarily T. Quinn, A. Gibbs and R. Smith).

Habitat diversity is largely responsible for the relatively rich community of resident and/or summer breeding visitors, although there are records for winter and passage migrants. A significant number of the recorded species fall within the RSPB 'Red' and 'Amber' List categories, in addition to a number of species that are the focus of species action plans within the United Kingdom Biodiversity Action Plan (UKBAP) (see and Appendix III).

Resident breeding birds on the RSPB Red List include Song Thrush (*Turdus philomelos*), Yellowhammer (*Emberiza citrinella*), Reed Bunting (*Emberiza schoeniculus*), Bullfinch (*Carduelis chloris*), House Sparrow (*Passer domesticus*) and Starling (*Sturnus vulgaris*), which are all present in small numbers (there are quite good

winter flocks of Starling). Also on the Red list and occasionally seen within the Country Park, (although it breeds on the adjacent Park Farm) is Skylark (*Alauda arvensis*), whilst Lesser Spotted Woodpecker (*Dendrocopus minor*) may possibly breed.

Breeding resident birds on the RSPB Amber list include Green Woodpecker (*Picus viridis*), again in small numbers, with Dunnock (*Prunella modularis*) common across the Park and Willow Warbler (*Phylloscopus trochilus*) in several localities. Further birds on the RSPB Amber list that occasionally breed in the locality are Barn Owl (*Tyto alba*), Mistle Thrush (*Turdus miscivorus*) and Kestrel (*Falco tinnunculus*).

A heronry, supporting up to 10 nests, is present on the northern fringe of Great Wood.

Summer visitors on the Red List include Turtle Dove (*Streptopelia turtur*), Linne (*Acanthis cannabina*) and Spotted Flycatcher (*Musciapa striata*), whilst Amber-listed species include Swallow (*Hirundo domestica*), Willow Warbler (*Phylloscopus trochilus*) and Nightingale (*Luscinia megarhynchos*). The last-named has only been seen as a casual visitor in recent years, although it formerly bred in Pond Wood. Most recently, the species has been heard singing during April 2005 within Nightingale Corner (compartment 36) (S. Cocker, pers. comm.). Also on the Red List is Grasshopper Warbler (*Locustella naevia*), a bird which formerly held breeding territories in Hendon Grove during the 1990s, but has not been recorded from the Park since this time.

Important winter visitors include the Fieldfare (*Turdus pilaris*) and Redwing (*Turdus iliacus*), which occur in flocks of up to 200 birds, both of which are on the RSPB Amber List. Redpoll (*Acanthis flammea*) has been recorded in smaller numbers. Winter visitors on the RSPB Amber List include Lapwing (*Vanellus vanellus*) (seen in small numbers and known to breed on the adjacent Park Farm), Snipe (*Gallinago gallinago*) (seen in small numbers, around Meadow Pond in particular), Meadow Pipit (*Anthus pratensis*) (flocks of up to 20 birds) and Goldcrest (*Regulus regulus*) (in small numbers), with rare sightings of Woodcock (*Scolopax rusticola*) and Water Rail (*Rallus aquaticus*). Long-eared Owl (*Asio otus*) and the Amber-listed Short-eared Owl (*Asio flammeus*) are also seen on rare occasions.

Reptiles and Amphibians

No formal records of herptiles are available, although there is a reference to “frogs, toads and newts” on Meadow Pond and some amphibians are undoubtedly present. Palmate Newts (*Triturus helveticus*) are present in abundance at Field pond and Great Crested Newts (*Triturus cristatus)* have been found in this location since June 2005 (S. Cocker, pers. comm.). There have also been confirmed sightings of Grass Snake (Natrix natrix) and Common Adder (*Vipera berus).*

Mammals

There has been very little in the way of mammal recording within the Country Park, although there has been limited survey of bats and Water Voles.

Water Voles (*Arvicola terrestris*) are a "Priority Species" of the UK BAP and have been noted within the Country Park since 1998 (Newman, 2000). They occur along the stream that runs from the Park boundary with West Park Hospital and Pond Wood Pond. Rather worryingly, this stream smelled of raw sewage when being examined during the habitat survey in 2004. Water Vole "places of shelter" are afforded protection under Schedule 5 of the 1981 Wildlife and Countryside Act.

A limited number of bat detector surveys have taken place in the last 10-or so years (mainly concentrating on tracks in the southern part of the Park). From these, a number of species have been identified, including the two species of Pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*); both Priority Biodiversity Action Plan species. The others are Serotine (*Eptescius serotinus*), Noctule (*Nyctalus noctula*) and Brown Long-eared Bat (*Plecotus auritus*). A survey conducted in 2002 (Baker and Whitfield, 2002) suggested the use of one of the Long Grove Copse Villa buildings as night time feeding roosts by Brown Long-eared Bat. There is also a possibility that some of the roof space of this building could be used as a daytime roost by this species. All species of bat are protected by Schedule 5 of the 1981 Wildlife and Countryside Act.

A further species with protection under the 1981 Wildlife and Countryside Act (i.e. Schedule 5) that could be present within the Country Park, is Dormouse (*Muscardinus avellanarius*) and a survey is currently under way.

Roe Deer (*Capreolus capreolus*) are frequent throughout the park, especially in wooded areas. Deer can have a significant influence upon tree regeneration. Grey squirrels (*Sciurus carolinensis*) are also frequently seen and again can have a significant impact on tree regeneration. From Pond Wood there are records (early 1990s) for Pygmy Shrew (*Sorex minutus*), Bank Vole (*Clethrionomys glareolus*) and Wood Mouse (*Apodemus sylvaticus*), whilst there have also been casual sightings elsewhere of Fox (*Vulpes vulpes*) and Weasel (*Mustela nivalis*).

It is also known that there are three badger setts on site.

1.5.3 Cultural

1.5.3.1 Archaeology

There are no scheduled archaeological features within the Country Park itself[5]. Ancient landscape features include the old wood banks that surround many of the ancient woodland areas. Pond Wood also contains an enclosure known as Peaked Riding (evident on the 1843 Tythe Map and 1870 Ordnance Survey map), which may have been a mediaeval woodland clearing.

Butcher's Grove contains a series of low, parallel ridges that underlie the railway embankment. Originally these were thought to represent evidence of former ridge and

[5] The Scheduled Ancient Monument of "Castle Hill" lies beyond the site boundary, adjacent to Butcher's Grove. It is thought to be the site of a mediaeval moated farmstead known as Brettgrave. Whilst not scheduled, there are signs of Roman activity (in the form of kilns) within the grounds of West Park Hospital and (associated with a former tile factory) on Epsom Common.

furrow cultivation, although the Surrey Archaeological Unit now believe they represent relics of a former forestry technique used to encourage planting or over-planting. In addition, an old boundary bank runs across Butcher's Grove in a north-west to south-east direction.

More recent archaeological interest has arisen from developments that took place within the old Horton Manor Estate during the 19th and 20th centuries, in particular the remains of the embankments and cuttings of the old Horton Light railway.

West Park farm house is thought to be the oldest free standing building in Epsom and Ewell Borough (some parts of the house may date back to the 15th century), whilst there is a suggestion that there may have been a mill situated within Pond Wood prior to the construction of the Horton Light Railway (e.g. possible evidence of a system of leats).

1.5.3.2 Land Use

The present day Horton Country Park was formerly a part of the mediaeval manor of Horton. Reference to the 1843 Tythe Map shows the distribution of fields and other features within the Horton Manor Estate at a time prior to the development of the various psychiatric hospitals during the late 1800s. Whilst many changes are evident if this is compared with the present day situation (see Map 6), it can be seen that some elements of the original field patterns still remain and most of the newly revised management compartments have been named on the basis of names given on the 1843 Tythe Map (Map 5).

Great Wood and part of Pond Wood have both been continuously wooded since at least 1600AD, as highlighted in the Surrey Inventory of Ancient Woodland (Drucker *et al*., 1988). The same is almost certainly the case for Four Acre Wood, although it does not appear in the Surrey Inventory, probably on account of its small size, meaning that it may not have appeared on maps until more recent times. All these areas of woodland would most likely have been previously managed as coppice-with-standards; the remnant structure of which can readily be seen in Four Acre Wood in particular. There are almost no signs of former coppice management within Great Wood due to past disturbance (possibly associated with pigs) and introductory planting.

The name Butcher's Grove is comparatively recent, the area being known as Brettgrave until relatively recently. Records of the Chertsey Abbey refer to the planting of a wood at Brettgrave in 1307, apparently as an addition to an existing wood (an old, weathered bank runs across Butcher's Grove, which may be a relic of this). However, Butcher's Grove does not appear on any of the historical maps that were consulted in compiling the Surrey Inventory of Ancient Woodland and this seems to suggest that, for a time at least, the area was being managed by some other form of land use. Indeed, some areas with a poor ground flora may provide evidence of recent secondary woodland (although this could also in part be due to the effect of localised winter flooding).

The 1843 Tythe Map shows Butcher's Grove as 'Plantation', a fact consistent with the presence of a very few senescent Scots Pine trees within the southern and eastern parts of the wood. Photographs of the Horton Light Railway taken after World War 2 show many more mature and over-mature Scots Pines in the same part of the wood. These

photographs also provide evidence that the wood was planted over again in the early years of the 20th Century, probably accompanied by clear-felling of the areas concerned. This is consistent with there being very few old Oaks, the majority of these being situated along the old internal wood bank referred to previously. Whether the conifers were planted as the only crop with the current hardwoods surviving by default or whether they were planted as a nurse crop for hardwoods or replanted coppice is not known (Owen & Wilmott, 1995).

In the 1950s the size of Butcher's Grove was reduced from 41 acres to the current 25 acres to provide agricultural land. The reason for the name-change to Butcher's Grove is not known. However, the presence of an area of old Hornbeams has led to a suggestion that it may be to do with this wood being used to make butcher's chopping boards (S. Cocker, pers. comm.).

The area of Butcher's Grove closest to Castle Hill contains numerous large, even-aged, evenly spaced Oaks, as does the area immediately adjacent on the other side of the railway. These have been planted, possibly in early Victorian times, although they might be even older (Owen & Wilmott, 1995). In recent years, a coppice cycle has been reintroduced into parts of Butcher's Grove by the Lower Mole Countryside Management Project, with the remainder being mainly managed as high forest. Prior to this, the last probable management within Butcher's Grove was the taking of firewood/fuel by the hospitals, around 1950 (Owen and Wilmott, 1995).

Following purchase of the Horton Estate in the 1890s and the construction of the various psychiatric hospitals, there followed a major change in the way the land was managed. What is today the Country Park then became West Park and Long Grove Farms, serving the hospitals. Very early in the 20th Century it became apparent that a light railway would be needed to service the cluster of hospitals (in part following the route of the original contractor's line used to build Long Grove Hospital) and linking them to West Ewell station. This eventually opened in 1913, with a branch to the new central power and pumping station at Sherwood (where the David Lloyd Leisure Centre now stands). The system was extended in 1915 to help construct and later supply the last hospital to be built (West Park), which was not completed until 1924 due to the First World War.

The Horton Light Railway eventually closed in 1950 and little remains of the railway today. However, the route of the line is still clearly visible as a series of shallow embankments and cuttings. Indeed, the route of the old railway forms an important element of the footpath/track network within the Country Park.

Whilst managed as farmland, some fields were used for growing crops (e.g. photographic evidence), whilst others were permanent pasture and used by grazing livestock (S. Cocker, pers. comm.). There was also a small orchard area (the present day Lambert's Orchard). This feature appears to date only from the psychiatric hospital farm era, as it is not shown as such on the 1843 Tythe Map, but is present on the 1933 OS map.

In recent decades, all but St. Ebba's and West Park Hospital have now closed down. For the most part, their buildings have been demolished and the sites redeveloped for housing. The Country Park includes an area of 'exchange land' comprising part of the

grounds of the former Long Grove Hospital, which has only recently been developed as housing. The majority of former hospital buildings on this land were demolished during the early 1990s. However, two small 'villas' at present remain standing (although one was severely damaged by an arson attack in 1998). There have been proposals at one time to develop these into greenkeeper's accommodation for the golf course. However, in 2004 the decision was taken by EEBC to demolish the buildings and this is scheduled for 2005.

Today, Horton Country Park is used primarily for recreational and educational purposes, although the status of the Country Park's open space as a Local Nature Reserve (LNR) means that there is a strong emphasis on nature conservation. Small areas are permanently let for the grazing of horses and other livestock. Of these, certain fields are on a long-term lease to individual tenants (Stone's Field – cpt. 10, Black Field – cpt. 13, Upper Noriss's – cpt. 14 and Blacklands – cpt. 28). In addition Cabbage Field (cpt. 30) is leased by the Horton Park Childrens' Farm; Hither West Field (cpt. 32) is leased by the Lower Mole Countryside Management Project and used occasionally for holding livestock used for the summer grazing of Epsom Common.

1.5.3.3 Public Access and Recreation

Background

The legal mechanism for the creation of Country Parks is embodied in the 1968 Countryside Act. Around this time there was a perceived concern that the wider countryside would be threatened by an influx of visitors from urban areas. Country Parks would act as 'honey pot' sites to prevent this from happening. By the late 1970s this idea had been discredited and there was a move away from creating Country Parks in rural locations, towards their establishment in 'urban fringe' settings. Although the impetus for the creation of Country Parks declined during the 1980s, the principle of their representing an opportunity of introducing nature to the wider public became more fully appreciated. It is against this background that the public amenity and educational value of Horton Country Park should be viewed.

Access

There is open public access across much of Horton Country Park, facilitated through a variety of different routes (Map 4). The track bed of the former Horton Light Railway forms a major component of a well-developed network of tracks and paths throughout the entire site, totalling some 5km of hard-surfaced routes.

Definitive rights of way crossing the site are all public footpaths. The first (FP 20) runs northwards from Horton Lane, past the equestrian centre, eventually joining up with a section of the Horton Light Railway track bed, before leaving the site in the direction of Chessington. A second public footpath (FP 26) runs along the Park's southern boundary with West Park Hospital. A further public footpath (FP 34) also runs along the boundary of the Country Park, in a north-easterly direction away from Butcher's Grove, to meet the B284 at West Ewell. Finally, FP 73 leads from the entrance to Clarendon Park and runs between the Country Park boundary and Clarendon Park and joins in with FP 20.

Also passing through the Country Park is the Thames-Down Link long-distance footpath, which forms a link between the Thames Path and the North Downs Way.

The major point of access is the main car park, where toilet facilities are provided. Also sited here are the headquarters of the Epsom and Ewell Borough Council Ranger Service and Countryside and Community Development Team, together with the offices of the Lower Mole Countryside Management Project and Trust. The Country Park is also accessible from a number of other points. These include new housing on the former Long Grove Hospital site, to the east, and in the extreme north of the Park, which adjoins residential housing on the fringe of West Ewell.

There is little scope for public access along much of the western boundary, since this is adjoined by Park Farm, with only two public footpaths crossing this area.

A number of grazed fields are fenced for the purposes of containing the livestock and there is thus effectively no public access into these areas. A further area where public access is currently discouraged is the 'exchange land' incorporating land formerly part of the Long Grove Hospital site (see below).

Recreational use

The Country Park is popular for a variety of uses that include walking, exercising of dogs, horse riding and cycling. There is also a popular orienteering course. The area around the car park contains a number of barbecue sites that can be hired though a pre-booking arrangement (charcoal produced locally on Epsom Common by the Lower Mole Countryside Management Project and the Eco Vols is on sale at the Ranger's Office). This part of the Park is also the focus of formal events such as carriage driving. Other formal events in the Park include the annual 'Easter Egg Hunt', the 'Halloween Event' and the 'Christmas Event'. Little Acres (Compartment 20) in the south of the Park is used as a camping site by a local Guide group.

The close proximity to housing and the extent of the open space within Horton Country Park make it a tremendous potential resource available to the local community. In addition, the equestrian centre, golf course and Horton Park Childrens' Farm further enhance the value as a recreational facility.

Educational use, site interpretation and volunteer groups

The provision of educational and interpretative facilities is an important objective for the Country Park and a significant amount of promotional and educational literature has been provided since the Country Park was created. The most recent general information leaflet adopts a 'house style' employed for similar ones that describe Epsom Common and the Hogsmill and Bones Gate Public Open Space. These provide an overview of features of interest, including the ecological and historical aspects of each of the three sites. Another recently-produced leaflet describes the history of the Horton Light Railway. In addition, there is a large amount of information about the Country Park available on the Epsom & Ewell Borough Council website; including an informative 'virtual tour' that provides some

information on the ecology and natural history of the park, together with a series of photographs.

During the 1980s a series of nature trails and an accompanying explanatory leaflet were established, linking the main car park with Pond Wood, Four Acre Wood and Butcher's Grove. An individual nature trail and leaflet have also been described for Pond Wood on its own. A pond-dipping platform has been provided at the nearby Field Pond and is the focus of occasional events organised by Epsom and Ewell Borough Council.

Other formally organised events are promoted by both the Council and the Friends of Horton Country Park and include various guided walks throughout the year, some looking at topics such as the Park's history, its woodland, birds and the Horton Light Railway. Since 2002, the Council have also organised an annual "Apple Day", centred upon the old orchard in the north-east of the Country Park, to promote the restoration of this feature. There are also regular nature conservation management tasks organised by the Lower Mole Countryside Management Project and the Friends of Horton Country Park.

In recent years, the use of Horton Country Park as an educational facility has become an established activity enjoyed by a number of local schools. The recently-created "Resource Room" (Green Room) attached to the Rangers' Office complex, should help with the further promotion of these activities. Regular countryside management work is undertaken by students from the North East Surrey College of Technology (NESCOT) and in 2004 the Information Centre was reopened at the West Park Farm complex.

The Friends of Horton Country Park started in 1999. It holds regular meetings, produces a regular newsletter and hosts its own website (www.horton.mediashock.co.uk). In addition, it helps in the management of the site through its own volunteer group and also participates in bird recording. Further volunteer help comes from NESCOT and the Lower Mole Countryside Management Project.

Site boundaries/security

Much of the Country Park is still marked by the original metal railing fence provided when the psychiatric hospitals were constructed. However this is generally in a very poor state of repair. Gates providing vehicular access onto the site are locked at all times, and gates to the main car park are locked at dusk. Apart from the main car park, no access by public vehicles is allowed.

Recently, the Country Park boundary has been extended to include an area of 'exchange land' representing part of the former grounds of the Long Grove Hospital. This area still has the tall hospital boundary mesh fence separating it from the main body of the Country Park. The public are at present discouraged from gaining access onto this area, primarily on grounds of public safety, as two structurally unsafe former hospital 'villas' are present here. These two structures are scheduled for demolition during 2005, after which the boundary fence will be removed and access to this area will then be encouraged.

Problems of inappropriate use

There are a number of activities within the Country Park that are considered as inappropriate. These include:

- Children fishing at several ponds
- Poaching (and possibly bird snaring)
- Access (Motor bikes/cars; horses straying from designated routes; cycling too fast)
- Traveller encroachment and site security
- Un-booked events

A common factor involved in many of these issues is the general lack of on–site presence. Many forms of inappropriate use could be more effectively addressed by a much more regular patrolling presence.

STAGE TWO – EVALUATION AND OBJECTIVES

2.1 Statutory Designations

Horton Country Park received statutory designation as such in 1974. Designation of the Local Nature Reserve was confirmed in May 2004.

2.1.1 LNR Byelaws and Other Statutory Information

These are included in Appendix IV.

2.2 Non-statutory Designations

Several areas have been designated as Sites of Nature Conservation Importance, following surveys by Surrey Wildlife Trust in 1998 (Map 1). In addition, the whole area of Horton Country Park LNR lies upon land designated in the local plan as Metropolitan Green Belt.

2.2.1 SNCI Descriptions

Surrey Wildlife Trust (SWT) undertook surveys of Pond Wood, Four Acre Wood, Great Wood and Butcher's Grove as part of the Surrey Sites of Nature Conservation Importance (SNCI) project. The Surrey Nature Conservation Liaison Group (SNCLG) subsequently selected all these areas, bar Great Wood, as SNCI. Additional areas of land, not surveyed by SWT, were later added to the SNCI by the SNCLG following the receipt of information provided by Epsom and Ewell Borough[6] (Map 1).

There is no information available on these additional areas and the SNCI descriptions given in Appendix I relate only to those parts surveyed by SWT.

2.3 Criteria for Evaluation

This section provides an evaluation of the features described in Section 1 based on the Nature Conservation Review (NCR) criteria developed by Ratcliffe (1977). This evaluation forms the basis for objective setting given in Section 2.6.

Size

Horton Country Park Local Nature Reserve covers an area of 105.25ha. Land managed by the Equus Equestrian Centre, Horton Park Childrens' Farm (with the exception of one field) and the Horton Park Country Club (golf course) have been

[6] Note the area of SNCI shown on the EEBC Local Plan Proposals Map is different from that formally selected by the SNCLG.

excluded from the LNR designation, although the Horton Park Country Club are actively interested in the golf course becoming part of the LNR.

Diversity

Horton Country Park supports a diverse mosaic of habitats that include ancient and recently-planted woodlands, scrub and hedgerows, semi-natural and improved grasslands and open water habitats. There are also smaller areas of wetland and old orchards. Around 350 vascular plant species have been recorded, along with approximately 40 invertebrates (mainly butterflies and moths), over 100 birds and 13 mammals. However, there has been no systematic recording of many groups and the current lists (Appendix III) should be regarded as incomplete.

Naturalness

Several areas of woodland are ancient in origin, i.e. they have been continuously wooded since at least 1600AD. Pond Wood (excluding Peaked Riding) and Great Wood are both included in the Surrey Inventory of Ancient Woodland as ancient semi-natural woodland. Four Acre Wood is also thought to be ancient semi-natural whereas the map evidence suggests that Butcher's Grove, at some time during the last 400 years has had at least one period of non-woodland land-use. Most other stands of woodland are very recent in origin, having been planted over previous grassland habitat within the last thirty years.

Whilst it is possible that stands of semi-natural grassland may have been ploughed during the period that the site formed part of the psychiatric hospital farm holdings, small areas are believed to represent unimproved neutral grassland. Some areas of permanent pasture may therefore date back to the time when the site was managed as part of the Horton Manor Estate. Other grassland swards appear to be of a relatively recent re-seeded origin. Some old fields, now supporting semi-natural grassland were almost certainly former arable.

In addition to woodland and grassland, the site supports stands of scrub that have originated from previously managed hedgerows. In a number of places hedges lie along boundaries that were clearly marked on the 1843 Tythe map. Some hedges therefore date back at least 150 years, perhaps much longer (e.g. the western site boundary which marks the Parish boundary between the Borough of Epsom and Ewell and the Royal Borough of Kingston and is therefore probably of Anglo-Saxon origin, making it over 1,000 years old).

All Horton's ponds are artificial in origin. Orchard Balancing Pond and Chessington Road Balancing Pond have been created in very recent times. However, Pond Wood Pond is believed to be many centuries old. Whilst some exotic invasive species have recently colonised some of the Country Park's ponds, most vegetation can be regarded as semi-natural.

Rarity

Ancient semi-natural woodland is a rare habitat in this part of Surrey. Less than 4.5% of the land area of the county is believed to support ancient semi-natural woodland; most of which is found to the south of the North Downs (Drucker *et al.*, 1988).

The Country Park contains areas of semi-natural grassland that may be regarded as unimproved neutral grassland, a habitat that is becoming increasingly rare in Surrey and indeed nationally. It has been estimated that by 1984, during the preceding 50 years, semi-natural grassland had undergone a 97% decline in lowland England and Wales (UK Biodiversity Group, 1998).

There are two records of county rarity plant species (Lousley, 1976 and Leslie, 1987): Good King Henry (*Chenopodium bonus-henricus*) (last recorded in 1990) and Small-leaved Lime (*Tilia cordata*). Whilst most Small-leaved Limes within the Country Park have been planted, the northern wood bank of Four Acre Wood supports two old individuals of this species that are believed to be site-native.

No less than 18 birds recorded from within the Country Park appear on the RSPB "Red List", with a further 35 species on the "Amber List" (see Appendix III).

Water Vole (*Arvicola terrestris*) is a rapidly-declining species in Britain and is rare in Surrey. The results of the second national Water Vole survey (Strachan *et al.*, 2000) suggest that the animal has disappeared from more than 89% of the sites it occupied 60 years ago, whilst the population density at occupied sites has also declined. Many of the remaining Water Vole colonies in Surrey occur within the upper reaches of river catchments, such as the Hogsmill. The species is largely absent from the larger river systems themselves (primarily due to the presence of Mink).

The most notable invertebrate recorded is the nationally rare (RDB1 - endangered) Ladybird *Clitosthetus arcuatus*, which was first recorded (in the 'old part' of Pond Wood) by Ian Menzies as recently as March 2005. The nationally scarce (i.e. recorded from between 16-100 ten km squares of the Ordnance Survey grid) butterfly Purple Emperor (*Apatura iris*) is also present.

Fragility

Woodlands are a robust habitat but particular features within them may be dependent upon continued traditional management practices such as coppicing and canopy thinning. Mature trees in general are susceptible to a variety of inappropriate land-management practices such as cultivation too close to the root system, trampling, soil compaction and damage to bark by livestock and compaction by vehicles.

Grasslands are a product of some form of management such as grazing and/or hay-cropping and thus generally require appropriate management to maintain them. Therefore they are vulnerable to modification or cessation of such traditional management activities. However, some areas of rank, unmanaged grassland are likely to be relatively resilient and unlikely to develop into scrub for some considerable time.

Scrub is a relatively robust habitat, although in the longer term, a lack of management will allow a succession to woodland to occur. Hedgerows, again, without continued management, may become overgrown and scrub-like or develop into a discontinuous line of mature trees.

Ponds are fragile habitats which are vulnerable to overshading, excessive vegetation growth, changes in hydrology, pollution and invasion by non-native species such as New Zealand Pigmyweed (*Crassula helmsii*).

Many of the groups of fauna present within the Country Park are vulnerable to unfavourable habitat and management changes. Water Voles are a particular example, in that they require a mosaic of habitats that includes tall, diverse bank-side herbaceous vegetation, free from grazing, without excessive scrub cover, and where water levels do not fluctuate too greatly throughout the year. Such a fragile balance of habitat conditions could all too easily be disturbed by a lack of appropriate management. Water Voles are also extremely vulnerable to Mink predation.

Typicalness

The habitats present with Horton Country Park are typical of the site's underlying geology and land-use history. Most vegetation is circumneutral in character and indicative of the underlying heavy clay soils. Some stands of ancient semi-natural woodland and semi-natural grassland are present, along with long-established boundary features which date back to the time when the LNR formed part of a farming landscape. However, much of the site has been modified by recent treatment including relatively extensive replanting and amenity grassland management. These modifications are largely in keeping with the recreational use to which the Country Park has been tailored in recent decades.

Recorded history

Historical records relating to the Abbey of Chertsey, prior to its abolition (which have never been translated from their original Latin) and also in relation to Horton Manor are held at the Surrey records office.

There are excellent historical records relating to the era of the psychiatric hospitals complex, including the Horton Light Railway, into more recent times.

The level of historical information on the ecology of the Country Park is low. The earliest biological records relate to the 1970s (botanical), with a renewed interest in recent years following the formation of the Friends of Horton Country Park in 2000 (mainly birds).

Position in ecological unit

Horton Country Park forms one element of a significant 'green corridor' of open countryside that runs from Ashtead Common and Prince's Coverts, via the Bones Gate Stream Corridor and then the Hogsmill River, eventually passing through the Royal Borough of Kingston and linking with the River Thames.

Potential for enhancement

There are a range of opportunities for enhancing both the nature conservation, educational and public amenity value of Horton Country Park. The major areas are highlighted below:

- Ancient semi-natural woodlands would benefit from the reintroduction of management as coppice-with-standards (this has possible commercial potential). More recent woodlands could be retained as woodland, but non-native species gradually thinned out and re-planted with site-native trees. Additional areas could also be developed as coppice-with-standards.
- Many hedgerows and areas of scrub are currently in an overgrown condition through lack of recent management. At present, these are valuable for wildlife and form distinctive landscape features. However, they now require suitable regenerative management to maintain their nature conservation and landscape values.
- There is a potential to enhance many of the grassland communities within the Country Park. Historical evidence suggests that some areas were formerly grazing pasture and a long-term aim would be to reintroduce cattle grazing to these areas. In contrast, areas of currently unmanaged grassland would benefit from mowing on a long rotation to improve their structural diversity for invertebrate populations. Finally, other grasslands are currently heavily-grazed year-round by horses and would benefit from a reduction in stocking density, possibly by extending grazing onto some areas not currently managed as pasture.
- There is an opportunity for enhancing the management of the Country Park for a number of its mammal species, in particular Water Vole and also possibly Bats, plus Dormice if found to be present.
- Habitat for birds could be enhanced through improved woodland, scrub and hedgerow management, plus the provision of nesting boxes.
- Invasive species are present in various parts of the Country Park, in particular Goat's Rue and the recently-discovered colonies of New Zealand Pigmyweed and Michaelmas Daisy at Meadow Pond. It would be advantageous to control the spread of such species within the Country Park.
- The Country Park includes two old orchards, which are very publicly accessible and support scarce varieties of pear, together with apple varieties typical of south-eastern England. These orchards would benefit from a community-based approach to their restoration and management.
- Create new water bodies and restore/manage existing ponds (e.g. *Typha* control).
- Public access – There are plans to turn what are currently permissive paths into public rights of way. The current network of paths would benefit from more regular maintenance. In addition, there is a requirement for improved access to the Equestrian Centre (year 2 of plan).
- Interpretation – The remaining part of the Information Centre is to be reopened, whilst new interpretation panels are to be provided in other areas. Vandalised signage is in need of replacement. There is a need to develop guided trails that make use of new technology – e.g. hand held guides.

- There is scope for additional guided walks to be run by the Friends of Horton Country Park. In future it may also be possible for the "Friends" to participate in manning the Information Centre.

Intrinsic appeal

Given its urban fringe location, Horton Country Park represents an important and well-used facility with a high level of both nature conservation and recreational value. The present day landscape contains strong elements of the historical land-use pattern, whilst the fabric of the site owes a great deal to the present intricate mosaic of woodland, mature trees, scrub/hedgerow, grassland and other habitats. Further interest is provided by the more recent development of the area as part of the psychiatric hospitals complex and remnants of the former Horton Light Railway. Maintenance of livestock (i.e. horses) also adds to the site's intrinsic appeal.

Demonstration of excellence

The establishment of Horton Country Park in 1974 was mainly for the purposes of providing opportunities for public access to the countryside, in an urban fringe setting. The creation of the Local Nature Reserve now sets a priority for management aimed at nature conservation but still retaining a priority of providing good public access. This requirement is further supported by the Countryside and Rights of way Act, 2000, which places an obligation on Government Departments, in performing their functions, to give due regard to the conservation of biodiversity. There is now, therefore, a particular opportunity to bring together these varying requirements, to promote a greater understanding and appreciation of nature conservation within an urban fringe setting.

2.4 Natural Area Context

The site lies within the London Basin Natural Area. Natural Area profiles can be obtained from English Nature.

2.5 Identification/Confirmation of Important Features

Site Features	National Importance	Regional/ County Importance	Local Importance
1. Habitats			
Ancient and mature semi-natural broadleaved woodlands		*	
Recent plantation woodlands			*
Veteran trees		*	
Scrub and hedgerows		*	*
Old orchard			*
Unimproved neutral grasslands		*	
Improved grasslands			*
Open water/wetland			*
2. Species groups			
Plants		*	*
Bird assemblage (Red and Amber Listed)		*	
Mammal assemblage (Water Vole, Bats)	*		
Invertebrates (*Clitosthetus arcuatus* and Butterflies)	*	*	
3. Culture and amenity			
Public recreation			*
Educational opportunities		*	*
Historical and cultural features		*	*

Note: features marked with two levels of importance are considered to lie between categories. For example, in the case of plants, two Surrey-rare species afford county importance, although the assemblage as a whole is considered to be of only local importance

2.6 Ideal Long-term Management Objectives

The ideal long-term management objectives outlined below have been determined on the basis of the foregoing evaluation. This process has also taken account of reviews of historical data and aerial photographs, liaison with various individuals and organisations and new information gained during recent site surveys.

2.6.1 Objectives for Nature Conservation

- To maintain and enhance the ancient and older semi-natural woodland habitat by appropriate management, including restoration of 'coppice with standards', high forest management with selective thinning (but retaining older trees), 'minimum intervention' and the encouragement of a decaying timber resource.

- To maintain and enhance the recent plantation woodland habitat by appropriate management aimed at encouraging native tree species, including selective thinning of non-native trees, replanting with appropriate native stock and creating 'coppice with standards' in selected areas.

- To maintain and enhance the veteran and mature tree population, by, for example, ensuring that excessive trampling or compaction does not occur in the area beneath the canopy of such trees or the bark is not damaged by grazing animals. There should also be some planting of new 'parkland' specimens using appropriate stock.

- To maintain and enhance the unimproved grassland habitat of the former pasture swards by the reintroduction of low intensity grazing as the ideal option. Prior to the restoration of grazing, these swards should be managed either as hay meadows (i.e. annual summer cut, with less regularly cut margins maintained for invertebrates), or with a late summer cut every two or three years.

- To maintain and enhance the improved grassland habitat. This could be achieved through enhancing structure and species composition by less frequent cutting and possible creation of hay meadow areas (where this does not conflict with current amenity management objectives).

- To maintain and enhance the scrub and hedgerow habitat, through activities such as rotational scrub cutting, re-planting and hedge-laying.

- To maintain and enhance the orchards by initiating a programme of planting, pruning and management of the underlying grassland habitat.

- To maintain and enhance open water and associated wetland habitats by appropriate marginal vegetation control, maintaining water quantity and quality, in addition to restoring a number of ponds.

- To monitor and control the spread of non-native species such as New Zealand Pigmyweed, Goat's Rue and Michaelmas Daisy.

- To maintain and enhance the ornithological interest across all habitats present by monitoring the ornithological interest of the site and using this information to inform subsequent habitat management.

- To maintain and enhance Water Vole populations by ensuring appropriate habitat management and on-going monitoring of populations.

- To maintain and enhance bat populations, with an initial survey phase to establish bat usage of the site, followed by appropriate habitat management.

- To maintain and enhance populations of other mammals by ensuring appropriate habitat management and surveys (e.g. Dormouse).

- To maintain and enhance invertebrate interest across all habitats by first conducting appropriate baseline surveys and then using this to inform subsequent habitat management.

- To maintain and enhance the botanical interest across all habitats present by undertaking monitoring to inform subsequent habitat management.

2.6.2 Objectives for Recreation, Education, Historical and Cultural value

- To manage public access and recreational use of the Country Park and to provide facilities for members of the public to enjoy in a way that does not conflict with the nature conservation objectives.

- To promote educational and research use in a way that is consistent with maintaining the nature conservation value.

- To maintain and enhance the cultural, historical and landscape value of the Country Park, including features associated with the former psychiatric hospitals.

- To promote and encourage an understanding and respect for the wildlife, landscape and historical value of the Country Park.

- To promote a greater understanding of the archaeology of the Country Park – e.g. Pond Wood.

- To control inappropriate use of the site.

2.7 Rationale

2.7.1 Ancient and Mature Semi-natural Broadleaved Woodlands

Despite the likely gap in its history as a woodland, an earlier assessment of Butcher's Grove provided evidence that parts of the wood were formerly managed as Hazel coppice with Oak standards (Owen and Wilmott, 1995). Indeed, such a management regime is widely regarded as the most appropriate form of management for ancient woodland, as many of the associated flora and fauna are adapted to such conditions (Sutherland and Hill, 1995). It also provides a greater variety of habitat structure that encourages species diversity. On this basis, it was decided to reintroduce a coppice cycle into appropriate areas of Butcher's Grove, covering an area of 3.2ha approx.. Between 1984 and 1994, a total of 10 compartments or 'cants' of approximately 0.5 acres were coppiced and this cycle has now almost been repeated for a second time. There is also considerable evidence on the ground that parts of Pond Wood and Four-acre Wood were formerly managed as coppice with standards.

At present, these areas of woodland, even in parts of Butcher's Grove, generally have too many standard trees, causing shading and impeding coppice re-growth. Therefore, standard trees will require thinning to an appropriate spacing (between 5-12 trees per hectare) and the sale of this timber may help fund the coppice management. The straighter, more valuable timber trees can be cropped, whilst those with more irregular shape, being less valuable as timber, can be encouraged as mature standards, and are likely to have the greater value as a decaying timber resource in the longer term (valuable habitat to birds and invertebrates). It is likely there will be public concern about such felling, and so the positive side of encouraging the mature tree population should be emphasised. As well as retaining the older specimens of a variety of species, it is also important to leave some younger trees and seedlings to allow recruitment of future standards.

Whilst some areas of woodland have a sufficient density of Hazel coppice stools, in other areas they are too widely-spaced and additional planting will be required (spacing of stools should be at 3-metre intervals). Whilst not thought to be a problem at the present time, deer and especially rabbits, can have a damaging effect upon coppice re-growth and the situation should be closely monitored.

The ideal length of a Hazel coppice cycle is seven to eight years, although a much longer rotation can be used for sites where management is aimed solely at nature conservation and not at underwood production. Therefore within the Country Park, a rotation of 10-15 years is more appropriate (especially if the Hazel is to become sufficiently mature to produce food for Dormice). A minimum cant size of 0.5 ha is recommended, as if they are any smaller, there will be too much shading from the surrounding canopy (the exception is where Dormice are present, where large cants pose a barrier to their movement in the wood).

For Butcher's Grove it is proposed that the network of cants conforms to that established by the Lower Mole Countryside Management Project, for the time being at least. This means continuing with the current cant size of 0.5 acre (approx. 0.2 ha), representing around a third of the recommended minimum of 0.5 ha. Thus, with a total area of approximately 3ha under coppice management, a 0.2ha cant size

represents a 15 year cycle to completion. Monitoring of the ground flora and surveys to establish whether or not Dormice are present, will inform future decisions on whether a change to a 0.5ha cant size would be more appropriate.

The suitable area of Pond Wood is significantly smaller than Butcher's Grove (around 2.6ha), and that within Four-acre Wood smaller still (1.3ha). Therefore it is envisaged that Pond Wood will have a total of five cants, with two or possibly three in Four-acre Wood.

In addition to 'coppice with standards' some areas of these mature woodlands will be managed as high forest. Such a combination of coppice and high forest increases the overall structural diversity of woods and thus enhances the range of habitat conditions present. The most appropriate areas for such a treatment are those where there is little evidence of past coppice management. This includes parts of Butcher's Grove and smaller areas of Pond Wood and Four Acre Wood. These areas of woodland will primarily be managed to encourage their mature and veteran tree population in areas where there is little suitable material of Hazel or other species to form coppice. Thus the primary management activities will be thinning and group-felling (but retaining any veteran or near-veteran trees and any decaying timber) in order to promote natural regeneration and increase structural diversity.

Great Wood is a slightly different case to the other ancient woodlands, in being heavily planted-up and supporting a rather species-poor, disturbed ground flora (apparently due to cattle grazing in the 1960s), although the overall management is again to treat as high forest. Specific needs are to thin out the non-native species in favour of planted site-native stock, and also to encourage a small number of larger Oak trees that are present. It also supports a population of veteran Oaks along its boundaries, some of which support a Heronry. A large bund has recently been constructed on the adjoining golf course that may cause waterlogging to affect some of these trees. The boundary ditch needs to be effectively maintained to guard against this, and the health of the trees should be monitored. In addition, some Herons have also begun to nest in smaller trees in the centre of Great Wood. Proposed thinning should retain any trees that this concerns and care should be taken not to cause any disturbance to the Heronry (i.e. undertake this work in the autumn).

Finally, some areas of woodland will be managed as 'minimum intervention' stands, the main such area being "Peaked Riding" within Pond Wood. There are certain advantages in allowing some areas of woodland to develop according to natural processes, without management intervention. A good example within the UK is Langley Wood National Nature Reserve in Hampshire (Mountford *et al.*, 1998). Such woodlands represent an important research resource and act as a 'control' against which the impact of active woodland management can be assessed. To be most effective, stands of minimum intervention woodland need to be large and the areas proposed within the Country Park do not therefore satisfy this criterion. Nonetheless, it will be informative to maintain minimum intervention stands within the Country Park, as it will add further to the diversity of woodland conditions present. "Peaked Riding" is of particular interest in having developed through natural processes of succession upon an area that was formerly grassland, with little management intervention. Despite its small size, it is worthy of retention as an area of minimum

intervention woodland, contiguous with the ancient semi-natural woodland stands of Pond Wood, on the basis of its educational and research value.

2.7.2 Recent Plantation Woodlands

These are now around 30 years in age, tend to include a high proportion of non-native tree species and appear mainly to have been planted upon former grassland habitat (one exception is Sandy's Copse, which was planted during the Long Grove Hospital period and is thus much older).

Within Sherwood Grove, Hazel and Hornbeam have successfully been coppiced in recent years and this area is therefore appropriate for continued management as coppice-with-standards. Much of Hendon Grove now requires a first thinning and would also be suitable for coppice management, although some supplementary planting of Hornbeam and Hazel will be required. Godbold's Copse already supports some areas of Hornbeam and a high proportion of Ash regeneration and would thus also appear suitable for coppice management, as both of these species can be coppiced).

Much of the remaining plantation woodlands will be more appropriately managed as High Forest. Selective thinning, including areas of excessive Ash regeneration, will allow a gradual replacement of non-native species with appropriate native ones and will improve structure. A further benefit will come from managing the margins of these woodlands to improve their nature conservation value. At present, there is often an abrupt woodland edge against the adjoining grasslands. The nature conservation value of this ecotone can be improved by thinning to produce a more gradual transition from woodland to grassland. The extent and diversity of the 'edge habitat' can be further enhanced by scalloping of the woodland margins. A similar technique will be employed to widen the main ride along the edge of Hendon Grove, which is quite narrow at present. Further selective thinning should take place to 'release' the canopy of occasional more-mature individuals of probably self-sown native tree species (e.g. within Porter's Grove).

A further suite of generally recent, plantation woodlands are important as a visual screen around the southern boundaries of the Country Park. These need to be maintained as such, with supplementary planting of native species to fill any gaps, encouraging a dense scrub layer to reduce noise, and selective thinning around the car parking area on grounds of public safety. In addition, existing recent planting beside Horton Lane in the area north of the main entrance toward the John Lloyd Sports Centre could be enhanced by additional planting to further encourage the development of an established woodland fringe along this boundary.

2.7.3 Veteran Trees

In addition to veteran trees associated within the woodland habitats (see Section 2.7.1), a small number of veteran Oaks are thought to be associated with old boundary features (e.g. hedgerows). At the present time, some of these lie within overgrown hedgerows, whilst others exist in an open, parkland situation. That such trees are

extremely vulnerable to damage to their bark by horses and trampling from their hooves, is amply demonstrated by existing examples within the Country Park (i.e. several dead and stressed trees occur due to this cause). Any such trees in areas where horses are allowed to graze, should be securely fenced at a distance from the trunk, equal to that of the canopy.

Care should also be taken to prevent any other activity that could result in soil compaction around the roots of these trees (e.g. by driving vehicles too close to them). If any events are planned within fields where such trees occur, adequate temporary fencing should be employed to prevent any disturbance such as soil compaction around their root systems. At the present time, several of these trees appear to already be in a somewhat stressed condition and their health will require close monitoring during the course of this management plan.

The current population of 'parkland' Oak specimens is rather limited and even-aged. When these trees expire, there are at present no younger trees developing that could take their place. As well as the potential value that these parkland trees have in terms of their decaying timber resource, they are also important for the aesthetic qualities they bring to the landscape of the Country Park. It would therefore be appropriate to plant a number of young trees, ideally grown from acorns collected from those Oaks already present, which could become parkland trees of the future. These will require individual small fenced exclosures to protect them from grazing by deer and other herbivores, and other forms of damage.

2.7.4 Grasslands

There is historical evidence that some areas of the Country Park were formerly grazing pasture. This is provided by field names on the 1843 Tythe Map such as "Poplar Meadow", "New Pasture", "Lambert's Mead", "Long Pasture", "Carthouse Mead", "Porter's Meadow", "Emmett's Mead" and "Cow Pasture". The mention of the word Poplar further suggests that some areas at least were wet, which would imply land more suitable for grazing than cultivation. At present most of these fields are mainly maintained by an annual summer hay cut, although their composition also suggests they are derived from long established pastures.

The ideal form of management for these old pasture areas would be to reintroduce cattle grazing. There is much available evidence which shows that for invertebrates in particular, grazing is the preferred option for grassland maintenance (Kirby, 1992), as it maintains a wide variety of structural elements to the sward. In contrast, hay cropping produces a sudden, drastic modification of habitat conditions that many invertebrates will be unable to survive. Whilst hay-making artificially encourages a population of plant species tolerant of this management regime, the majority of these plants are still encouraged within a grazing regime, but merely with a lower frequency.

Whilst it is a long-term objective to reintroduce cattle-grazing to the old pastures, there are many obstacles to be addressed before this could be achieved. Therefore, for the time being, these swards should be maintained by mowing. The ideal regime would be a rotational cut once every two or three years, retaining un-mown margins to

provide a continuity of habitat for invertebrate populations. However, the longer grassland that this would encourage represents a fire risk in dry summers (both accidental and deliberate). One area of the Country Park where such a risk is seen as especially high are the old pasture grasslands adjacent to the golf course in the north of the site. As well as the issue of public safety, fire would also be extremely damaging to the invertebrate interest. Therefore, until such a time that grazing could become practicable in this part of the Country Park, the old pastures (with the exception of Emmett's Mead – see below) will be cut annually to reduce the fire hazard. Un-mown borders for invertebrates can still be retained as this is considered to represent a lower fire risk than if the whole field was un-cut (S. Cocker, pers. comm.).

Other areas of grassland within the Country Park are largely un-cut at present and this is certainly of benefit to invertebrate populations. However, structural diversity of the sward could be further enhanced by these grasslands being rotationally mown (in the autumn), on a cycle spanning a period of between 2-5 years. To achieve maximum diversity, different parts of the same field should be cut in different years. Whilst many areas of coarse grassland can resist colonisation by scrub for many years, such a treatment will further resist a tendency for these swards to develop into scrub. Included within this category of management is one of the old pasture fields (Emmett's Mead), in the extreme south of the Country Park. This area is considered to represent less of a fire risk than the cluster of old pastures in the northern part of the Country Park (S. Cocker, pers. comm).

There are further areas of grassland where the early stages of scrub colonisation are already taking place. This occurs within quite an extensive area of Hendon Grove, where only very limited tree planting has taken place. This intricate mosaic of coarse, tussocky grassland and young scrub/trees, as well as being good invertebrate habitat, is especially important for a range of birds. This mosaic can be maintained by periodic and 'haphazard' mowing by, for example a tractor-mounted flail.

A further type of once widely-practised grassland management is hay-making. As already mentioned, this encourages a suite of plant species tolerant of such a management regime, whilst few invertebrates are able to withstand the drastic change in habitat structure that results from the hay-cut (although the limited number that do, occur in 'artificially inflated' numbers). Nonetheless, this is a traditional management activity (although it would probably have been in conjunction with aftermath grazing) and it is thus appropriate that at least some areas of grassland should be managed as haymeadow within the Country Park. It will provide an opportunity to monitor the impact upon invertebrate populations of the different types of grassland management and provide an educational resource.

In some circumstances it may be considered appropriate to enhance the botanical composition of restored or re-created haymeadows by introducing new plant species (e.g. from seed) into the sward. As well as adding to the cost, unless carefully sourced, this also risks the introduction of plant material that is not native to the locality. However, there are no immediate plans for such intervention and it is proposed to allow colonisation by 'natural' means to occur, encouraging elements of the local grassland flora and provide an opportunity for this process to be monitored.

Many areas of grassland within the Country Park are of necessity mown intensively throughout the summer months, with the emphasis being upon amenity management. However, the Event Field, west of Keeper's Cottage is now required for only occasional amenity use. It is proposed to create a haymeadow in this area, using only a single annual cut (and retain un-mown margins) and therefore it would be extremely informative to monitor changes in botanical composition that develop after this change in management has taken place (see Section 2.7.14 below).

Finally, other grasslands are currently heavily-grazed year-round by horses and would benefit from a reduction in stocking density, possibly by extending grazing onto some areas not currently managed as pasture (e.g. the field known as 'Blacklands').

2.7.5 Scrub and Hedgerow

A wide range of hedgerow types are present, with variation in characteristics such as age, species composition and management history. To simplify management, four categories of existing hedge have been defined: intact managed hedges; unmanaged over-grown hedges; unmanaged over-grown hedges that can be considered as linear scrub features; and defunct hedges in need of restoration. A fifth category comprises areas proposed for new hedges. The different types of hedge are shown on Map 8.

Intact managed hedges
Approximately 1.1km of more recently-planted hedgerow have either already been, or are suitable for traditional hedgelaying. This is the most appropriate continued management technique for these features (as a 'demonstration' of the adverse effects of flail-cutting, one section of the field adjacent to Godbold's Copse should continue to be managed by this technique). Hedges to be managed in this way should ideally be allowed to reach around 4m in height when they should still possess many stems under 15cm in diameter. Where stems are larger than this, it may be more appropriate to re-shape the hedge using a tractor-mounted circular saw (Adams, 2005).

Unmanaged over-grown hedges
This category covers approximately 3.6km of overgrown hedge. Some features are remnants of once fine Elm hedges that succumbed to Dutch Elm disease. Some of these would benefit from trimming back a proportion of the dead Elm trees to encourage new suckers to grow from the base, and the planting up of any gaps with species such as Hawthorn and Blackthorn. In addition, an overgrown Blackthorn hedge alongside the old railway line adjacent to Field Pond needs thinning back to its original line as it has encroached onto a drainage ditch.

Although not strictly a hedge, the avenue of tall Hornbeams alongside the lane leading to Keeper's Cottage, are too closely-spaced at present and need thinning out, in addition to planting new trees into a few gaps.

Unmanaged over-grown hedges that can be considered as linear scrub features
Approximately 2.7km of hedge, primarily associated with the old pasture fields, have developed into wide bands of (primarily Blackthorn) scrub. Any restoration of these features should take into account the likely impact on the landscape character of the fields and also recognise their importance as habitat features for animals such as birds.

Thus, for example, restoring sections on rotation to their original line across their entire width will have a dramatic landscape impact. To minimise such effects, sections of the hedge could be cut back to the centre-line on alternating sides, in a series of wide scallops, thus maintaining a continuous horizontal outline. A similar treatment, but probably more a case of scalloping the edges, would be appropriate for the overgrown boundary hedge running alongside Hendon Grove.

Defunct hedges in need of restoration
In contrast to the above, approximately 2.3km of hedge are considered to be in a defunct condition having become extremely overgrown and 'gappy'; often being reduced to a line of mature trees, although some have encroached sideways onto adjacent 'verges'. These hedges are appropriate for a complete restoration, cutting back to the original hedge-line, retaining any mature trees, and re-planting the gaps. Restoration of old hedgerows should be a particular priority for any surviving boundary features evident on the 1843 Tythe Map. One such example is the overgrown hedge that now lies on the eastern margin of Lambert's Wood. This could be restored by clearing back a swathe of the wood, followed by trimming and re-planting as necessary.

Proposed new hedges
Approximately 2.7km of proposed new hedge have been identified for planting, e.g. beside many of the wooden fences around the amenity grassland areas in the south-east of the Country Park. The locations of all new hedges are shown on Map 8.

Other scrub
Several areas of scrub, apart from that associated with old hedgerows, would benefit from rotational coppicing (e.g. as potential nesting habitat for Nightingale). One of the main areas is that which has developed within an old paddock area adjacent to Keeper's Cottage. There are further, smaller areas around the old Piggery (again some of these may have originated as boundary features).

2.7.6 Old Orchards

Orchards were once a common feature of the farming landscape, but many have now been grubbed out in favour of other agricultural land uses. There will be considerable educational benefit from developing the two old orchards as a community resource, with visitors encouraged to sample the fruit for themselves.

Existing trees should be retained as long as possible, as they represent traditional varieties of fruit that are no longer commonplace. As many of the trees are now in a senescent condition, both orchards will also benefit from the planting of new stock, again of traditional varieties appropriate to this part of Surrey. Lambert's Orchard will be extended into the adjacent portion of Lambert's Mead, and the grassland within both orchards will be maintained through occasional rough mowing (although a long-term aim would be to graze with cattle).

2.7.7 Open Water and Wetland

Existing ponds represent an important component of the range of habitats occurring within the Country Park. In time, marginal and aquatic vegetation (e.g. Bulrush) would extend across the entire area of the pond, reducing the area of open water and cutting out light. Therefore there is a need to periodically manage the marginal vegetation in all ponds to maintain a balance. This work should be done in the autumn and any plant material removed should be piled up beside the pond to allow aquatic invertebrates chance to make their way back into the pond.

It is important to maintain the quality and quantity of water within the ponds and watercourses of the Country Park. There is little control over the quality of water entering the site, although one source, namely that originating at the Great Pond on Epsom Common, is at least partially under the influence of Epsom and Ewell Borough Council. Elsewhere, there are potential sources of pollutants along this watercourse (e.g. the run-off from B280 and also the West Park Hospital). There is also a potential risk of pollutants coming from urban run-off via the Orchard Balancing Pond and Poplar Pond (these recent balancing ponds could be valuable in helping to strip out pollutants, if present).

As there is only a limited scope to influence the quality of water entering the Country Park, there is therefore a need to monitor the quality of water inputs so that action can be taken if necessary (such as the construction of new pollutant-trapping ponds).

Within the Country Park itself it is important to ensure that all catchment areas are maintained free of any potential pollutants, with especial care being taken to ensure that no chemicals are used adjacent to watercourses and ponds. In time, all ponds and watercourses will require de-silting.

Additional recommendations for specific ponds are as follows:

Pond Wood Pond
This water body is currently very shaded by overhanging trees and would thus benefit from thinning of the surrounding woodland to enable greater light penetration through the tree canopy (in part for Water Voles – see below).

Meadow Pond
At the time of its creation, this pond was provided with a spillway at its downstream end. This has received little attention since this time and now requires refurbishment. This pond also has problems with alien/invasive plant species (see 2.7.8).

Field Pond
A pond-dipping platform here requires on-going maintenance and eventual replacement within the lifetime of this 10-year management plan. This pond is also of potential importance to Water Voles, whose management is being considered under Section 2.7.10.

The action of dogs leaving the pond after swimming has caused a significant local erosion of the pond's bank at the only point where it is possible for them to get out of the water. It is feared that the erosion zone is extending progressively further from

the pond edge. Therefore measures to repair the bank and protect it from erosion are required.

Lambert's Pond
This pond, situated with Lambert's Orchard, was 'restored' in the 1990s by the construction of a weir. Since this time the pond has become extremely overgrown with a variety of aquatic, marginal and surrounding scrub vegetation, with the result that it is very shaded and very little open water remains. To restore this pond will require the reconstruction of the weir, dredging of silt and litter and thinning back of some scrub. Mature trees of Oak will be retained, as will a number of Weeping Willows, although these would benefit from pollarding.

There are further small, former ponds within both Butcher's Grove and Great Wood, in addition to one in Withy Bed Lane (compartment 15), close to the old railway line. These will be restored through a combination of dredging and thinning of the surrounding tree canopy.

Any dredging of ponds and watercourses will require the appropriate Environment Agency consents.

2.7.8 Non-native Plant Species

New Zealand Pigmyweed (*Crassula helmsii*) has recently colonised an area at the margin of Meadow Pond. At present, the extent of the plant appears relatively small and there is therefore a short window of opportunity to attempt control before it becomes more widespread. Given the small extent, the most appropriate method would be hand-weeding, taking care not to leave detached fragments which would colonise other parts of the water body. Chemical treatment is inappropriate due to the close proximity to the open water of the pond. Indeed, the only herbicide effective against aquatic growth of the plant is Diquat, which was withdrawn from aquatic use at the end of 2004 (Walker and Southwood, 2005). A further reason for the careful eradication of *Crassula* from Meadow Pond is the risk it poses of spreading to the Golf Course Pond (if it hasn't already done so) and even worse, the possibility of it eventually spreading into the Bonesgate Stream.

Michaelmas Daisy (*Aster novi-belgii*) is also well-established in an area of the marginal swamp on the fringe of Meadow Pond. This material would be most effectively controlled by hand-weeding, as the size of the colony is fairly small at present.

A large colony of Goat's Rue (*Galega officinalis*) exists on the 'exchange land' area. The extent of this plant should be monitored. If it continues to spread it may be necessary to treat with an appropriate herbicide (e.g. "Round Up").

2.7.9 Ornithological Interest

Horton Country Park has a well-recorded and diverse avifauna, reflecting the diversity of habitat conditions. In order to ensure that management is compatible with this interest, it is important that monitoring of wintering and breeding bird populations is undertaken. This information can then be used to make appropriate refinements to the management regime.

2.7.10 Water Voles

Survey work during 2000 (Newman, 2000) indicated the presence of a population of Water Voles on 'Green Man Stream' in the area between the West Park Hospital Boundary and Pond Wood.

In view of the high conservation priority attached to Water Voles, it is important that all watercourses within the Country Park are managed as habitat for this species. The main habitat requirements include a well-developed marginal vegetation fringe, with a low level of tree shading, and fairly constant water levels. Thus, tree shading needs to be reduced along watercourses, including around the margins of Pond Wood Pond and along the length of 'Green Man Stream' (this includes those sections of this watercourse which pass through Pond Wood, where shading can be reduced by creating open glades). Although some scrub-thinning has been undertaken within the area identified in 2000, this section is again quite shaded by developing scrub and thus in need of further management.

Opening up pond and watercourse margins will allow more light to reach these areas and encourage more prolific vegetation growth. Restoration of features such as Lambert's Pond and others will also help in this regard.

In order to establish the current status of Water Vole within the Country Park, it is necessary to undertake a baseline survey of all ponds and watercourses. Following on from this, on-going monitoring will be needed to inform future management.

2.7.11 Bats

Limited surveys to-date have provided some evidence that the Country Park may be of importance for this group of mammals. A programme of baseline surveys is required to inform management aimed at bats, such as the provision of nesting boxes. It is likely that the Long Grove Copse Villa buildings have been used as night-time feeding roosts by Brown Long-eared Bat. As these structures are to be demolished during 2005, one of the outbuildings is to be retained and has recently been turned into a bat hibernaculum. On going monitoring will be required to establish the success of any management and inform future work.

2.7.12 Other Mammals

A survey for possible Dormouse presence has recently been initiated and a number of nest boxes have been erected for this purpose in Pond Wood, Butcher's Grove, Sherwood Grove, Hendon Grove and Four Acre Wood. Management as Hazel coppice should encourage this species, if present, whilst hedgerows are also potentially important Dormouse habitat. Where appropriate, on-going monitoring should be undertaken to inform management aimed at this species.

2.7.13 Invertebrates

The recent discovery of the nationally rare ladybird *Clitosthetus arcuatus* underlines the need for baseline invertebrate surveys covering habitats such as ancient woodland, mature/veteran trees and associated decaying timber, plus longer grassland and open water habitats. Indeed, the excitement that this has generated should result in a flourish of voluntary recording activity within certain areas of the Country Park.

Whilst planned habitat management has already taken into account the likely needs of invertebrate populations, the encouragement and appropriate management of the dead and decaying timber resource is of particular importance in this context. A range of appropriate actions includes:

- Retain natural features of decay in mature and veteran trees wherever possible (subject to issues of public safety).
- Retain as much fallen timber *in situ* (not brash from felling) as possible.
- Create log plies from smaller timber. Whilst not as valuable as large, decaying timber, they do represent significant invertebrate habitat. The logs should be tightly packed together and have a hollow in the centre. They should be situated at the edge of a ride or clearing, so that one side is in the sun, whilst the other is shaded.
- Create occasional brash piles, ideally from tightly bundled brushwood (to encourage a constant humidity within the pile).
- Thinning of standards should seek to retain those trees that are likely to have the greatest value as future veteran specimens (e.g. signs of decay and irregular shape, as opposed to tall and straight).
- Timber cut for commercial purposes should be removed immediately, as this will help to prevent colonisation by invertebrates (cover-up first if to be left on site for any time).
- Allow some growth of Brambles to partially shade dead wood.
- Ensure adequate nectar sources in the vicinity (e.g. Hawthorn, Hogweed and Ivy).

On-going monitoring to review the effectiveness of management will allow any necessary changes to be made, in the light of monitoring results.

2.7.14 Botanical Interest

The Country Park is quite well provided with botanical recording information at the present time. The primary requirement is for monitoring to investigate the effectiveness of planned management (e.g. the composition of grasslands under varying mowing regimes). This will help to evaluate the relative merits of annual hay-cropping as opposed to swards which are cut on the longer rotation of between 2-5 years. It would also be valuable to monitor grassland in the Event Field (Section 2.7.4) following the proposed change from frequent amenity mowing to a single annual hay cut.

A further priority for botanical monitoring is within the ancient/mature woodland stands, in particular to assess the effects of the coppice cycle upon ground flora composition.

Fixed-point photography can play an important role in botanical monitoring (e.g. Roworth, 2004) but, depending on the methods used, can be very expensive to establish. Suggested targets for fixed-point photographic monitoring are outlined below:

Feature	Recommended minimum number of points	Notes on location
Old pasture grasslands	2 per field	Furze Farm Meadow; Orchard Meadow; Oziers
Long-rotation cut grasslands	2 per field/feature	Event Field (south); Henry Stone Lower Noriss's; Fly Meadow; Slip Meadow
Hay meadow swards	2 per field	Lawn Barn Meadow; Great Ridings; Cart House Mead
Coppice woods	TBA	Butcher's Grove, Pond Wood, Four Acre Wood,
High Forest*	TBA	Butcher's Grove, Pond Wood, Four-acre Wood, Great Wood (from margins/boundaries)
Minimum intervention woodland*	TBA	Butcher's Grove, Pond Wood, Stone's Copse (from margins/boundaries)
Plantation woodlands (other than coppice)	TBA	Hendon Grove (part); Lambert's Wood; Hollymoor Grove; Porter's Grove;
Woodland fringe	TBA	Emmett's Mead; Little Westcott's; Laundry Copse; Car Park field; Cart House Mead
Mature trees	TBA	As appropriate – Parkland specimens; large hedgerow trees; Great Wood boundary/Heronry trees (ideally with winter and summer views taken in each year of recording).
Hedgerows	TBA	Ideally at least two per individual feature
Orchards	TBA	At least two per orchard
Scrub	TBA	Little Acres (and adjacent 'unnamed'); Barn Platt
Ponds and watercourses	TBA	At least two per individual water body and watercourse
*Fixed-point photography has limited applications in closed canopy woodland, although woodland rides/glades can be monitored.		

Photographic points should be fixed wherever possible, using existing features such as fence posts. Where necessary, 'permanent' wooden marker posts could be erected. Elsewhere, bearings and distance measurements could be taken from features such as

individual trees. In addition, all monitoring stations should ideally be recorded with differential GPS. Frequency of re-photographing will depend upon the precise nature of the monitoring work, but in the absence of any other requirement, it is recommended that stations be re-photographed at 5-yearly intervals.

2.7.15 Public Access and Recreation

The existing network of routes within the Country Park is in a reasonable condition but requires more regular maintenance during the course of this 10-year plan. The same is the case with signage, although some improvements in this regard will be required, as well as replacing some vandalised signs. There is also an on-going requirement to maintain (mow) vegetation along track margins. A long-term aim will be to pursue Public Right of Way status for all major routes within the Country Park. Minor paths are maintained through areas such as some of the old pasture areas, and these will require on-going regular mowing during the summer months.

As part of regular path maintenance, there is a need to ensure that these major routes remain suitable for use by wheelchairs, especially the paths around Pond Wood, which may need attention in this regard. To improve access for the visually impaired around the site, the possibility of providing hand-held audio-guides is to be explored (this will also facilitate the provision of educational and other information to this user group).

The main car park is another area where regular maintenance of the surface is required, although a long-term aim is to provide this with a metalled road surface. Vegetation around the parking bays needs to periodically cleared to keep these areas accessible. Associated furniture within and around the car parking area, such as picnic tables needs to be maintained (and possibly new ones provided), as does fencing around the dog-free area and the height barrier (but see below). Additional bins for the disposal of waste are needed around the car parking area and indeed at certain other locations within the Country Park. Regular checks need to be made to check for and remove litter/dumping, and finally, a procedure needs to be in place to ensure that the gates are locked and re-opened at the appropriate times.

The current access to the Equestrian Centre is unsatisfactory, as it brings too much traffic round the sharp bend adjacent to the Ranger's Office. The planned solution is to divert the access road to run through the main car park, past where the height barrier currently is, and the toilet block, before turning through 90 degrees to re-join the present access road. In effect, the bend opposite the Ranger's Office will be closed-off. The gate and height barrier into the main car park will be re-sited (and the 'through-route' around this may be closed-off at some point).

The provision of the barbecue areas around the main car park has become inconsistent with the character of the Country Park. Very often, large groups of people and vehicles are attracted and the activity can thus be quite intrusive and noisy. Consequently there is the option of closing the barbecues and developing the area as a picnic site instead. This would involve the provision of a number of new picnic tables.

There have in the past been problems with the security of the Country Park's boundaries. This primarily relates to inappropriate use of the site (see Section 2.7.20 below). To maintain site boundary security a number of measures are proposed. Firstly it is important that effective liaison is maintained with the Park's neighbours, including the Golf Course, Equestrian Centre and Horton Park Children's Farm. The risk of breaches of boundary security would be reduced by increasing the current levels of on-site presence. This might be achieved in future through the possible creation of a new permanent post (see Section 2.7.20). Common sense issues include ensuring that the various locked access gates are not accidentally left unlocked.

Finally, following demolition of the former Long Grove Hospital Villa buildings, the original boundary fence against the Long Grove exchange land is to be removed to permit public access onto this part of the Country Park.

2.7.16 Education, Research and Volunteer Groups

Fundamental to encouraging greater educational and research use of the Country Park is the creation of the "Resource Room" within the West Park Farm Complex. This will provide a base for activities offered to schools and other educational groups.

Work undertaken by various volunteer groups, such as the Lower Mole Countryside Management Project, the Friends of Horton Country Park and the North East Surrey College of Technology (NESCOT), makes an important contribution to the management of the Country Park. It is therefore important that the contribution of these groups is maintained and further enhanced through promoting these types of activities and securing appropriate on-going funding.

2.7.17 Cultural, Historical and Landscape

The present day Country Park has an attractive landscape character and has a strong cultural and historical context. A fundamental component of the Park's landscape character derives from its well-developed hedgerows and field boundaries. It is therefore important that management of these features, as well as being focussed upon providing nature conservation benefit, seeks to maintain the current visual balance. For example, mature/wide hedgerows could be cut on one side of the centre line only, to avoid unattractive, abrupt steps being made in its outline.

A further important visual feature is the fringe of woodland along the southern and western margin of the Country Park. This has an added function of also helping to reduce noise levels within the Park. Planned woodland management aims to maintain the visual character of these woodlands and enhance the shrub layer density to increase its effectiveness as an acoustic barrier.

Although relatively few in number, the scattering of mature/veteran field and hedgerow Oak trees also represent an important visual component of the Park's Landscape. Measures to prolong the life of these trees have already been outlined (Section 2.7.3), and new specimens will planted in appropriate areas, which in the long-term, will ensure a continuity of this important landscape feature.

The old pasture fields also represent an important component of the cultural landscape of the Country Park and the maintenance of these features is appropriate on these grounds in addition to their nature conservation value.

One current area of concern on landscape grounds is the 'hardcore' storage area within the Barn Platt (old piggery) compartment. One possible way of screening this rather unsightly feature would be to plant up the top of the adjacent bund which will hopefully draw the eye away from the stored materials.

2.7.18 Understanding the Site

Although measures to promote a greater understanding of the site's ecology, history and cultural aspects are currently quite extensive, a number of further avenues could be explored. Firstly, it is important that the current programme of open days, guided walks and other family-oriented events is continued and further expanded. Opportunities to develop the range of interpretative literature, such as the leaflet dealing with the history of the Horton Light Railway also need to be explored. In addition, a number of new interpretation panels are required at appropriate locations.

The Friends of Horton Country Park is a valuable organisation which has helped in raising the awareness of the Country Park among local residents. It provides a platform for promoting many of the educational and other activities, and also has encouraged volunteer participation in both the management of the Country Park and also in biological recording (e.g. birds). It is important, therefore, that support is provided to encourage both the continued existence of the 'Friends' and the further development in the scope of its activities.

An important platform for promoting all aspects of the Country Park in general has been the Park's Home Page on the Epsom and Ewell Borough Council website. For many, this will be a first port of call to find out information about the Park. It is therefore important that resources are available to further develop the website to consolidate and further extend the scope of this function.

The Information Centre has recently reopened (in part) within the West Park Farm complex. There is a need to re-open the remaining part and also investigate the possibility of the "Friends of Horton Country Park" helping in its manning. It is also important to maintain and improve communication between the Local Nature Reserve and the three associated Centres. The possibility of an Annual Forum Meeting involving all stakeholders within the Country Park may represent a way forward on this issue.

2.7.19 Archaeology

There is a need for appropriate archaeological surveys – e.g. to investigate the status of "Peaked Riding" within Pond Wood.

2.7.20 Inappropriate Use

A common factor involved in many of the inappropriate activities outlined in Section 1.5.3.3 is the low level of site patrols. Often, the most effective method of educating users in this regard is to have staff on site to draw people's attention to them through a face-to-face conversation, rather than, say, placing visually intrusive signs around the site that would in all probability be ignored. Therefore it is important that appropriate funding is secured to achieve more realistic levels of on-site presence within the Country Park. Ideally this should take the form of the creation of a new permanent post to enable more effective control of access issues and carry out small-scale tasks relating to public access

2.8 Identification of Operational Objectives and Outline Prescriptions

Operational Objective	Outline Prescription
Maintain and enhance the ancient and older semi-natural woodlands	• Restore coppice cycle in appropriate areas, including thinning of standards and supplementary planting of Hazel (Butcher's Grove, Pond Wood, Four Acre Wood) • Manage selected areas as high forest (Great Wood, Butcher's Grove, Pond Wood, Four Acre Wood) • Maintain woodland paths (Butcher's Grove, Pond Wood) • Manage selected areas as 'minimum intervention' (Butcher's Grove, Pond Wood, Four Acre Wood) • Thin non-native plantings and re-plant with appropriate native stock (Great Wood) • Maintain old boundary trees by restoring adjoining ditch (Great Wood) • 'Release' thin scattering of larger oak trees (retain hybrid Midland Hawthorns) (Great Wood) • Monitor woodland ground flora in ancient woodlands managed as coppice-with-standards
Maintain and enhance the recent plantation woodland	• Manage as high forest gradually thinning out non-native species and replacing with site-native stock (Hollymoor Grove, Porter's Grove, Lambert's Wood, Hendon Grove, Godbold's Copse) • Thin excessive Ash regeneration (Hollymoor Grove, Godbold's Copse)

Operational Objective	Outline Prescription
	• Maintain and create new areas of 'coppice-with standards': Sherwood Grove – continue coppicing existing established stools of Hazel/Hornbeam. Godbold's Copse – create coppice from existing Ash/Hornbeam. Hendon Grove – create coppice from first thinning of Ash/Hornbeam/Hazel (and undertake supplementary planting of the latter two species). • Re-structure woodland margins by selective felling to create a scalloped edge (Porter's Grove and part of woodland beside Horton Lane/along southern boundary) • Thin woodland margins to allow restoration of ancient hedgerow (Lambert's Wood) • Maintain open understorey around large maiden trees (Porter's Grove) • Widen verge beside main track and scallop edges (Hendon Grove) • Retain young scrub/grassland mosaic adjoining golf course through periodic mowing (Hendon Grove) • Maintain areas of woodland as a visual screen to the site (to include additional planting of native tree species and enhancing the shrub layer to reduce noise beside Horton Lane at West Park Farm and along boundary with West Park Hospital) • Encourage as 'minimum intervention' woodland (Stone's Copse)
Maintain and enhance the mature tree population	• Prevent compaction around roots or grazing damage to mature trees • Plant new 'parkland' specimens from appropriate native stock (including young trees grown from acorns collected from existing on-site veteran Oaks) • Retain and encourage mature Oak trees forming Burnham's Grove and boundary trees on opposite side of field (Great Ridings) • Monitor possible impact of new golf course bund upon mature trees supporting Heronry, along boundary of Great Wood
Maintain and enhance the grassland habitat	• Investigate long-term aim of reintroducing cattle grazing to two areas of old pasture and other areas (Map 7). In the interim, maintain these old pasture areas (excluding Emmett's Mead) with an annual summer hay cut, retaining un-mown margins

Operational Objective	Outline Prescription
	(primarily to minimise fire risk) • Manage further areas of grassland as hay meadow with an annual summer cut (retaining un-mown margins), under a low input regime (e.g. no introduction of seed) (Cart House Mead, Great Ridings, Event Field) • Manage additional areas of longer grassland on a rotation of between 2 and 5 years, depending upon circumstances (Fly Meadow, Slip Meadow, Henry Stone Lower Noriss's and the old pasture of Emmett's Mead, plus parts of Lambert's Mead, Event Field and Burnham's Grove/Meadow) • Maintain scrub/grassland mosaic in Hendon Grove by periodic mowing • Reduce grazing intensity in some areas of grassland under permanent horse-grazing (Stone's Field, Black Field, Upper Noriss's)
Maintain and enhance the scrub and hedgerow habitats	• Maintain 'intact managed hedges' primarily using the traditional technique of hedge laying (and flailing as demonstration of adverse effects) • Rejuvenate overgrown, scrubby hedgerows ('unmanaged over-grown hedges') by various techniques such as cutting back dead Elms, planting-up of any gaps, retaining any mature trees and where appropriate, cutting back to the original hedge-line. • Thin avenue of Hornbeam trees beside road to Keeper's Cottage and re-plant gaps • Rejuvenate overgrown, scrubby hedgerows ('unmanaged over-grown hedges that can be considered linear scrub features') by cutting back to the centre-line on alternate sides, in a series of wide 'scallops' and retaining any mature trees. • Restore defunct sections of hedgerow by cutting back to the original hedge line, retaining any mature trees, and re-planting into the gaps. • Create new sections of hedgerow (e.g. beside fences within car parking area and overspill field (Great Westcotts) by planting appropriate native species such as Hawthorn, Blackthorn, Guelder-rose and Field Maple • Rejuvenate overgrown, scrubby hedgerow sections as appropriate
Maintain and enhance the old orchards	• Maintain existing trees, plant appropriate new stock, mow surrounding grassland (long term aim of reintroducing grazing)

Operational Objective	Outline Prescription
	• Extend Lambert's Orchard into Lambert's Mead • Develop both Lambert's Orchard and Long Grove Orchard as 'Community Orchards'
Maintain and enhance open water and associated wetland habitats	• Control marginal vegetation in existing ponds • Thin woodland surrounding Pond Wood Pond to enable greater light penetration through tree canopy (and create woodland glades along "Green Man Stream" to open up for Water Voles) • Monitor quality of water entering the site's watercourses. • If appropriate, develop existing balancing ponds as pollutant traps and construct new pollutant trap ponds. • Maintain water levels through periodic de-silting of ponds and watercourses. • Develop policy for use of chemicals on site with regard to protecting catchments from potential pollutants. • Restore Meadow Pond Spillway • Maintain dipping platform at Field Pond • Control bankside erosion caused by dogs as appropriate • Restore a number of ponds and thin surrounding tree cover where appropriate (including Lambert's Pond – see Map 7) • Obtain E.A. consents for any dredging of ponds/watercourses.
Monitor and control the spread of non-native species	• Control New Zealand Pigmyweed and Michaelmas Daisy at Meadow Pond • Monitor and if necessary, control Goat's Rue in the Exchange Land area (Fly Meadow)
Maintain and enhance the ornithological interest	• Monitor breeding and winter bird populations
Maintain and enhance Water Vole populations	• Manage bank-side marginal vegetation along watercourses by cutting in appropriate locations • Survey and monitoring of Water Vole populations
Maintain and enhance bat populations	• Undertake baseline survey to establish bat activity • Undertake appropriate management (e.g. provision of bat boxes) • Monitor to establish effecivness of management activities

Operational Objective	Outline Prescription
Maintain and enhance populations of other mammals	• Monitor mammal populations • Undertake baseline Dormouse survey (Butcher's Grove, Sherwood Grove, Four Acre Wood, Hendon Grove and Pond Wood) • Monitor mammal populations (including Dormice)
Maintain and enhance invertebrate interest	• Undertake baseline survey of relevant habitats (e.g. ancient/mature woodland, mature/veteran trees, rank grasslands) • Undertake appropriate monitoring to inform management (e.g. annual cut and 2-5-year mown longer grasslands) • Encourage and manage dead and decaying timber resource
Maintain and enhance the botanical interest	• Monitor botanical composition of annually mown grasslands as compared with those cut on the longer 2-5 year rotation • Monitor botanical composition of ancient/mature woodland areas, especially with regard to coppice cycle • Undertake fixed-point photography
To manage public access and recreational use	**Main Tracks/Public Rights of Way (PROW):** • Maintain and improve signage where necessary • Maintain surfaces • Maintain trackside vegetation • Ensure that public rights of way are open and accessible at all times • Investigate possibility of securing PROW status for all main routes within the Country Park **Minor paths:** • Mow grassland paths as appropriate **Access for people with disabilities:** • Ensure path round Pond Wood is suitable for wheelchair use • Hand held audio guides for visually impaired **Car Parking and Equestrian Centre access:** • Check surface annually and repair as necessary • Regular litter/dumping checks – remove as necessary • Ensure car park is locked dawn-dusk • Maintain the height barrier • Maintain vegetation in parking bays

Operational Objective	Outline Prescription
	• Maintain furniture – e.g. picnic tables • Replace with tarmac surface in long-term • Consider blocking off 'through route' around car park • Re-model access road into Equestrian Centre **Dog fouling:** • Install additional 'Dog Bins' • Maintain fencing around dog free area **Boundaries/site security:** • Regular checks (increased on-site presence, possibly through the creation of a new permanent post) • Liaise with neighbours on site boundary security issues (including the Golf Course, Equestrian Centre and Horton Park Childrens' Farm) • Ensure appropriate gates locked at all times • Remove boundary fence to allow access onto Long Grove Hospital exchange land once demolition of villa buildings has taken place **Barbecues:** • Consider ending the use of barbecues, develop as picnic area instead **Emergency access and other 'services':** • Ensure 24-hr contact numbers are provided at main (locked) access points • Maintain up to date information on location of 'services' and appropriate emergency procedures • Provide map to emergency services
To promote educational and research use consistent with maintaining the nature conservation value	• Maintain and develop use by school and other educational groups • Maintain/develop the resource room • Promotion and support of volunteer groups
To maintain and enhance the cultural, historical and landscape value	• Maintain visual balance of existing hedgerow features • Maintain wooded visual screen along southern and western boundaries • Ensure continued existence of free-standing mature trees in an open landscape setting (including planting of new specimens) • Create visual screen around pile of stored road scrapings in piggery area (e.g. planting new hedge

Operational Objective	Outline Prescription
	on top of adjacent bund)
To promote and encourage an understanding and respect for the wildlife, landscape and historical value of the site	• Conduct open days, guided walks and other family oriented events • Prepare appropriate literature • Provide three new interpretation panels • Encourage and support the Friends of Horton Country Park • Maintain and promote Horton Country Park Home Page and other related features on the EEBC website (e.g. 'virtual tour') • Maintain and further develop the Information Centre (e.g. re-open remaining part and investigate participation of 'Friends' group in manning) • Establish an annual forum meeting to include all relevant stakeholders
To promote a greater understanding of the archaeology of the Country Park	• Commission appropriate archaeological surveys (e.g. Pond Wood/Peaked Riding)
To control inappropriate use of the site	• Undertake enforcement as appropriate – possible creation of new permanent post to enable more effective control of access issues and carry-out small-scale tasks relating to public access

Possible sources of funding

Resources for management of the Country Park are likely to be available from the following principal sources:

- EEBC core budget
- Revenue from timber sales (to help fund management of coppice woods)
- Funds from West Park Hospital housing development
- Countryside Stewardship Scheme agri-environment grant aid
- Woodland Grant Scheme

STAGE THREE - PRESCRIPTION

The following tables outline management proposals across Horton Country Park during the period 2005/06 to 2014/15. The format follows that given by Crowther and Groome (2005).

The various adopted management compartments are shown on Map 7. The area column outlines the total area (or length of feature) over which each prescription is proposed.

Prescriptions are defined under the heading "proposed work".

Outline costs are given for each year of the management plan. Year 1 relates to the 2005/06 tax-year, year 2 to 2006/07 etc. Costs have been calculated, during the first five years, and then during the second five-year period, on the following basis:

	First five years	**Second five years**
Contractors	£100/person/day	£120/person/day
Volunteers	£5/person/day	£6/person/day
Ecological Consultants	£250/person/day	£275/person/day
Arboricultural Contractors	£250/person/day	£275/person/day

Notes:
Volunteers: In addition, use of volunteer machinery (e.g. chainsaw/brush cutters) is £50/day and the hire of heavier equipment (e.g. mini excavator/dumper) is approx. £100/day.

Where the term volunteer/contractors is used, the deciding factor will be availability of volunteers, who would normally be the first choice. In all such cases, costings have therefore been based throughout on the preferential use of volunteers.

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
Maintain and enhance the ancient and older semi-natural woodlands:													
1	11.0	**Butcher's Grove:**											
		• Coppice 0.2ha per year (representing a 15-year cycle over the whole 3.6ha under coppice) (in lieu of rent)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Volunteer
		• Thin standards to equivalent density of 10 trees per acre (in lieu of rent)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Volunteer
		• Plant new Hazel to achieve 3-metre spacing of stools	£150	£150	£150	£150	£150	£180	£180	£180	£180	£180	Volunteer
		• Manage 4.5ha as high forest (thin and group fell 10% of area in each year of plan – cost reflects likely commercial value of timber trees)	£500	£500	£500	£500	£500	£600	£600	£600	£600	£600	Contractor
		• Manage 3.9ha as minimum intervention	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	N/A
8	6.4	**Pond Wood:**											
		• Coppice a total of 2.6ha of wood - 5 cants of 0.5ha approx., representing one cant in every other year (to include thinning of standards to equivalent density of 10 trees per acre)	£3000		£3000		£3000		£3600		£3600		Contractor
		• Plant new Hazel to achieve 3-metre spacing of stools	£375		£375		£375		£450		£450		Volunteer
		• Manage 1.2ha as high forest (thin and group fell 20% of area in alternate years of plan)	£500	£500		£500		£600		£600		£600	Volunteer
		• Manage 2.2ha as minimum intervention	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	N/A

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
4	1.9	**Four Acre Wood:** • Coppice a total of 1.3ha of wood – 3 cants of 0.4ha approx., representing one cant in every third year (to include thinning of standards to equivalent density of 10 trees per acre)		£3000			£3000			£3600			Contractor
		• Plant new Hazel to achieve 3-metre spacing of stools		£100			£100			£120			Volunteer
		• Manage 0.7ha as high forest (thin and group fell 20% of area in alternate years of plan)	£500		£500		£500		£600		£600		Volunteer
46	1.5	**Great Wood:** • Thin non-native trees								£1440	£1440		Contractor
		• Plant native trees								£300	£300		Volunteer
		• 'Release' canopy of scattered larger Oak trees (take care not to disturb Herons or their roosts – see rationale)							£720				Volunteer
		• Restore and maintain boundary ditch to protect veteran boundary Oaks from possible waterlogging	£200			£200			£240				Volunteer
Maintain and enhance the recent plantation woodland:													
33	2.9	**Hollymoor Grove:** • Thin non-natives and Ash regeneration (at rate of £2000/ha)	£3000	£3000									Contractor
		• Subsequent thinning of Ash regeneration				£200			£240			£240	Volunteer
		• Plant native stock (at rate of £200/ha)				£600	£600	£720	£720	£720			Volunteer

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
25	1.6	**Porter's Grove:**											
		• Thin non-natives and scallop woodland edge to improve structure				£4000							Contractor
		• Plant native stock					£320			£384			Volunteer
		• Maintain open understorey around large maiden trees		£100									Volunteer
45	1.4	**Lambert's Wood:**											
		• Thin non-natives			£3000	£3000							Contractor
		• Plant native stock				£500	£500						Volunteer
		• Thin woodland along eastern edge to create gap for restoration of ancient hedgerow	£1000										Contractor
2	3.5ha of wood approx	**Hendon Grove:**											
		• Thin non-natives, widen verge beside main track and scallop woodland edges	£3000	£3000	£3000	£3000							Contractor
		• Plant native stock			£700	£700	£700						Volunteer
		• Create and manage new coppice from existing Ash/Hornbeam/Hazel					£250	£300	£300	£300	£300	£300	Volunteer
		• Supplementary plant Hazel and Hornbeam to form future coppice		£250	£250	£250	£250						Volunteer

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
31	0.6	**Godbold's Copse:** (has already had first thin) • Thin non-natives • Thin Ash regeneration • Create and manage new coppice from existing Ash/Hornbeam • Plant native stock		£120 £100 £100 £120				£144 £120 £120 £144				£144 £120 £120 £144	Volunteer Volunteer Volunteer Volunteer
3	1.4	**Sherwood Grove:** (has already had first thin) • Coppice established young Hazel/Hornbeam coppice stools (3 cants of 0.5ha), plus further thinning of standards						£600		£600		£600	Volunteer
11	0.8	**Stone's Copse:** • Manage as minimum intervention woodland	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	
15, 16, 18, 19, 21, 23, 24	3.2	**Horton Lane/southern boundary stands:** • Scallop woodland edge to improve structure • Supplementary planting of native trees to enhance value as visual barrier • Supplementary planting of native shrubs to enhance value as visual barrier	£1000 £500 £500	£1000 £500 £500				£1200 £600 £600	£1200 £600 £600				Contractor Volunteer Volunteer
Maintain and enhance the mature tree population:													
16, 22, 28, 47	N/A	Prevent compaction around roots or grazing damage to mature trees (mainly through the appropriate placing and maintenance of temporary or permanent fencing)	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
10, 16, 28, 30, 32	N/A	Plant new parkland specimens using appropriate native stock, including young trees grown from acorns collected from existing veteran Oak trees. Provide appropriate protection (fencing).					£1500	£1800	£1800				Volunteer
5, 6	N/A	Retain and encourage mature boundary Oak trees forming Burnham's Grove and on opposite side of Great Ridings. Will require assessment by arboricultural specialist and possible remedial tree surgery in early stages of plan to prolong tree life.	£1000	£2500	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Aboricultural consultant followed by EEBC staff
46	N/A	Monitor possible adverse impacts of new golf course bund upon veteran boundary Oaks of Great Wood	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
Maintain and enhance the grassland habitat:													
18, 19, 41, 42, 47, 48, 49	12.6	Investigate long-term possibility of reintroducing cattle grazing onto areas of old pasture	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
9, 19, 41, 42, 47, 48	9.2	Maintain old pasture, except Emmett's Mead (Cpt 18), with annual summer hay-cut (retaining un-mown borders) – zero cost as farmer can make use of hay crop	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Local farmer
5, 16, 24	10.6	Manage further areas of hay meadow with annual summer cut with un-mown margins (Cart House Mead, Great Ridings, Event Field)	? No cost	? No cost	? No cost	? No cost	? No cost	? No cost	? No cost	? No cost	? No cost	? No cost	? Local farmer/contractor

Comment [A1]: Seems expensive for volunteers

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
6, 7, 16, 18, 34, 37, 45	7.2	Manage areas of longer grassland on a rotation of between 2 and 5 years, depending upon circumstances. (Old pasture in Emmett's Mead (2-3 yearly), in addition to Fly Meadow and Slip Meadow, plus parts of Lambert's Mead, Event Field and Burnham's Grove/Meadow).	£1500	£1500	£1500	£1500	£1500	£1800	£1800	£1800	£1800	£1800	? Local farmer/contractor
2	1.6	Maintain young scrub/grassland mosaic adjoining golf course by periodic tractor-mounted mowing				£250			£300			£300	Contractor
10, 13, 14	8.9	Investigate possible reduction in grazing intensity in some areas under permanent horse-grazing (Stone's Field, Black Field, Upper Noriss's)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
Maintain and enhance the scrub and hedgerow habitats:													
30, 40	1.1km approx	Maintain existing hedgerow: • Hedgelaying (100m length each year) • Flail cutting of hedgerows around Cabbage Field for demonstration purposes (200m approx.)	£250 £100	£250 £100	£250 £100	£250 £100	£250 £100	£300 £120	£300 £120	£300 £120	£300 £120	£300 £120	Volunteer Contractor
2, 18, 19, 41, 42, 48, 49	2.7km approx	Re-shape overgrown, 'linear scrub' hedgerow sections (cut back to centre-line on alternate sides in wide scallops, retain any mature/veteran trees). 450 metres every two years.	£1500		£1500		£1500		£1800		£1800		Contractor

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
7, 9, 16, 19, 20, 24, 29, 48, 51	3.6km approx	Rejuvenate and manage overgrown hedgerow sections (e.g. tidy up dead Elms and plant into gaps with Blackthorn and Hawthorn; restore to original line, retain any mature trees and re-plant). 450 metres per year.	£2250	£2250	£2250	£2250		£2700		£2700		£2700	Contractor /Volunteer
5, 10, 27, 28, 43, 45	2.3km approx	Restore defunct hedgerow sections by re-planting, retaining any mature and veteran tree specimens. 250 metres per year	£500	£500	£500	£500	£500	£600	£600	£600	£600		Volunteer
22, 23, 24, 32, 45	2.7km approx	Plant new hedgerow sections (e.g. beside fences in car parking area and Great Westcotts, alongside Horton Lane entrance). 350 metres per year	£700	£700	£700	£700		£840	£840	£840			Volunteer
22, 25	N/A	Hornbeam avenue beside lane to Keeper's Cottage: • Thin number of mature trees • Plant replacement trees into gaps		£500	 £250								Contractor Volunteer
Maintain and enhance the old orchards:													
35, 44	2.3	Maintain existing trees	£250	£250	£250	£250	£250	£300	£300	£300	£300	£300	Contractor
35, 44	2.3	Plant new trees using appropriate stock		£250	£250	£250							Volunteer
45	1.2 approx	Extend Lambert's Orchard into Lambert's Mead (again by planting appropriate stock)				£1000	£1000	£1200					Volunteer

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
35, 44, 45	3.5 approx	Mow grassland surrounding trees once per year	£200	£200	£200	£200	£200	£240	£240	£240	£240	£240	Contractor
35, 44, 45	3.5 approx	Investigate long-term possibility of reintroducing grazing to orchards	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
35, 44, 45	3.5 approx	Develop both orchards as a community resource	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff/volunteer
Maintain and enhance open water and associated wetland habitats:													
8, 9, 44, 48, 51	N/A	Control marginal vegetation in all existing ponds (depending upon rates of vegetation growth). Initial priorities are *Typha* in both Meadow Pond and Pond Wood Pond	£500	£500	£500					£240	£240	£240	Volunteer (Lower Mole/other?)
As appropriate	As appropriate	Dredging operations: • De-silt ponds and watercourses (as appropriate) • Obtain EA consent for above works as appropriate					£5000 No cost	£6000 No cost				£6000 No cost	Contractor EEBC staff
21	N/A	Pond Wood Pond (and Green Man Stream within Pond Wood): • Thin surrounding woodland to improve light penetration as part of management for Water Voles			£200	£200	£200						Volunteer
48	N/A	Meadow Pond: • Restore spillway	£5000										Contractor

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
9	N/A	Field Pond: • Maintain dipping platform • Protect pond edge from erosion caused by dogs		£500	 £500								Volunteer Volunteer
1, 15, 44, 46	N/A	Restore Lambert's Pond plus three former ponds (one each in Butcher's Grove and Great Wood, plus one in Withy Bed Lane)		£5000		£1000		£6000			£1200		Volunteer (Lower Mole/other?)
As appropriate	Whole site	Monitor water quality of water entering site's watercourses (check for visible signs and smell)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff/Volunteer
As appropriate	N/A	Possible pollutant traps: • Consider development of existing balancing ponds as pollutant traps • Construct new pollutant trap ponds if appropriate	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	TBA TBA	
All	Whole site	Develop chemical use policy to protect catchment areas	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
Monitor and control the spread of non-native species:													
48	N/A	Meadow Pond: • Control New Zealand Pigmyweed (by careful hand-weeding) • Control Michaelmas Daisy (by hand weeding)	£200 £100	£200 £100	£200 £100	£200 £100	£200 £100	£240 £120	£240 £120	£240 £120	£240 £120	£240 £120	Volunteer (Lower Mole/Friends of HCP)

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
37	1.8	Fly Meadow: • Monitor Goat's Rue and control using appropriate herbicide (contractors more than £200)	£200	£200					£240	£240			Contractor
Maintain and enhance the ornithological interest:													
All	Whole site	Monitor breeding and winter bird populations	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Volunteer (Friends of HCP)
Maintain and enhance Water Vole populations:													
8, 9, 13, 14, 40, 41, 47, 49	N/A	Manage marginal bank-side vegetation along appropriate sections of watercourse (scrub-thinning along each section every 5years)	£200	£200	£200	£200	£200	£240	£240	£240	£240	£240	Volunteer (Lower Mole/other?)
8, 9, 13, 14, 40, 41, 47, 49	N/A	Survey of Water Vole populations	£500										Ecological consultant

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
As appropriate	N/A	Monitoring of Water Vole populations (employ consultant in first year to train up EEBC/volunteers staff to do it subsequently)		£500	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Ecological consultant (yr 1), then EEBC staff/Volunteer
Maintain and enhance bat populations:													
All	Whole site	Baseline survey of bat activity	£1000	£1000	£1000								Ecological consultant
As appropriate	As appropriate	Management specifically to encourage bats (e.g. bat boxes)			£500	£500			£600	£600			Volunteer (Lower Mole/other?)
As appropriate	As appropriate	Monitoring success of management for bats					£1000					£1100	Ecological consultant
Maintain and enhance populations of other mammals:													
1, 3, 4, 8	N/A	Undertake Dormouse survey within Butcher's Grove, Sherwood Grove, Four-acre Wood, Hendon Grove and Pond Wood (being done on a voluntary basis at present).	No cost										Volunteer
Whole site	As appropriate	Monitor mammal populations (mainly to be done by EEBC staff/volunteers following suitable training in first year)			£500				No cost				Ecological consultant, then EEBC staff/ volunteer

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
Maintain and enhance the invertebrate interest:													
1, 4, 5, 6, 7, 8, 9, 10, 16, 18, 19, 28, 45, 46, 47	As appropriate	Undertake baseline invertebrate surveys: • Ancient/mature woodland habitats • Veteran trees • Rank grassland habitats • Open water habitats	£500 £500	£500 £500 £1000	£1000								Ecological consultant

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
2, 7, 9, 10, 16, 18, 19, 24, 28, 30, 32, 34, 35, 37, 40, 41, 42, 44, 45, 47, 48	N/A	Monitor invertebrate populations in grassland communities under different management regimes to inform subsequent management			£1000	£1000			£1100	£1100			Ecological consultant
As appropriate	N/A	Retain, encourage and manage the dead and decaying timber resource for the benefit of invertebrate populations											
		• Create log piles (one each year) in vicinity of veteran trees	£25	£25	£25	£25	£25	£30	£30	£30	£30	£30	Volunteer
		• Create brash piles (one in each wood per year)	£25	£25	£25	£25	£25	£30	£30	£30	£30	£30	Volunteer
		• Retain fallen timber in-situ where ever possible	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	Volunteer
Maintain and enhance the botanical interest:													

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
As appropriate	N/A	Monitor botanical composition of grasslands under differing mowing regimes (annual as compared with those cut on longer rotation – i.e. 2-5yearly). To include grassland in Event Field which is proposed to change from regular amenity mowing to an annual hay cut	£1000	£1000			£1000	£1100		£1100	£1100		Ecological consultant
1, 4, 8	19.3	Monitor botanical composition of ancient woodland field layer (e.g. impact of coppice cycle in Butcher's Grove, Pond Wood and Four-acre Wood)	£50	£50			£50	£60		£60	£60		Volunteer (Lower Mole/other?)/EEBC staff
As appropriate	N/A	Fixed point photographic monitoring (to help in part with botanical monitoring – see above two prescriptions)	£100	£100	£100	£100	£100	£120	£120	£120	£120	£120	EEBC staff
To manage public access and recreation:													
As appropriate	Whole site	Main tracks/public rights of way: • Maintain existing signage • Improve signage where necessary	£250	£500 £500	£250	£500 £500	£250	£600 £600	£300	£600 £600	£300	£600 £600	EEBC staff/Volunteer
		• Maintain surfaces of tracks (based on 5km of tracks at £20/metre)	£10000	£10000	£10000	£10000	£10000	£12000	£12000	£12000	£12000	£12000	Contractor
		• Maintain vegetation beside tracks	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	Contractor
		• Ensure that public rights of way are open and accessible at all times	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
		• Investigate possibility of securing PROW status for all main routes	No cost	No cost	No cost								EEBC staff

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
18, 19, 41, 42, 47, 48	N/A	Minor paths: • Mow grassland paths	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	TBA (SC)	Contractor
As appropriate	N/A	Access for people with disabilities: • Ensure path round Pond Wood is suitable for wheelchair use • Investigate the possible provision of hand-held 'audio guides' for the visually impaired		£5000	 TBA			£6000				£6000	Contractor /volunteer EEBC staff

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
23, 25	N/A	Car parking and Equestrian Centre Access:											
		• Annual check and repair of car park surfaces	£1500	£1500	£1500	£1500	£1500	£1800	£1800	£1800	£1800	£1800	Contractor
		• Replace car park with tarmac surface (linked with Equestrian Centre access remodelling)		TBA									Contractor
		• Maintain vegetation around parking bays	£500		£500		£500	£600	£600	£600	£600	£600	Contractor
		• Re-model Equestrian Centre access route (block off bend opposite West Park Farm and divert through main car park)		£30000									Contractor
		• Block off through route around car park (install locked gate at some point in circuit)		£1000									Contractor
		• Regular litter and dumping checks	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	Contractor
		• Ensure car park locked dusk-dawn	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
		• Maintain car park height barrier	£150	£150	£150	£150	£150	£180	£180	£180	£180	£180	EEBC staff
		• Maintain picnic tables and other furniture							£600	£600	£600	£600	EEBC staff
As appropriate	N/A	Dog fouling:											
		• Install and maintain additional dog waste bins	£1000		£250			£300			£300		EEBC staff/contractor
		• Maintain fencing around dog-free areas					£500					£600	

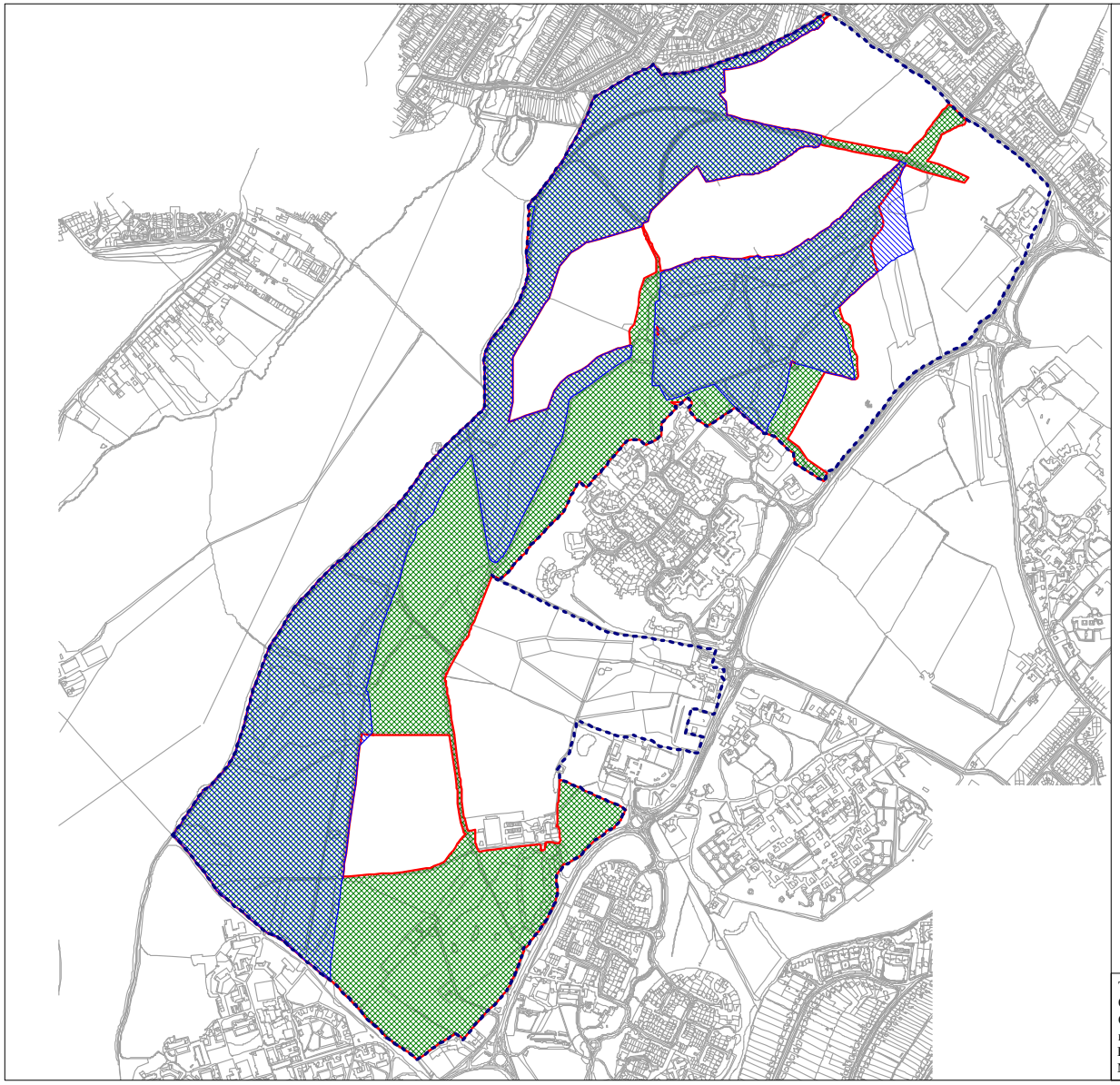
Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
Whole site	N/A	Boundaries/site security: • Increase level of patrolling presence (to include boundaries and remote areas within the site (for costs see "control of inappropriate use of site") • Liaise with neighbours (e.g. Golf Course, Equestrian Centre and Childrens' Farm) on issues such as site security and antisocial behaviour issues no cost • Remove old boundary fence against Long Grove Hospital exchange land area (once villa buildings demolished and other safety issues are resolved). To be funded from hospital cluster fund.	No cost £30000	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff EEBC staff Contractor
23	N/A	Barbecues: • Investigate cessation of barbecues and developing of this area for picnics instead (cost of 20 new picnic tables over 5-year period)	£1000	£1000	£1000	£1000	£1000						EEBC staff
N/A	N/A	Emergency access and other 'services' • Ensure 24-hr contact numbers are provided at main (locked) access points • Maintain up to date information on location of ''services'' and appropriate emergency procedures • Provide map to emergency services showing points of access	No cost No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	No cost No cost	EEBC staff
To promote educational and research use consistent with maintaining the nature conservation value:													
N/A	N/A	Maintain and develop use by school and other educational groups (£1500 per year revenue cost)	£1500	£1500	£1500	£1500	£1500	£1800	£1800	£1800	£1800	£1800	EEBC staff

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
N/A	N/A	Maintain and develop the resource room	£1000	£500	£500	£250	£250	£300	£300	£300	£300	£300	EEBC staff
N/A	N/A	Promote and support volunteer groups (e.g. Friends of Horton Country Park, NESCOT, Lower Mole)	£250	£250	£250	£250	£250	£300	£300	£300	£300	£300	EEBC staff
To maintain and enhance the cultural, historical and landscape value:													
As appropriate	N/A	Maintain the visual balance of existing hedgerow features (management of hedgerows, and therefore costs, already covered under earlier prescription)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
15, 16, 18, 18, 21, 23, 24	3.2	Maintain the wooded screen along the southern and western boundaries as a visual screen (management of this feature, and therefore, costs, already covered under earlier prescription)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
10, 16, 22, 28, 30, 32, 47	N/A	Ensure the continued existence of free-standing mature trees in an open landscape setting (planting of new trees, and therefore, costs, already covered under earlier prescription)	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
To promote and encourage an understanding and respect for the wildlife, landscape and historical value of the site:													
Whole site	N/A	Conduct open days, guided walks and other family-oriented events	£500	£500	£500	£500	£500	£600	£600	£600	£600	£600	EEBC staff
Whole site	N/A	Prepare appropriate literature	£1000	£500	£1000	£500	£1000	£600	£1200	£600	£1200	£600	EEBC staff

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
TBA	N/A	Provide 3 new interpretation panels and maintain existing ones	£1000	£1000	£1000		£200		£240		£240		EEBC staff
N/A	N/A	Encourage and support the Friends of Horton Country Park	£250	£250	£250	£300	£300	£350	£350	£400	£400	£500	EEBC staff
N/A	N/A	Maintain and promote the Horton Country Park home page and other related features on the EEBC website (such as the 'virtual tour')	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
N/A	N/A	Maintain and further develop the Information Centre • Re-open remaining part • Investigate possibility of Friends Group participating in manning	£500	£250	£200	£200	£200	£240	£240	£240	£240	£240	EEBC staff
N/A	N/A	Establish an annual forum meeting to include all relevant stakeholders	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	No cost	EEBC staff
To promote a greater understanding of the archaeology of the Country Park:													
8	6.4	Commission appropriate archaeological surveys (Pond Wood and Peaked Riding)						£2200					Consultant
To control inappropriate use of the site:													
Whole site	N/A	Increase current levels of on-site presence (to enable more effective control of access issues and carry out small scale tasks relating to public access). I.e. funding of new permanent post.	£25000	£25500	£26000	£26500	£27000	£27500	£28000	£28500	£29000	£29500	EEBC staff
TOTAL STAFF/CONTRACTOR/ECOLOGICAL CONSULTANCY/VOLUNTEER COSTS (inc. all estimates and averaged annual costs)			£107775	£113340	£69925	£67850	£65095	£85738	£69380	68984	65870	72648	Staff/Vols
TOTAL CONTRACTOR COSTS (inc. all estimates and averaged annual costs)			£63000	£61500	£27300	£26550	£25550	£33360	£24600	24840	24300	32460	Contractors

Cpt	Area (ha)	Proposed Work	Outline Costs (£)										Workforce
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
TOTAL ANNUAL COSTS (inc. all estimates and averaged annual costs)			£107775	£113340	£69925	£67850	£65095	£85738	£69380	68984	65870	72648	ALL

MAPS



Map 1 - Location of Horton County Park

PROVISIONAL **Scale : 1:9000**

Horton Country Park

Designated Country Park plus Exchange Land

Designated LNR Boundary

Area covered by Management Plan

Area of SNCI

As shown on EEBC Local Plan

Note: boundaries are indicative only
and should not be regarded as definitive.

Map 2 - Summary Habitats

PROVISIONAL **Scale : 1:9000**

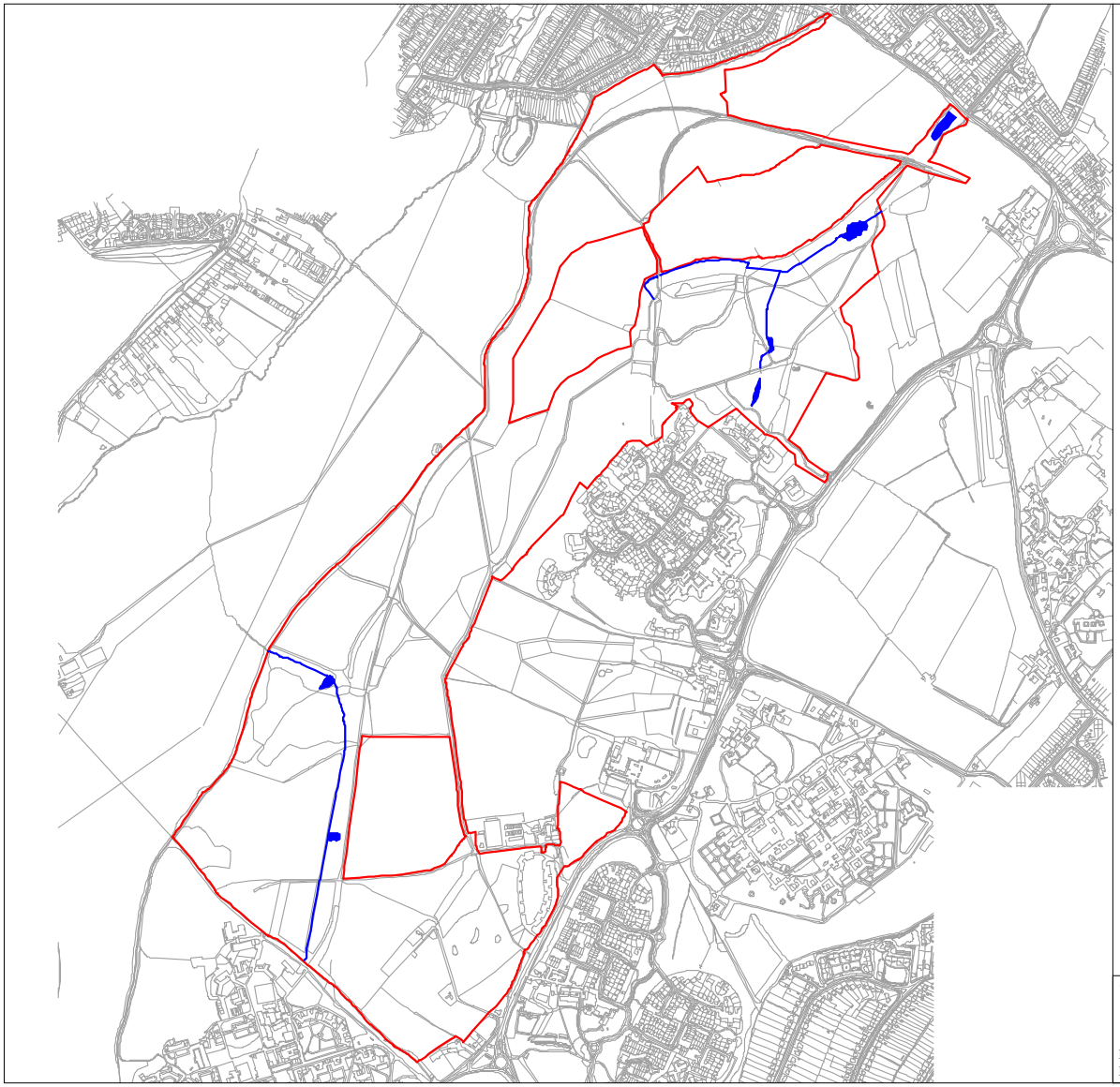
Horton Country Park

Area covered by Management Plan

Summary Habitats

- Bare Ground and Hardstanding
- Scrub
- Woodland
- Ponds and Related Wetland
- Ruderal
- Grassland
- Orchard

Data derived from 2004 NVC Survey. The survey involved 'polygon mapping' of homogenous vegetation as determined from aerial photographs. Habitat-types shown here are summarised categories for the dominant vegetation of each GIS-mapped polygon.
See Appendix II



Map 3 - Ponds and Watercourses

PROVISIONAL **Scale : 1:9000**

Horton Country Park

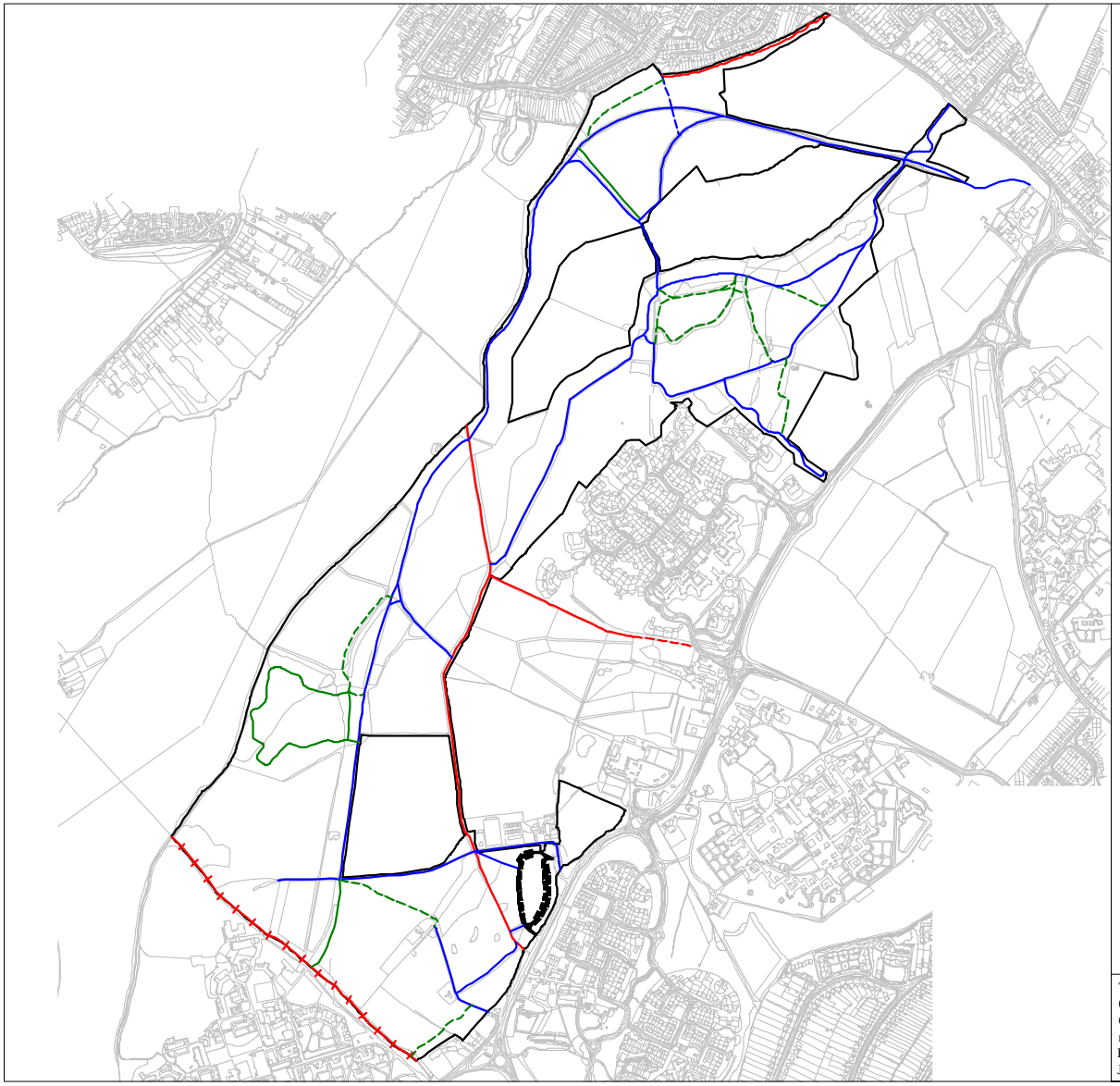
Area covered by Management Plan

Ponds and Watercourses

Watercourses

Ponds

Data 'snapped' to OS landline data



Map 4 - Access and Amenity

Scale : 1:9000

Site Boundary

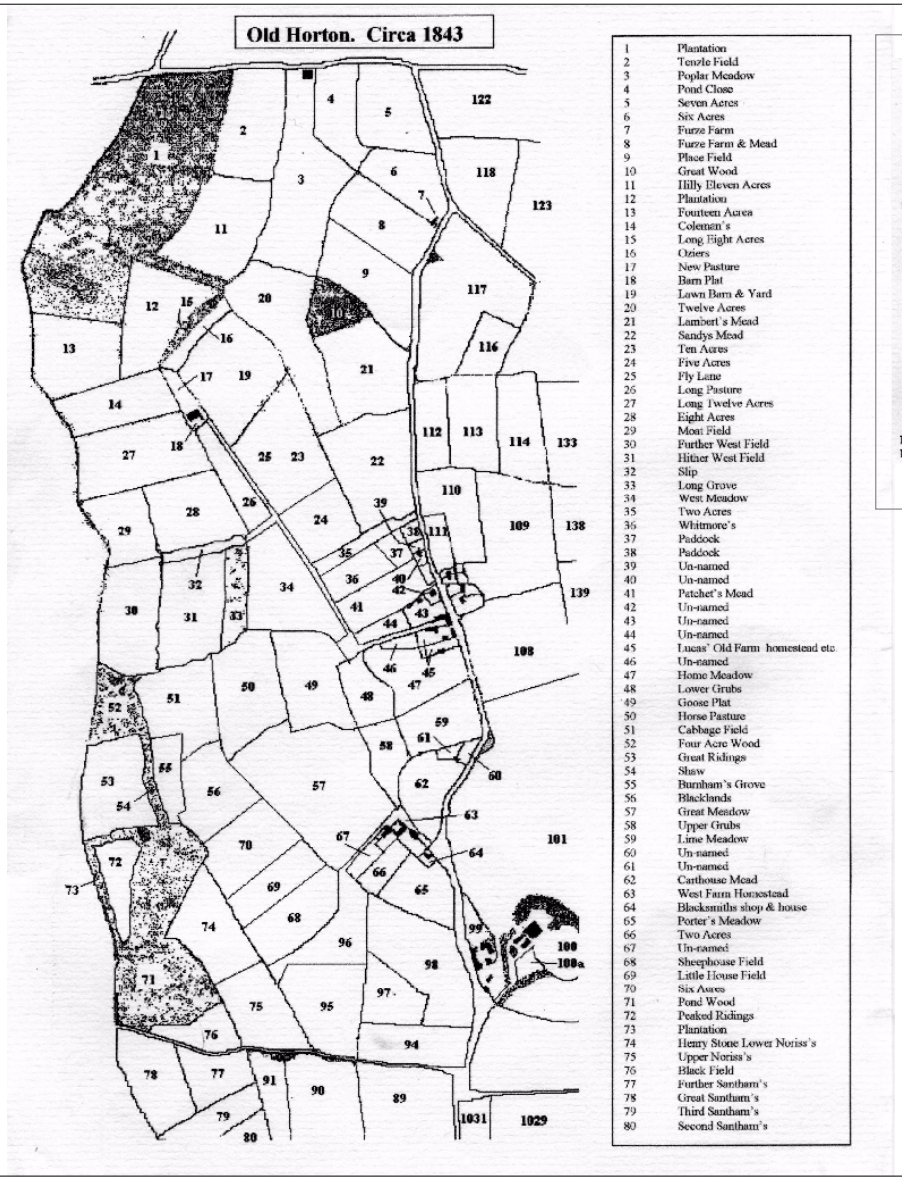
Car Park

Public Rights of Way

- Multi-use Hard Surface
- Multi-use Unmade
- Pedestrian Unmade

Non-statutory Paths

- Multi-use Hard surface
- Multi-use Unmade
- Pedestrian Hard surface
- Pedestrian Unmade

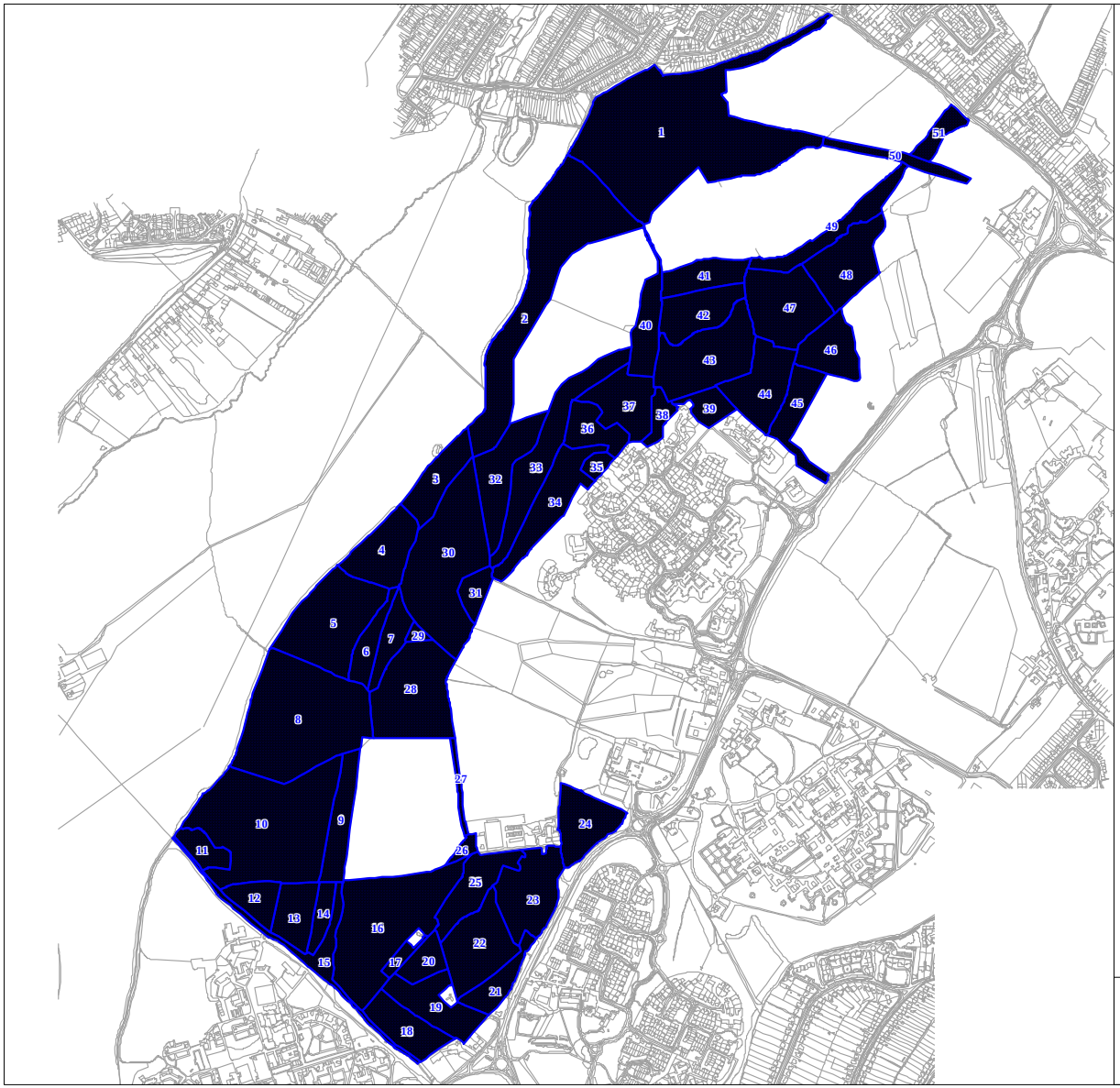


1	Plantation
2	Tenzle Field
3	Poplar Meadow
4	Pond Close
5	Seven Acres
6	Six Acres
7	Furze Farm
8	Furze Farm & Mead
9	Place Field
10	Great Wood
11	Hilly Eleven Acres
12	Plantation
13	Fourteen Acres
14	Colemen's
15	Long Eight Acres
16	Oziers
17	New Pasture
18	Barn Plat
19	Lawn Barn & Yard
20	Twelve Acres
21	Lambert's Mead
22	Sandys Mead
23	Ten Acres
24	Five Acres
25	Fly Lane
26	Long Pasture
27	Long Twelve Acres
28	Eight Acres
29	Moat Field
30	Further West Field
31	Hither West Field
32	Slip
33	Long Grove
34	West Meadow
35	Two Acres
36	Whitmore's
37	Paddock
38	Paddock
39	Un-named
40	Un-named
41	Patchet's Mead
42	Un-named
43	Un-named
44	Un-named
45	Lucas' Old Farm homestead etc
46	Un-named
47	Home Meadow
48	Lower Grubs
49	Goose Plat
50	Horse Pasture
51	Cabbage Field
52	Four Acre Wood
53	Great Ridings
54	Shaw
55	Burnham's Grove
56	Blacklands
57	Great Meadow
58	Upper Grubs
59	Lime Meadow
60	Un-named
61	Un-named
62	Carthouse Mead
63	West Farm Homestead
64	Blacksmiths shop & house
65	Porter's Meadow
66	Two Acres
67	Un-named
68	Sheephouse Field
69	Little House Field
70	Six Acres
71	Pond Wood
72	Peaked Ridings
73	Plantation
74	Henry Stone Lower Noriss's
75	Upper Noriss's
76	Black Field
77	Further Santham's
78	Great Santham's
79	Third Santham's
80	Second Santham's

89	Ten Acres
90	Pond Ten Acres
91	Withy Bed Field
94	Emmett's Mead
95	Nine Acres
96	Cow Pasture
97	Little Westcots
98	Great Westcots
99	House farmbuildings & Gdns
100	Mansion offices etc
100a	Orchard
101	Park
108	Horton Street Field
109	Footpath Meadow
110	The Meadow
111	City of London Meadow
112	Four Acre Mead
113	Little Northern Meadow
114	Great Northern Meadow
116	Furze Close
117	Pond Plat
118	Silk Croft
122	Long Silk Croft
123	Silk Croft Ten Acres
133	Elliots Close
138	Little Hill Close
139	West Eight Acres
1029	Occupied by Willis
1031	Occupied by Henry Stone

Map 5 - 1843 Tythe Map

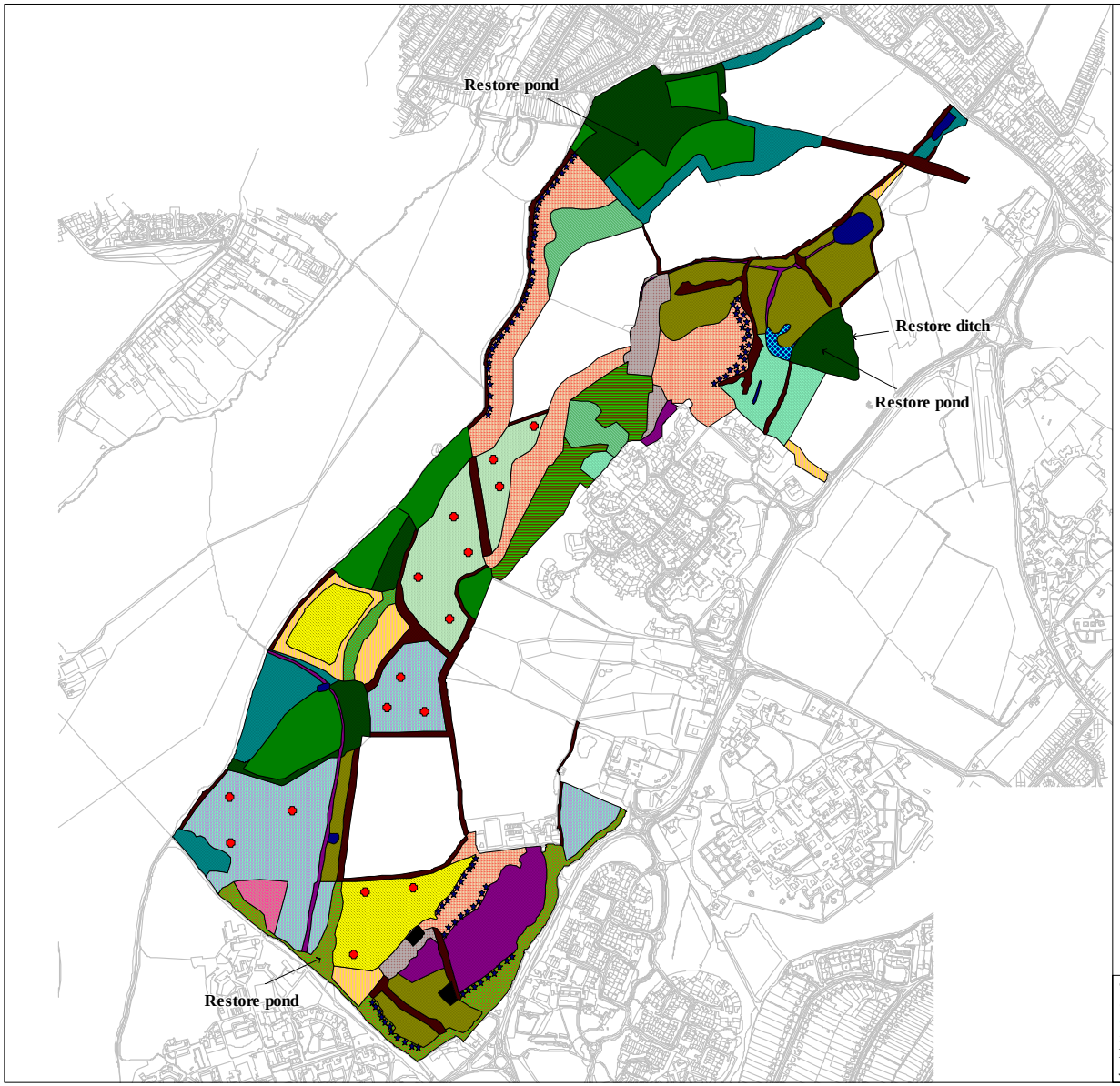
This map has been imported into GIS from an extract of the original tythe map located in the Bourne Hall library in Ewell. For a better quality image refer to original



Map 6 - Management Compartments

Scale : 1:9000

1 Butcher's Grove
2 Hendon Grove
3 Sherwood Grove
4 Four Acre Wood
5 Great Ridings
6 Burnham's Grove
7 Burnham's Meadow
8 Pond Wood
9 Henry Stone Lower Norris's
10 Stone's Field
11 Stone's Copse
12 Burning Area
13 Black Field
14 Upper Norris's
15 Withy Bed Lane
16 Event Field
17 Keepers Shaw
18 Emmett's Mead
19 Little Westcots
20 Little Acres
21 Laundry Copse
22 Great Westcots
23 Porter's Meadow/Car Park
24 Cart House Mead
25 Porter's Grove
26 Primrose Copse
27 Sheephouse Lane
28 Blacklands
29 Elm Copse
30 Cabbage Field
31 Godbold's Copse
32 Hither West Field
33 Hollymoor Grove
34 Slip Meadow
35 Long Grove Orchard
36 Nightingale Corner
37 Fly Meadow
38 Sandy's Corner
39 Sandy's Copse
40 Barn Platt
41 Osiers
42 Lawn Barn Meadow
43 Lambert's Wood
44 Lambert's Orchard
45 Lambert's Mead
46 Great Wood
47 Orchard Meadow
48 Poplar Meadow
49 Tenzle Hedge
50 Railway Lane
51 Poplar Pond

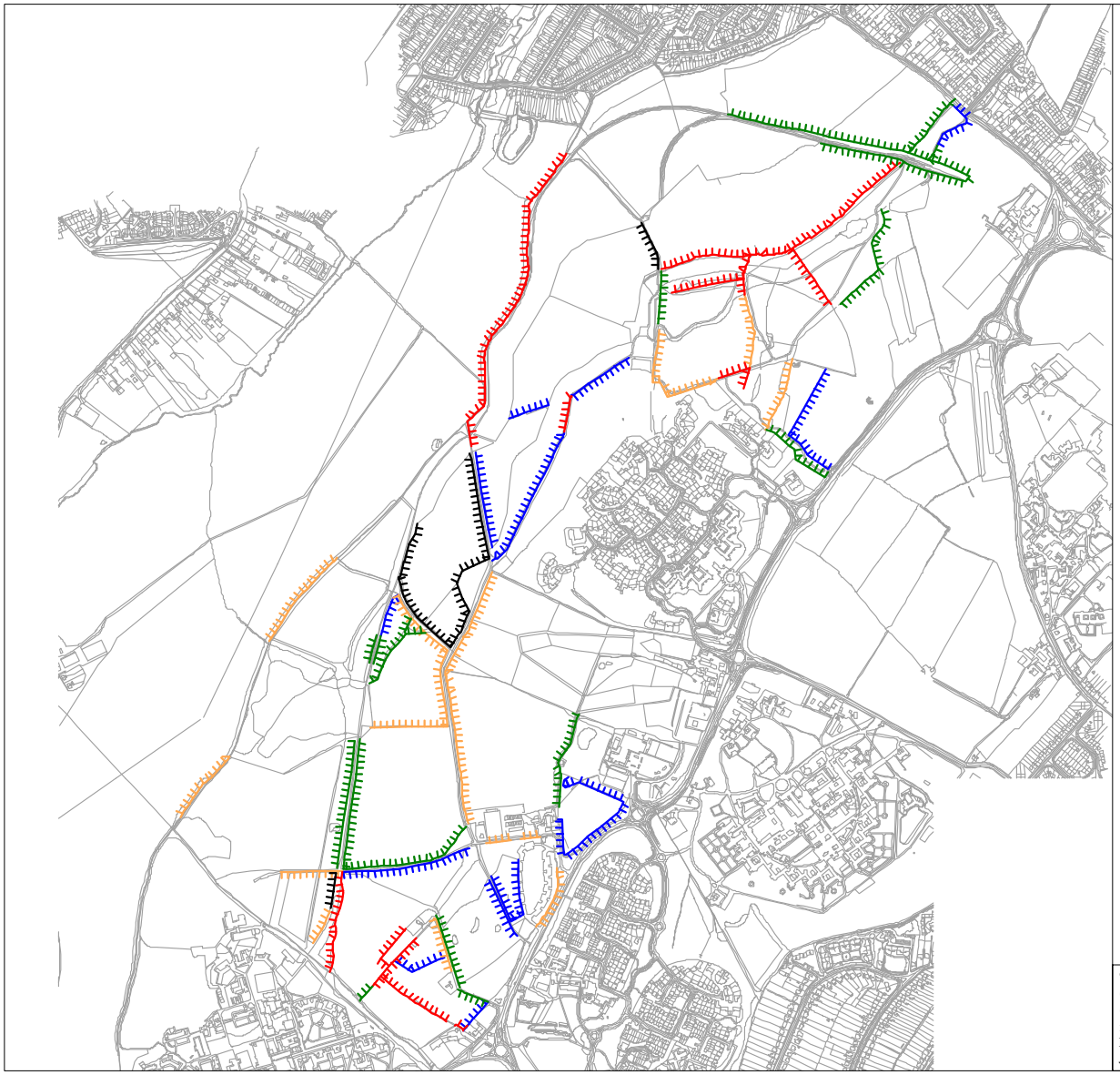


Map 7 - Proposed Management

Scale : 1:9000

- Scallop and thin woodland edge
- Plant parkland trees
- Amenity grassland management
- Coppice-with-standards management
- Recent pastures. Cut until such a time as grazing can be restored
- Old pastures. Cut until such a time as grazing can be restored
- Annual Hay-cutting
- Hedge management (see Map 8)
- High forest management
- Horse grazed fields
- Houses - no management
- 2-5 yearly mown grassland
- Minimum intervention woodland
- Orchards
- Ponds and related wetland management
- Pond restoration
- Rough grazing
- Scrub management
- Manage scrub-grassland mosaics
- Tip
- Veteran trees
- Water Vole management
- Plantation woodland
- Management woodland fringe

The map highlights the main management (summarised for simplicity) proposed for each area. Details of proposed hedge management are given in Map 8. Not all hedges proposed for management are shown here.



Map 8 - Proposed Hedge Management

Scale : 1:9000

Intact hedge

Over-grown hedge

Over-grown hedge/linear scub

Restore defunct hedge

Proposed new hedge

See Section 2.7.5 for definitions

REFERENCES

Adams, N. (2004). The shape of things to come – hedgerow management. C*onservation Land Management*, Winter 2004, Vol. 2, No. 4.

Anon. (2002). *The Population Status of Birds in the UK. Birds of Conservation Concern: 2002-2007* (taken from RSPB website). Royal Society for the Protection of Birds, Sandy.

Ash, D., Burton, D., Smith, L. and Toynton, P. (2001). *Getting Down to Scrub Management*. *Enact*, Vol. 9, No. 4, 15-18.

Baker, R. and Whitfield, L. (2002). Letter to Horton Country Park Ranger's Office outlining results of a bat survey at the Long Grove Copse Villa at Horton Country Park.

Cheffings, C. (2004). New Plant Status Lists for Great Britain. *BSBI News*, No. 95, January 2004, 36-43.

Coleshaw, T. (ed.) (1999, 2001). *Practical Solutions: Equipment, techniques, and Ideas for Wildlife Management. 2nd edn*. English Nature on behalf of the FACT Group.

Council of the European Communities (1992). *Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora*. Official Journal of the European Communities No L.206.

Crowther, K. & Groome, G. (2005). *Epsom Common Local nature Reserve Management Plan*. Epsom and Ewell Borough Council, Epsom.

Drucker, G.R.F., Whitbread, A. and Barton, G. S*urrey Inventory of Ancient Woodlands (Provisional)*. Nature Conservancy Council, 1988.

English Nature (1994). *Managing Local Nature Reserve*s. English Nature, Peterborough.

English Nature (1998). *London Basin Natural Area Profile*. English Nature, London.

Gardiner, J. E. (1981). A bryophyte flora of Surrey. *Journal of Bryology*, 11, 747-841.

Gregory, R.D., Wilkinson, N.I., Noble, R.S., Robinson, J.A., Brown, A.F., Hughes, J., Procter, D.A., Gibbons, D.W. and Galbraith, C.A. (2002). The Population Status of Birds in the United Kingdom, Channel Islands and the Isle of Man: an Analysis of Conservation Concern 2002-2007. *British Birds*, 95: 410-450.

Hopkins, J. (1996). Scrub Ecology and Conservation. *British Wildlife*, Vol. 8, No. 1, October 1996, pp 28-36.

Hyman, P. S. (1992) *A Review of the Scarce and Threatened Coleoptera of Great Britain. Part 1*. UK Nature Conservation No.3. JNCC, Peterborough.

Hyman, P. S. (1994) *A Review of the Scarce and Threatened Coleoptera of Great Britain. Part 2*. UK Nature Conservation No.12. JNCC, Peterborough.

Kirby, P. (1992). *Habitat Management for Invertebrates: A Practical Handbook*. Joint Nature Conservation Committee, Peterborough.

Leslie, A.C. (1987). *Flora of Surrey. Supplement and Checklist.* A.C. & P. Leslie, Guildford.

Lousley, J.E. (1976). *Flora of Surrey*. David and Charles, London.

Mountford, E.P., Peterken, G.F and Burton, D. (1998). L*ong-term monitoring and management of Langley Wood: A minimum-intervention National Nature Reserve. E*nglish Nature Research Report No. 302.

Newman, M. (2000). H*orton Country Park - Habitat Management for Water Voles. S*urrey Wildlife Trust, Pirbright.

NCC (1986). *Bryophyte Site Register for Surrey*. NCC, Peterborough.

NCC (1991). *Site Management Plans for Nature Conservation – A Working Guide*. Nature Conservancy Council, Peterborough.

Oates, M. and Tolhurst, S. (2000). *Grazing for Nature Conservation: Rising to the Challenge*. *British Wildlife*, Vol. 11, No. 5, June 2000, 348-353.

Oldham, R.S. and Swan, M.J.S. (1997). Pond loss and amphibians; historical perspective. In: *British Pond Landscapes: Action for Protection and Enhancement*. Proceedings of the UK conference of the Pond Life Project.

Owen. N. and Wilmott, G. (1995). *Butcher's Grove Management Plan. Record of Status and Suggested Future Management.* Lower Mole Countryside Management Project, West Ewell.

Ratcliffe, D.A. (1977). *A Nature Conservation Review*. Cambridge University Press, Cambridge.

Read, H. (1999). *Veteran Trees: A guide to good management.* English Nature, Countryside Agency and English Heritage.

Rodwell, J. S. (ed.) (1991a). *British Plant Communities, Volume 1: Woodlands and Scrub*. Cambridge University Press, Cambridge.

Rodwell, J. S. (ed.) (1991b). *British Plant Communities, Volume 2: Mires and Heaths*. Cambridge University Press, Cambridge.

Rodwell, J. S. (ed.) (1992). *British Plant Communities, Volume 3: Grasslands and*

Montane Communities. Cambridge University Press, Cambridge.

Rodwell, J. S. (ed.) (1995). *British Plant Communities, Volume 4: Aquatic Communities, Swamps and Tall-herb Fens*. Cambridge University Press, Cambridge.

Rodwell, J. S. (ed.) (2000). *British Plant Communities, Volume 5: Maritime Communities and Vegetation of Open Habitats*. Cambridge University Press, Cambridge.

Roworth, P. (2004). Fixed Point Photography. *Conservation Land Management*. Vol. 2, No. 1, pp 15-17.

Stewart, A., Pearman, D. A. and Preston, C. D. (1994). *Scarce Plants in Britain*. JNCC, Peterborough.

Stone, I. (2002). War against Crassula – one year on. *Enact*, Vol. 10, No. 4, pp 9-10.

Strachan, C., Strachan, R. and Jeffries, D.J. (2000). *Preliminary Report on the Changes in the Water Vole Population of Britain as Shown by the National Surveys of 1989-1990 and 1996-1998.* The Vincent Wildlife Trust, London.

Sutherland, W.J. and Hill, D.A. eds. (1995). M*anaging Habitats for Conservation*. Cambridge University Press.

UK Biodiversity Steering Group (1995). *Biodiversity: The UK Steering Group Report Meeting the Rio Challenge. Action Plans.* HMSO, London.

Walker, C. and Southwood, R. (2005). Restoring Lakes in England. *Conservation Land Management*. Spring 2005. Vol 3, No. 1, pp 9-12.

Wicks, D. and Stone, I. (2001). War against *Crassula helmsii*. *Enact*, Vol. 9, No. 2, pp 11-13.

Wigginton, M. J. (ed.) (1999). *British Red Data Books 1: Vascular Plants, 3rd Edition*. JNCC, Peterborough.

APPENDICES

Appendix I – SNCI Survey Site Descriptions

The following information has been extracted from survey reports undertaken and provided by Surrey Wildlife Trust.

POND WOOD

Site Name : Pond Wood
Grid Ref : TQ185622
Area : Approx. 6 ha
Recorder No. : 1493/1
District : Epsom and Ewell
Date of Survey : 3rd June 1998
Surveyed By : Kieron Huston

Site Description
Pond Wood, situated on the western border of Epsom and Ewell, is composed of ancient semi-natural woodland and recent secondary broad-leaved woodland. The site lies over London Clay that gives rise to typical stagnogley soils.

Over much of the site the stands are composed of mature Pedunculate and Sessile Oaks with scattered maiden Ash and frequent Wych Elm. There is an understorey of over-stood Hazel coppice, Hawthorn, Blackthorn and Elder.

The field layer is dominated by abundant Bluebell, Cleavers, Ivy, Ground-ivy and Bramble. Frequently Cow Parsley and Hogweed form a tall herb layer with Wood Millet and Rough Meadow Grass. Additional woodland species are frequent and include Greater Stitchwort, Hairy Brome, False-brome, Enchanter's Nightshade, Wood Melick and Wood Speedwell.

A small stream runs through the wood passing into and out of a pond in the north-east. Ferns, comprising Broad-buckler Fern, Male Fern and Hart's-tongue, are frequent along parts of the stream bank. The pond supports marginal vegetation of Yellow Iris, Soft Rush, Hard Rush and Great Willowherb.

BUTCHER'S GROVE

Site Name : Butcher's Grove
Grid Ref : TQ195635
Area : Approx. 10 ha
Recorder No. : 3614
District : Epsom and Ewell
Date of Survey : 8th June 1998
Surveyed By : Kieron Huston

Site Description
Butcher's Grove, situated on the western border of Epsom and Ewell, is composed of recent secondary broad-leaved woodland. The site lies over London Clay that gives rise to typical stagnogley soils.

The woodland canopy is dominated by Pedunculate Oak and maiden and multi-stemmed Ash with more occasionally Silver Birch and multi-stemmed Hornbeam. There is a tall understorey of Wych Elm and over-stood Hazel and Field Maple coppice usually with frequent Hawthorn, and Blackthorn and more occasionally Holly and Elder.

The woodland field layer is variable in cover and composition, but is characterised by Bluebell, Bramble, Ivy, Cleavers, Herb-robert, Remote Sedge, Hairy Brome and Wood Millet. In places the field layer is quite diverse and can support additional species like Wood Anemone, Wood Speedwell, Wood Melick, Three-nerved Sandwort and Violets. Several areas are far more impoverished supporting only Ivy, Bramble and Cleavers in any great abundance.

Several areas within the site have been cleared and are at various stages of regeneration. The more developed areas support Bramble underscrub, tall herb and grassland communities comprised of False Oat-grass, Meadow Fescue, Great Willowherb, Soft Rush, Wood Sedge, Tufted Hair-grass and Meadow Buttercup as well as elements of woodland flora like Bluebell, Herb Bennet, False-brome and Herb-robert.

GREAT WOOD

Site Name : Great Wood
Grid Ref : TQ198630
Area : Approx. 2 ha
Recorder No. : 1494
District : Epsom and Ewell
Date of Survey : 3rd June 1998
Surveyed By : Kieron Huston

Site Description
Great Wood, situated in the west of Epsom and Ewell, is composed of much modified ancient semi-natural woodland. The site lies over London Clay that gives rise to typical stagnogley soils.

The woodland composition has been modified by the introduction of a variety of trees such that the structure is now very variable. Pedunculate Oak occurs with Ash and sub-canopy Wych Elm and Crack Willow. Planted trees include Willows and Poplars. The understorey is variable and includes both Hawthorn and Midland Hawthorn as well as Blackthorn, Holly and very rarely Field Maple.

The field layer is composed of Cleavers, Common Nettle, Cow Parsley and Bramble with more frequent Ground-ivy, False-brome, Yorkshire Fog and Rough Meadow Grass. Disturbed open areas support Common Nettle, Bramble and Creeping Thistle as well as grass dominated areas of False Oat-grass and Yorkshire Fog.

FOUR ACRE WOOD

Site Name : Four Acre Wood
Grid Ref : TQ187626
Area : Approx. 1.75 ha
Recorder No. : 80007
District : Epsom and Ewell
Date of Survey : 3rd June 1998
Surveyed By : Kieron Huston

Site Description
Four Acre Wood, situated on the western border of Epsom and Ewell, is composed of recent secondary broad-leaved woodland. The site lies over London Clay that gives rise to typical stagnogley soils.

Pedunculate Oak and Ash standards are frequent with an understorey of over-stood Hazel coppice, young Wych Elm and Ash. Hawthorn, Blackthorn and Elder are all frequent and Midland Hawthorn is also present though very rare.

The field layer is composed of Bluebell, Cleavers, Greater Stitchwort, Common Nettle, Cow Parsley and Bramble with more locally frequent Wood Anemone, Ground-ivy, Wood Speedwell, Wood Millet and Wood Melick.

Although not listed as ancient woodland in the inventory survey evidence suggests that this wood, if not ancient, is certainly older secondary woodland that has accumulated a fairly rich flora, especially considering its small size.

Appendix II – 2004 Habitat/NVC Survey

1 Methods for habitat survey

The habitat survey was conducted by Karl Crowther over several visits to the site during the period of May to August 2004. The site was separated into 'compartments' of largely homogeneous land cover as identified on a series of orthorectified aerial photographs. Mapping was done directly onto photographs in the field and these boundaries were then transferred into GIS (Mapinfo). The vegetation in each 'compartment' (GIS polygon) was assigned wherever possible into vegetation communities recognised within the National Vegetation Classification (NVC – Rodwell, 1991-2000). Very often, more than one community type was present and so the percentage of total ground cover made up by each individual community was recorded, and appropriate descriptive target notes compiled. These figures were then entered into an Excel spreadsheet, together with abbreviated notes (maximum of 250 characters). This spreadsheet was subsequently imported into the GIS database and was thus linked to the relevant polygons.

Existing information sources were incorporated into the habitat mapping process, these principally including surveys of Butcher's Grove, Pond Wood and Great Wood, carried out by Surrey Wildlife Trust in 1998.

2 Description of habitats and vegetation communities

2.1 Woodlands and Scrub

There is a diverse range of woodland and scrub habitats across Horton Country Park. Much of this does not clearly correlate with the NVC communities, because it is of fairly recently planted origin, often upon what was originally grassland habitat. Thus, for example, much of the plantation woodland supports no clearly definable field layer characteristics. However, the site does support several blocks of established semi-natural broadleaved woodland and indeed, some of this is considered to be of ancient origin. In the following account, communities recognised within the NVC are considered first, with 'non-referable' stands being discussed afterwards.

2.1.1 W6b *Alnus glutinosa–Urtica dioica* woodland, *Salix fragilis* sub-community

A small area of this woodland occurs in the south-western fringe of the Park, supporting a canopy of mature and often multi-stemmed Crack Willow (*Salix fragilis*). The shrub layer includes small Oaks along with Hawthorn (*Crataegus monogyna*), whilst the dryish field layer is a mixture of Stinging Nettle (*Urtica dioica*), Bramble (*Rubus fruticosus* agg.), Yorkshire Fog (*Holcus lanatus*), Creeping soft-grass (*Holcus mollis*), False Oat-grass (*Arrhenatherum elatius*), Creeping Bent (*Agrostis stolonifera*) and Wood Dock (*Rumex sanguineus*).

Crack Willow woodland occurs elsewhere, but these are of planted origin and do not appear referable with the NVC and are thus not dealt with here.

2.1.2 W8d *Fraxinus excelsior–Acer campestre–Mercurialis perennis* woodland, *Hedera helix* sub-community

This community represents a few stands of established semi-natural woodland, around the south-western periphery of the site, that possess a definable ground flora. The canopy is characterised by a mixture of Ash (*Fraxinus excelsior*) and Oak, with a shrub layer that includes Hawthorn, Elder (*Sambucus nigra*) and Blackthorn (*Prunus spinosa*). Ivy (*Hedera helix*) and Bramble tend to form the dominant elements of the ground flora, with other associates including Bluebell (*Hyacinthoides non-scripta*), Wood Avens (*Geum urbanum*), False-brome (*Brachypodium sylvaticum*), Herb Robert (*Geranium robertianum*), Enchanter's-nightshade (*Circaea lutetiana*), Greater Stitchwort (*Stellaria holostea*), Ground-ivy (*Glechoma hederacea*), Garlic Mustard (*Alliaria petiolata*), Hedge Woundwort (*Stachys sylvatica*) and Hairy Brome (*Bromopsis ramosa*).

2.1.3 Woodlands transitional between W8 *Fraxinus excelsior–Acer campestre–Mercurialis perennis* woodland and W10 *Quercus robur–Pteridium aquilinum–Rubus fruticosus* woodland.

A majority of the established (and ancient) broadleaved woodland at Horton Country Park appears to fall into this category. This includes Pond Wood, Great Wood, Four Acre Wood and parts of Butcher's Grove. A brief description of each is provided below.

Pond Wood
Most is an area of recognised 'Ancient Woodland' and comprises Oak (and Ash) of varying maturity, including occasional standard Oaks, with a coppiced Hazel understorey. Other shrubs include Hawthorn, Elder (*Sambucus nigra*), Holly (*Ilex aquifolium*), Elm (*Ulmus* sp.) and Honeysuckle (*Lonicera periclymenum*). A significant proportion of the field layer supports abundant Bluebells along with Ivy, Wood Anemone (*Anemone nemorosa*), Lesser Celandine (*Ranunculus ficaria*), Cow Parsley (*Anthriscus sylvestris*), Herb Robert, Bramble, Wood Millet (*Milium effusum*), Wood Melick (*Melica uniflo*ra), Enchanter's-nightshade, Wood Avens, Greater Stitchwort and Cleavers. Species of less common occurrence are False-brome, Hairy Brome, Nipplewort (*Lapsana communis*), Wood Sedge (*Carex sylvatica*), Hairy Brome, Garlic Mustard, Giant Fescue (*Festuca gigantea*), Common Figwort (*Scrophularia nodosa*), Wood Dock, Tufted Hair-grass (*Deschampsia cespitosa*), Male Fern (*Dryopteris filix-mas*), Hedge Woundwort, Pignut (*Conopodium majus*) and Remote Sedge (*Carex remota*).

The northern and western portions of the Pond Wood contrast sharply with the above vegetation in that Bramble forms dense, impenetrable stands, although many of the other associates are still present, albeit at much lower frequency. In one or two open glades within this part of the wood, the Bramble is also accompanied by Bracken (*Pteridium aquilinum*).

Butcher's Grove
This represents the largest single area of broadleaved woodland within Horton Country Park. It is all of recent, secondary origin. The canopy is dominated by Oak

and Ash, with local Silver Birch and Hornbeam. One small area includes a stand of over-stood, coppiced Hornbeam and Hazel with occasional Oak and rare mature Scots pine. The shrub layer includes much Hazel and Field Maple coppice, along with Elm, Hawthorn and Blackthorn with occasional Holly and Elder.

The field layer is variable in both its diversity and extent, being quite species-poor in some areas and supporting mainly Ivy, Bramble and Cleavers. Other characteristic species include Bluebell, Herb-robert, Remote Sedge, Hairy Brome, Lesser Celandine, Greater Stitchwort, False-brome, Enchanter's-nightshade, Wood Avens, Wood Melick and Wood Millet. In the most diverse areas, the field layer also includes species such as Wood Anemone, Wood Speedwell, Three-veined Sandwort (*Moehringia trinervia*), Primrose (*Primula vulgaris*) and Violets.

A number of compartments have been re-coppiced in recent years and are in varying stages of regeneration. The most recent coppicing was undertaken during the winter of 2003/2004.

Four Acre Wood
This comprises an area of established, semi-natural broadleaved woodland. The westernmost portion comprises a canopy of well-spaced mature Oak (and occasional Ash) standards with a Hazel coppice shrub layer. Other shrubs include Holly, Hawthorn, Elm and rarely, Field Maple (*Acer campestre*).

The field layer supports a fairly uniform mixture of abundant Bluebell, with Wood Melick, Ivy, Bramble, Wood Millet, Wood Anemone, Lesser Celandine, Greater Stitchwort, and rare Male Fern.

In contrast, the eastern portion changes abruptly to a much more dense shrub layer dominated by small Elms, with only occasional Hazel. The canopy again comprises mature Oak and Ash. The field layer is much less uniform in character, with much less Bluebell present. Additional species include Wood Avens, False-brome, Nettle, Hedge Woundwort, Enchanter's-nightshade, Barren Strawberry (*Potentilla sterilis*), Ground-ivy, Tufted Hair-grass (*Deschampsia cespitosa*), Herb Robert and Hairy Brome.

Great Wood
Great wood comprises an area of much-modified ancient semi-natural woodland. The canopy includes a sparse scattering of mature standard Oak and Ash, but has been much influenced by planting of trees that include White Willow and Hornbeam. A number of large boundary Oaks occur on the eastern boundary, a number of these supporting a Heronry.

Much of the woodland is quite open and scrub-like, with a dense regeneration of Hawthorn. Other undershrubs include Sallows, Blackthorn and Elder, with rarely, Holly and Field Maple, plus overstood coppice stools of Hazel. Also present are rare individuals of what appear to be the hybrid between Hawthorn and Midland Hawthorn (*Crataegus monogyna x C. laevigata*).

The field layer reflects the disturbed character of the wood, with many areas comprising a dense tangle of Bramble and Stinging Nettle, whilst elsewhere, Ivy

dominates. Other field layer associates include Hairy Brome, Ground-ivy, Bluebell, Cow Parsley, Wood Dock, Hedge Woundwort, False-brome, Wood Avens and Wood Sedge.

2.1.4 Plantation and other woodlands (communities not referable to the NVC)

These encompass woodlands that have largely been planted within the last 30-or so years, generally upon habitat that was not originally woodland (i.e. in general often open grassland habitat at the time of planting). As such, they often have a poorly-developed and/or grass-dominated field layer that is not referable to the NVC.

There are a number of such woodlands at Horton Country Park, supporting woodlands of varying species composition, including areas such as Lambert's Wood, Hollymoor Grove, Godbold's Copse, Porter's Grove, Stone's Copse, Sherwood Grove and Hendon Grove. In general these woodlands comprise a closed canopy of trees planted around 30 years ago, often in straight rows. Species present include Norway Maple (*Acer platanoides*), Hornbeam (*Carpinus betulus*), Limes (*Tilia* spp.), Ash (*Fraxinus excelsior*), Poplars (*Populus* spp.), Aspen (*Populus tremula*), Crack Willow (*Salix fragilis*), White Willow (*Salix alba*), Cherries (*Prunus* spp.), Dogwood (*Cornus sanguinea*), Pines (*Pinus* spp.) and Horse-chestnut (*Aesculus hippocastanum*). Some trees are more likely to be self-sown such as Birches (*Betula* spp.) and Sycamore (*Acer pseudoplatanus*), as are scattered shrub layer species such as Hawthorn, Blackthorn, Holly, Elder and Elm.

As already mentioned the field layer is often species-poor and characterised by plants such as Cow Parsley (*Anthriscus sylvestris*), Nettles, Bramble, Ivy, Cleavers (*Galium aparine*), Hogweed (*Heracleum sphondylium*), Wood Avens, Herb Robert and Ground-ivy. Elsewhere the field layer is grass-dominated by species such as Yorkshire-fog, Creeping Bent and False Oat-grass. In other instances, there is almost no ground flora to speak of and the woodland floor is essentially bare with tree leaf litter and fallen twigs etc.

Whilst much of this woodland is of a closed canopy, there are several areas where the planting has been thinned in recent years to create a variety of grass-dominated vegetation supporting scattered trees. The main locations are Sherwood Grove and parts of Hendon Grove.

A small area of rather older plantation woodland occurs within what would have been the grounds of the former Long Grove Hospital. This comprises a thinned canopy of mature Scots Pine (*Pinus sylvestris*) and occasional Larch. A number of 'ornamental'-type trees are associated with this woodland, namely a mature individual of Monkey Puzzle (*Araucaria araucana*) and a small tree of Walnut (*Juglans regia*) and Holm Oak (*Quercus ilex*). This woodland is also notable in that the former hospital land boundary includes a large, specimen tree of Pedunculate Oak.

2.1.5 Scrub communities

A wide variety of scrub types are present, occurring in a variety of situations such as alongside linear features such as tracks, paths and drains. Scrub also tends to be associated with previously disturbed, but generally unmanaged parts of the site – such

as a number of old gardens, the 'works compound' and the demolished 'piggery'. In some cases, narrow sections of scrub appear to have developed by growing outwards from previously managed hedgerows (the latter are discussed separately below).

2.1.5.1 W21 *Crataegus monogyna–Hedera helix* scrub

Hawthorn is the dominant element, but other species present as well, such as Blackthorn, Bramble, Elder and Roses, occasionally with a scattering of mature trees.

2.1.5.2 W22 *Prunus spinosa–Rubus fruticosus* scrub

Tends to be overwhelmingly dominated by dense thickets of Blackthorn, with other species poorly-represented.

2.1.5.3 W24 *Rubus fruticosus–Holcus lanatus* underscrub

Characterised by a mixture of Bramble, rank grasses and tall herbs, occasionally with shrubs such as Hawthorn, Blackthorn and Elder.

2.1.5.4 W25 *Pteridium aquilinum–Rubus fruticosus* underscrub

Occurs within a few glades to the western side of Pond Wood.

2.1.5.5 *Salix cinerea* scrub

A few stands of scrub dominated by Grey Willow (*Salix cinerea*) were encountered and are not referable to the NVC.

2.1.5.6 Hedgerow features

Mapped separately from the above scrub categories are linear hedge-features, essentially running along track and field margins. These have been classified according to the dominant species type present. Thus, for example, there are many fairly recently-planted hawthorn hedges. Other hedgerow dominants include Blackthorn and less frequently, Elm. Other hedgerows are much more varied in their species composition and may include a range of more mature trees. Also of relevance is the distinction between the above recently created hedges, which although not themselves generally forming a stock-proof barrier (a fence is usually there for this purpose), contrast with other features that are 'gappy' and essentially in a 'defunct' condition.

2.2 Free-standing trees

Trees have been frequently mapped under this category. It includes a number of notable, maiden Oak trees within a 'parkland' setting, along field-margins, or elsewhere (e.g. further mature Oaks were noted in situations such as hedgerows).

Elsewhere there are a variety of mainly planted specimens, such as around the main car park/barbecue site. Elsewhere, such trees are a remnant of plantings within former

hospital, or other gardens, or to act as a screen (e.g. around adjoining new housing), or in one case, a roadside avenue. Species noted include Ornamental Cherries (*Prunus* spp.), Cherry Laurel (*Prunus laurocerasus*), Sweet Chestnut (*Castanea sativa*), London Plane (*Platanus x hispanica*), Red Horse-chestnut (*Aesculus carnea*), Tulip Tree (*Liriodendron tulipifera*), Hornbeam, Larch (*Larix* sp.) and Apple (*Malus* sp.).

2.3 Grasslands

Grasslands as a whole form the most extensive habitat type at Horton Country Park. As well as making up many of the individual component 'fields', grassland vegetation lines many of the track-sides and often forms glades or more extensive areas within wooded portions of the site.

2.3.1 MG1 *Arrhenatherum elatius* grassland

This represents one of the more extensive grassland communities present at Horton Country Park and is characterised in general by a dominance of False Oat-grass (*Arrhenatherum elatius*). This vegetation characterises areas that are unmanaged or mown/hay-cut only occasionally and thus the vegetation is very tall and coarse in character. The major part is consistent with the **MG1a *Festuca rubra* sub-community**. Often this vegetation is very species-poor, with False Oat-grass overwhelmingly dominant. Other common and frequent associates include Cock's-foot (*Dactylis glomerata*), Common Couch (*Elytrigia repens*), Yorkshire-fog (*Holcus lanatus*), Rough Meadow-grass (*Poa trivialis*), Creeping Thistle (*Cirsium vulgare*) and Tall Fescue (*Festuca arundinacea*). Damp areas can also support species such as Common Fleabane (*Pulicaria dysenterica*) and Hairy Sedge (*Carex hirta*). In smaller areas, where such vegetation is accompanied by frequent Stinging Nettle (*Urtica dioica*) and occasionally, Hogweed (*Heracleum sphondylium*), this represents areas of the **MG1b *Urtica dioica* sub-community**.

Other areas of **MG1a** have a much lower frequency of False Oat-grass and support a more varied species composition. Such vegetation is well-represented in the extreme southern part of the site. Associated species of such vegetation include Creeping Buttercup (*Ranunculus repens*), Cut-leaved Cranesbill, (*Geranium dissectum*), Grass Vetchling (*Lathyrus nissolia*), Meadow Barley (*Hordeum secalinum*), Hairy Tare (*Vicia hirsuta*), Smooth Tare (*Vicia tetrasperma*) and Lesser Stitchwort (*Stellaria graminea*). In addition, very rarely, plants of Common Spotted Orchid were noted to occur. In reality, these forms of MG1a-type grassland probably represent extremes of a continuum with varying species diversity across the range.

Much more local are areas of the **MG1e *Centaurea nigra* sub-community**. This is a more species-rich form of **MG1** where False Oat-grass is again not so dominant. Thus at Horton Country park, this community is indicated by the more prominent presence of Red Fescue in association with species such as Bird's Foot Trefoil (*Lotus corniculatus*) and Knapweed (*Centaurea nigra*) with rarely, Cowslip (*Primula veris*).

One area of such vegetation has apparently arisen from the spreading of an area with chalk and also supports Ladies Bedstraw (*Galium verum*) and Wild Basil (*Clinopodium vulgare*). A number of plants recorded previously from this area in

1990 could not be re-found during 2004. These include Harebell (*Campanula rotundifolia*), Nettle-leaved Bellflower (*Campanula trachelium*), Greater Knapweed (*Centaurea scabiosa*), Chicory (*Cichorum intybus*), Common Toadflax (*Linaria vulgaris*), White Campion (*Silene latifolia*) and Bladder Campion (*Silene vulgaris*). This apparent decline in diversity is probably due to lack of management. For example, coarse/tall grasses may be more prominent in the sward. False Oat-grass was frequent/abundant throughout much of this area in 2004, but was not even recorded here in 1990.

A further type of grassland that appears to come under the umbrella of MG1 comprises a sward dominated by tussocky growth of Tall Fescue. There is no such community recognised in the NVC, but it has here been assigned into the category of **"MG1a – *Festuca arundinacea* variant"** on the basis of it sharing many of the associated species of the False Oat-grass dominated vegetation and the general lack of management. The colonisation of Tall Fescue into these swards is probably a reflection of the lack of management in conjunction with the presence of clay soil types. The most extensive areas of this type of vegetation occur in the complex of fields in the area between Great Wood and the golf course.

2.3.2 MG5 *Cynosurus cristatus – Centaurea nigra* grassland

A tiny area of vegetation that appears to belong to this community occurs within an area of old ant hills that survives within the 'exchange land' on the fringe of new housing on the site of the former Long Grove Park Hospital. This is an area of diverse grassland vegetation dominated by Red Fescue and Common Bent (*Agrostis capillaris*) that includes Self-heal (*Prunella vulgaris*), Creeping Cinquefoil (*Potentilla reptans*), Bird's Foot Trefoil, Yarrow (*Achillea millefolium*), Common Cat's-ear (*Hypochaeris radicata*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Knapweed, Field Woodrush (*Luzula campestris*), Perforate St. John's Wort (*Hypericum perforatum*), Ribwort Plantain (*Plantago lanceolata*), Hairy Tare and Ox-eye Daisy (*Leucanthemum vulgare*).

2.3.3 MG6 *Lolium perenne – Cynosurus cristatus* grassland

Swards falling under this category take two principal forms. The first situation comprises consistently short and closely horse-grazed vegetation generally dominated by a combination of Creeping Bent (*Agrostis stolonifera*), Common Bent (*Agrostis capillaris*), Rough Meadow-grass and Yorkshire-fog. Other frequent associates are Creeping Buttercup, Perennial Rye-grass, White Clover (*Trifolium repens*), Red Clover (*Trifolium pratense*) and Ragwort (*Senecio jacobaea*), along with Ribwort Plantain (*Plantago lanceolata*), Meadow Buttercup (*Ranunculus acris*), Creeping Cinquefoil, Common Mouse-ear, Dandelion (*Taraxacum officinale*), Red Bartsia (*Odontites vernus*), Docks (*Rumex* spp.) and Thistles (*Cirsium* spp.). Often there is much bare ground present due to the trampling effect of horse's hooves.

The second situation involves a generally similar suite of dominant grasses, but within a rank, generally ungrazed and seldom-mown grassland sward. What distinguishes these from the **MG1a-type** grassland is the much lower cover of species such as False Oat-grass, Tall Fescue and Common Couch. However, other frequent grasses can include Perennial Rye-grass (*Lolium perenne*), Timothy (*Phleum pratense*), Meadow

Barley, and Meadow Foxtail (*Alopecurus pratensis*), with rarely, Crested Dog's-tail (*Cynosurus cristatus*). As with the **MG1a-type** vegetation, the range of herbs can be quite variable, ranging from rather species-poor swards to more diverse ones with species such as Cut-leaved Cranesbill, Grass Vetchling, Hairy Tare, Smooth Tare, Meadow Vetchling and Bird's-foot Trefoil.

2.3.4 MG7 *Lolium Perenne* leys and related grasslands

Grassland of this type is indicated by the often almost complete dominance of Perennial Rye-grass within a generally species-poor sward. Large areas of this type of grassland make-up the regularly mown fields associated with the car park, barbecue and 'car boot sale' areas of the site.

A further area of grassland falling under this category comprises the re-sown sward that has been planted upon the area disturbed by a fairly recent pipeline construction.

Very often, where the margins of tracks and paths are regularly-mown, a similar vegetation develops, as it does along regularly-trampled paths across grassland. In addition to mowing, the development of such vegetation is also due to the effects of eutrophication from dogs.

2.3.5 MG10 *Holcus lanatus – Juncus effusus* rush pasture

A very small area of grassland has been placed within this category. This comprises a sward, associated with a damp area, dominated by Yorkshire Fog and accompanied by Hedge Bindweed (*Calystegia sepium*), Creeping Bent, Wood Dock (*Rumex sanguineus*), Lesser Stitchwort, Cleavers (*Galium aparine*), Creeping Cinquefoil, Hairy Sedge and Creeping Buttercup. Soft Rush is largely absent, apart from a few clumps associated with an associated small stand of Common Spike-rush (*Eleocharis palustris*). In effect, this vegetation has the characteristics of the matrix in between the tussocks of Soft Rush that occurs in **MG10**, but without any Soft Rush actually present.

2.4 Weed Communities

The NVC recognises a suite of communities associated with weedy/ruderal/open/disturbed habitats. A number of these occur at Horton Country Park.

2.4.1 OV24/25 *Urtica dioica–Galium aparine* community and *Urtica dioica–Cirsium arvense* community

There is considerable overlap between the characteristic forms of these two communities and they have therefore been grouped together. Both in effect, are Nettle-dominated vegetation. **OV24** has Nettle as the overwhelming dominant in a species-poor sward, where Cleavers is the only constant associate. **OV25** has a more patchy, open cover of Nettles and is thus more diverse, with other associates present, including Thistles in particular.

Good examples of both types occur at Horton Country Park, whereas other stands were difficult to place, and they have therefore been grouped as a single category. The most typical places where such vegetation occurs are alongside tracks and paths and field margins. Other situations include areas of abandoned former gardens, along drains, and where there has been some recent disturbance of grassland or other vegetation.

2.4.2 OV26 *Epilobium hirsutum* community

Small stands of this vegetation were encountered, dominated by Greater Willowherb (*Epilobium hirsutum*), alongside drains – generally as part of a mosaic of **OV24/25** plus bramble (**W24**) and other scrub communities.

2.4.3 Non-referable weed communities

Some stands of weedy vegetation could not be assigned to NVC types. One of the main examples of this is that associated with the outer fringes of a balancing pond situated in the extreme north-east of the site. Species present here include Creeping Thistle, Teasel (*Dipsacus fullonum*), Mugwort (*Artemisia vulgaris*), Hoary Ragwort (*Senecio erucifolius*), Hedge Parsley (*Torilis japonica*), Scentless Mayweed (*Tripleurospermum inodorum*), Black Horehound (*Ballota nigra*), Burdock (*Arctium* sp.), with rarely, Common Mallow (*Malva sylvestris*) and Hemlock (*Conium maculatum*). Also present are occasional small bushes of Sea Buckthorn (*Hippophae rhamnoides*).

A further example comprises an open, weedy sward, dominated by Black Medick (*Medicago lupulina*) that occurs on what appears up until quite recently have been ground. This is situated within the former tip site in the south-west of the Park. Other associates include Red Bartsia (*Odontites vernus*) and Scentless Mayweed (*Tripleurospermum inodorum*), with occasional Mugwort (*Artemisia vulgaris*), Teasel (*Dipsacus fullonum*), Hedge Mustard (*Sisymbrium officinale*), White Melilot (*Melilotus alba*), Ribbed Melilot (*Melilotus officinalis*) and Poppy (*Papaver* sp.).

Further stands of weed-dominated vegetation are developing on areas of bare ground created during the construction of a new carriageway to the B284, which affects two small areas in the extreme north-eastern fringe of the Country Park.

2.5 Swamp Communities

Examples of this type of vegetation are of relatively limited occurrence at Horton Country Park. They occur primarily in association with various water bodies.

2.5.1 S12 *Typha latifolia* swamp

Stands of Bulrush (*Typha latifolia*) occur in most of the ponds within the Country Park. These include Meadow Pond (the largest water body within the Country Park) and Pond Wood Pond, in addition to various more recent balancing ponds. Often, Bulrush is the only species present, although Meadow Pond also includes good amounts of Water Mint (*Mentha aquatica*), Common Spike-rush, Common Fleabane,

Greater Willowherb, Yellow Flag, Common Club-rush (*Schoenoplectus lacustris*) and Reed Canary-grass (*Phalaris arundinacea*). Also present rarely here are Water Plantain (*Alisma plantago-aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). A recent infestation of New Zealand Pigmyweed was noted on the fringes of this pond in August of 2004.

2.5.2 S19 *Eleocharis palustris* swamp

The largest sample of this vegetation, dominated by Common Spike-rush (*Eleocharis palustris*), occurs on the margins of Meadow Pond. A tiny patch of this community also occurs in a damp area of a field to the south-east of the Park.

2.5.3 S22 *Glyceria fluitans* swamp

The small pond alongside the main track, south of Pond Wood supports growth of this community, characterised by a mat of Floating Sweet-grass (*Glyceria fluitans*) on the water surface. A further area of the community is to be found within a part of Orchard Pond.

2.5.4 S28 *Phalaris arundinacea* tall-herb fen

Small areas of this vegetation, overwhelmingly dominated by Reed Canary-grass (*Phalaris arundinacea*), occur on the margins of Meadow Pond.

Appendix III – Horton Country Park Species Lists

The following lists have been extracted from various sources, outlined as appropriate in the following sections. These lists are intended to bring together all known information sources. They do not represent a full inventory of all taxa occurring at Horton Country Park (indeed, such an undertaking would be impossible for any site). Therefore, these lists should be viewed as being very much incomplete, but representing the fullest information about the site at the present time.

Vascular Plants

Vascular plant records have been drawn from a number of sources. A list of vascular plants of 'Horton Lands' was compiled by R.C. Stern (RCS) and J.E. Smith (JES) in 1974. Botanical recording was undertaken within Pond Wood in June of 1988 by J.F. Leslie (JFL), K. Page (KP) and JES. Subsequently, a series of species lists were prepared for various localities within the Country Park in 1990 (source – EEBC files, but origin and recorder unknown). Additional plant species information was complied in 1998 for a number of blocks of woodland within the Country Park that were the focus of surveys conducted by K. Huston (KH) of Surrey Wildlife Trust as part of the 'SNCI' project. Certain areas within the Country Park were examined by JFL and KP in 2003. Where their records are marked "WE" this refers to 'West Ewell, south-east of Butcher' Grove' – it is possible that some of these records may lie beyond the boundary of the Country Park. A significant amount of additional information was obtained during the 2004 habitat survey by Karl Crowther (KAC).

Latin name	**Common name**	**Location**	**Date**	**Recorder (s)**	**Status**	**Comments**
Acer campestre	Field Maple	Pond Wood	29/06/1988	JFL, KP & JES		
Acer platanoides	Norway Maple	Porter's Grove	02/06/2004	KAC		Man Plan habitat survey
Acer pseudoplatanus	Sycamore	Pond Wood	29/06/1988	JFL, KP & JES		
Achillea millefolium	Yarrow					
Aesculus hippocastanum	Horse-chestnut	Pond Wood	27/03/2003	JFL & KP		
Aesculus carnea	Red Horse-chestnut	Exchange Land	14/07/2004	KAC	Planted alien (N)	Man Plan Habitat survey – on site of now demolished hospital buildings

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Aegopodium podagraria	Ground Elder	Pond Wood	03/06/1998	KH	Alien (A)	SWT SNCI survey
Agrimonia eupatoria	Agrimony					
Agrimonia procera	Fragrant Agrimony		1974	RCS/JES		
Agrostis canina	Velvet Bent	Pond Wood	27/03/2003	JFL & KP		
Agrostis gigantea	Black Bent	Pond Wood	27/03/2003	JFL & KP		
Agrostis stolonifera	Creeping Bent	Pond Wood	27/03/2003	JFL & KP		
Ajuga reptans	Bugle	Pond Wood	29/06/1988	JFL, KP and JES		
Alisma plantago-aquatica	Water Plantain	Meadow Pond	04/08/2004	KAC		Man Plan Habitat survey – rare plant noted amongst Typha fringe.
Alliaria petiolata	Garlic Mustard					
Alnus glutinosa	Alder	Pond Wood	29/06/1988	JFL, KP & JES		
Alnus incana	Grey Alder	Great Wood	03/06/1998	KH	Planted	SWT SNCI survey
Alnus sp.	An alder	SE of site	15/07/2004	KAC	Planted	Man Plan habitat survey
Alopecurus geniculatus	Marsh Foxtail	Pond Wood	27/03/2003	JFL & KP		
Alopecurus pratensis	Meadow Foxtail	Pond Wood	29/06/1988	JFL, KP and JES		
Anagallis arvensis	Scarlet Pimpernel	Pond Wood	27/03/2003	JFL & KP		
Anemone nemorosa	Wood Anemone	Pond Wood	29/06/1988	JFL, KP and JES		
Angelica sylvestris	Wild Angelica	Pond Wood	27/03/2003	JFL & KP		
Anisantha sterilis	Barren Brome	Pond Wood	27/03/2003	JFL & KP		
Anthoxanthum odoratum	Sweet Vernal-grass	Various	Jun/Jul 2004	KAC		Man Plan Habitat survey
Anthriscus sylvestris	Cow Parsley	Pond Wood	29/06/1988	JFL, KP and JES		
Apium nodiflorum	Fool's Water-cress	Pond Wood, Meadow Pond	27/03/2003, 04/08/2004	JFL & KP KAC`		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Anisantha sterilis	Barren Brome					
Apium nodiflorum	Fool's Watercress	Abbots Stream	1990			
Arabidopsis thaliana	Thale Cress	WE	04/04/03	JFL, KP		
Araucaria araucana	Monkey Puzzle	WE	04/04/03	JFL, KP	Planted	Planted
Arctium lappa	Greater Burdock	Pond Wood	27 Mar 2003	JFL & KP		
Arctium minus	Lesser Burdock	Pond Wood	29 Jun 1988	JFL, KP and JES		
Armoracia rusticana	Horse radish		1974	RCS/JES		
Artemisia vulgaris	Mugwort	Old Tip area	15.07.04	KAC		Man Plan Habitat survey – old tip area
Arrhenatherum elatius	False Oat-Grass	Pond Wood	29 Jun 1988	JFL, KP and JES		
Arum maculatum	Lords and Ladies	Pond Wood	1990			
Aster novi-belgii	Michaelmas Daisy	Meadow Pond	06/08/2004	KAC	Naturalised alien (N)	Man Plan Habitat survey. Local colonisation around margins of Meadow Pond.
Athyrium filix-femina	Lady Fern	Pond Wood	1990			
Atriplex prostrata	Spear-leaved Orache	Pond Wood	27 Mar 2003	JFL & KP		
Avena fatua	Wild Oat					
Ballota nigra	Black horehound	Chessington Lane Balancing Pond	06/08/2004	KAC		Man Plan Habitat survey.
Barbarea vulgaris	Common Winter Cress	Pond Wood	27 Mar 2003	JFL & KP		
Bellis perennis	Daisy					
Betula pendula	Silver Birch	Pond Wood	29 Jun 1988	JFL, KP and JES		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Betula pubescens	Downy Birch		Aug 2004	KAC		Man Plan habitat survey – everywhere!!
Brachypodium sylvaticum	False Brome	Pond Wood	1990			
Bromopsis ramosa	Hairy Brome	Pond Wood	29 Jun 1988	JFL, KP and JES		
Bromus hordeaceus	Soft-brome	Pond Wood	27 Mar 2003	JFL & KP		
Bryonia dioica	White Bryony	Pond Wood	27 Mar 2003	JFL & KP		
Buddleja davidii	Butterfly-bush	Pond Wood	27 Mar 2003	JFL & KP	Naturalised alien (N)	
Callitriche stagnalis sens. lat.	Common Water Starwort	Pond Wood	27 Mar 2003	JFL & KP		
Calystegia sepium	Hedge Bindweed	Pond Wood	27 Mar 2003	JFL & KP		
Calystegia sepium subsp. *sepium*	Great Bindweed	Pond Wood	29 Jun 1988	JFL, KP &JES		
Campanula rotundifolia	Harebell	Chalk area	1990			Not re-found during 2004
Campanula trachelium	Nettle-leaved Bellflower	Chalk area	1990			Not re-found during 2004
Capsella bursa-pastoris	Shapherd's purse					
Cardamine flexuosa	Wavy Bitter-cress	Pond Wood	29 Jun 1988	JFL, KP &JES		
Cardamine pratensis	Cuckooflower	Pond Wood	27 Mar 2003	JFL & KP		
Carex divulsa ssp. *divulsa*	Grey Sedge	Exchange Land	14/07/2004	KAC		Man Plan Habitat survey. Rough grassland around old Long Grove Hospital buildings

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Carex flacca	Glaucous Sedge	Meadow Pond	04/08/2004	KAC		Man Plan Habitat survey. Swamp fringe to Meadow Pond
Carex hirta	Hairy Sedge	Abbots Stream	1990			
Carex otrubae	False Fox-sedge	Various	Jun, Jul 2004	KAC		Man Plan Habitat survey
Carex pendula	Pendulous Sedge	Exchange land	14/07/2004	KAC		Man Plan Habitat survey. Demolished buildings on exchange land area.
Carex remota	Remote Sedge	Pond Wood	29 Jun 1988	JFL, KP & JES		
Carex sylvatica	Wood-sedge	Pond Wood	29 Jun 1988	JFL, KP & JES		
Carpinus betulus	Hornbeam	Pond Wood	29 Jun 1988	JFL, KP & JES		
Castanea sativa	Sweet Chestnut	Butcher's Grove	1990			
Cedrus atlantica	Atlas Cedar	WE	04/04/03	JFL, KP	Planted	Planted alien on old estate
Cedrus libani	Cedar of Lebanon	WE	04/04/03	JFL, KP	Planted	Planted alien on old estate
Centaurea nigra	Common Knapweed	Pond Wood	27 Mar 2003	JFL & KP		
Centaurea scabiosa	Greater Knapweed	Chalk area	1990			Not re-found during 2004
Cerastium fontanum	Common Mouse-ear	Pond Wood	27 Mar 2003	JFL & KP		
Cerastium glomeratum	Sticky Mouse-ear	WE	04/04/03	JFL, KP		
Chamerion angustifolium	Rose-bay Willow-herb	Butcher's Grove	1990			
Chelidonium majus	Greater Celandine	WE	04/04/03	JFL, KP		
Chenopodium album	Fat-hen	Pond Wood	27 Mar 2003	JFL & KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Chenopodium bonus-henricus	Good King Henry	'Field 6'	1990			
Chenopodium ficifolium	Fig-leaved Goosefoot	Pond Wood	27 Mar 2003	JFL & KP		
Chenopodium polyspermum	Many-seeded Goosefoot	Pond Wood	27 Mar 2003	JFL & KP		
Cichorium intybus	Chicory	Chalk area	1990			Not re-found during 2004
Circaea lutetiana	Enchanter's-nightshade	Pond Wood	27 Mar 2003	JFL & KP		
Cirsium arvense	Creeping thistle					
Cirsium palustre	Marsh Thistle	Butcher's Grove	08 Jun 1998	KH		SWT SNCI survey
Cirsium vulgare	Spear Thistle	Pond Wood	29 Jun 1988	JFL, KP & JES		
Clinopodium vulgare	Wild Basil	Chalk area	1990; 16/09/2004	KAC		Man Plan Habitat survey. Still present, but rare in chalk area.
Conium maculatum	Hemlock	WE	04/04/03	JFL, KP		
Conopodium majus	Pignut	Pond Wood	29 Jun 1988	JFL, KP & JES		
Consolida ajacis	Delphinium	WE	04/04/03	JFL, KP	Naturalised/Casual (N)	
Conium maculatum	Hemlock					
Convolvulus arvensis	Field Bindweed	Pond Wood	27 Mar 2003	JFL & KP		
Conyza canadensis	Canadian Fleabane	Pond Wood	27 Mar 2003	JFL & KP		
Cornus sanguinea	Dogwood	Pond Wood	29 Jun 1988	JFL, KP & JES		
Coronopus didymus	Lesser Swine-cress	Pond Wood	27 Mar 2003	JFL & KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Coronopus squamatus	Swine-cress	Pond Wood	27 Mar 2003	JFL & KP		
Corylus avellana	Hazel	Pond Wood	29 Jun 1988	JFL, KP & JES		
Crassula helmsii	New Zealand Pigmyweed	Meadow Pond	04/08/2004	KAC	Alien (N)	Man Plan Habitat survey. Local patches on fringe of pond.
Crataegus laevigata	Midland Hawthorn	Pond Wood	29 Jun 1988	JFL, KP & JES		
Crataegus x media	Hawthorn/Midland Hawthorn hybrid	Great Wood	August 2004	KAC		Man Plan Habitat survey – two trees noted together
Crataegus monogyna	Hawthorn	Pond Wood	29 Jun 1988	JFL, KP & JES		
Crepis capillaris	Smooth Hawk's-beard	Pond Wood	27 Mar 2003	JFL & KP		
Crepis vesicaria	Beaked Hawk's-beard	Pond Wood	27 Mar 2003	JFL & KP		
Crocosmia x crocosmiifolia	Montbretia	WE	04/04/03	JFL, KP	Alien (N)	
Cynosurus cristatus	Crested dog's tail	NE meadow area	16/07/2004	KAC		Man Plan Habitat survey. Meadow area between Golf Course and Lambert's Wood.
Cytisus scoparius	Broom	Exchange Land	14/07/2004	KAC		Man Plan Habitat survey. Demolished buildings on exchange land area
Dactylis glomerata	Cock's-foot	Pond Wood	29 Jun 1988	JFL, KP & JES		
Dactylorhiza fuchsii	Common Spotted Orchid	Various	23/06/2004	KAC		Man Plan Habitat survey – rare in one or two localities in south of site

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Daucus carota	Wild Carrot	Chalk area	1990			Man Plan Habitat survey – single plant noted in chalk area
Deschampsia cespitosa	Tufted Hair-grass	Pond Wood	29 Jun 1988	JFL, KP & JES		
Deschampsia cespitosa subsp. *cespitosa*	Tufted Hair-grass	Pond Wood	27 Mar 2003	JFL & KP		
Digitalis purpurea	Foxglove	Butcher's Grove	08 Jun 1998	KH		SWT SNCI survey
Diplotaxis muralis	Stinkweed	WE	04/04/03	JFL, KP		
Dipsacus fullonum	Teasel	WE	04/04/03	JFL, KP		
Dryopteris carthusiana	Narrow Buckler-fern	WE	04/04/03	JFL, KP		
Dryopteris dilatata	Broad Buckler-fern	Pond Wood	27 Mar 2003	JFL & KP		
Dryopteris filix-mas	Common Male Fern	Pond Wood	29 Jun 1988	JFL, KP & JES		
Eleocharis palustris	Common Spike-rush	Various	Jun/Jul 2004	KAC		Man Plan Habitat survey
Elodea nuttallii	Nuttall's Water-weed /	Pond Wood	29 Jun 1988	JFL, KP & JES	Alien (N)	
Elymus caninus	Bearded Couch	Pond Wood	27 Mar 2003	JFL & KP		
Elytrigia repens	Common Couch					
Epilobium ciliatum	American Willowherb	Pond Wood	29 Jun 1988	JFL, KP & JES		
Epilobium hirsutum	Great Willowherb	Pond Wood	29 Jun 1988	JFL, KP and JES		
Epilobium lanceolatum	Spear-leaved Willowherb	Butcher's Grove	08 Jun 1998	KH		SWT SNCI survey

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Epilobium montanum	Broad-leaved Willowherb	WE	04/04/03	JFL, KP		
Epilobium tetragonum	Square-stalked Willowherb	Pond Wood	27 Mar 2003	JFL & KP		
Equisetum arvense	Field Horsetail	WE	04/04/03	JFL, KP		
Erysimum cheiri	Wallflower	Pond Wood + WE	27 Mar 2003	JFL & KP	Naturalised alien (A)	Waste ground Alien in WE
Euonymus europaeus	Spindle	Butcher's Grove	1988	JES		E. side of Butcher's Grove
Euphorbia exigua	Dwarf Spurge		1974	RCS/JES		
Euphorbia helioscopia	Sun Spurge	WE	04/04/03	JFL, KP		
Euphorbia lathyris	Caper Spurge	WE	04/04/03	JFL, KP		
Euphorbia peplus	Petty Spurge	WE	04/04/03	JFL, KP		
Fallopia convolvolus	Black Bindweed		1974	RCS/JES		
Festuca arundinacea	Tall Fescue	Pond Wood	27 Mar 2003	JFL & KP		
Festuca gigantea	Giant Fescue	Pond Wood	29 Jun 1988	JFL, KP & JES		
Festuca pratensis	Meadow Fescue	Butcher's Grove	08 Jun 1998	KH		SWT SNCI Survey
Festuca rubra	Red Fescue					
Filipendula ulmaria	Meadowsweet	Pond Wood	27 Mar 2003	JFL & KP		
Fragaria vesca	Wild Strawberry	Butcher's Grove	1990			
Frangula alnus	Alder Buckthorn	Butcher's Grove	1990			
Fraxinus angustifolia	Narrow-leaved Ash	BBQ site area	August 2004	KAC	Planted	Man Plan Habitat survey
Fraxinus excelsior	Ash	Pond Wood	29 Jun 1988	JFL, KP & JES		Var. *pendula* in planted woodland (WE)
Fragaria vesca	Wild Strawberry	WE	04/04/03	JFL, KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Galega officinalis	Goat's Rue	Exchange Land	24/06/2004	KAC	Alien (N)	Man Plan Habitat survey – large colony on exchange land area
Galium aparine	Cleavers	Pond Wood	29 Jun 1988	JFL, KP & JES		
Galium palustre subsp. *palustre*	Marsh Bedstraw	Pond Wood	27 Mar 2003	JFL & KP		
Galium verum	Ladies Bedstraw	Chalk area	1990; June 2004	KAC		Man Plan Habitat survey – still present in chalk area
Geranium dissectum	Cut-leaved Crane's-bill	Pond Wood	27 Mar 2003	JFL & KP		
Geranium molle	Dove's-foot Crane's-bill	Pond Wood	27 Mar 2003	JFL & KP		
Geranium robertianum	Herb-Robert	Pond Wood	29 Jun 1988	JFL, KP & JES		
Geum urbanum	Herb Bennet	Pond Wood	29 Jun 1988	JFL, KP & JES		
Glechoma hederacea	Ground-ivy	Pond Wood	29 Jun 1988	JFL, KP & JES		
Glyceria declinata	Sweet-grass	Willow Plantation West Park Bdy	1990			
Glyceria fluitans	Floating Sweet-grass	Orchard Pond, Field Pond	2004	KAC		
Hedera helix	Ivy	Pond Wood	29 Jun 1988	JFL, KP & JES		
Hedera helix ssp. *hibernica*	Atlantic Ivy	WE	04/04/03	JFL, KP		
Heracleum sphondylium	Hogweed	Pond Wood	29 Jun 1988	JFL, KP & JES		
Hippophae rhamnoides	Sea Buckthorn	Chessington Rd. Balancing Pond	06/08/2004	KAC		Man Plan Habitat survey – several planted around edges of Chessington Road Balancing Pond.

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Hirschfeldia incana	Hoary Mustard	WE	04/04/03	JFL, KP	Established alien	
Holcus lanatus	Yorkshire Fog					
Holcus mollis	Creeping Soft-grass	Pond Wood	29 Jun 1988	JFL, KP & JES		
Hordeum murinum	Wall Barley	Pond Wood	27 Mar 2003	JFL & KP		
Hordeum secalinum	Meadow Barley		23/06/2004	KAC		Man Plan Habitat survey – locally quite common in grasslands
Hyacinthoides non-scripta	Bluebell	Pond Wood	29 Jun 1988	JFL, KP & JES		
Hypericum hirsutum	Hairy St. John's Wort		1974, 14/07/2004	RCS/JES, KAC		Man plan habitat survey – exchange land
Hypericum perforatum	Perforate St. John's Wort	Plantation, side of Field 15	1990			
Hypericum tetrapterum	Square-stalked St. John's-wort	Pond Wood	27 Mar 2003	JFL & KP		
Hypochaeris radicata	Cat's-ear	Pond Wood	27 Mar 2003	JFL & KP		
Ilex aquifolium	Holly	Pond Wood	29 Jun 1988	JFL, KP & JES		
Ilex x altaclerensis	I. aquifolium x perado	Pond Wood	27 Mar 2003	JFL & KP		The back cross is as the dominant plant with few pure Ilex aquifolium plants showing hybrid vigour,larger leaves,broad flat dull surface.
Iris foetidissima	Stinking Iris	Pond Wood	27 Mar 2003	JFL & KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Iris pseudacorus	Yellow Flag					
Juglans regia	Walnut	WE		KAC	Introduced	? self-sown in thinned Scots pine plantation in southern part of Lambert's Wood.
Juncus bufonius	Toad Rush	Various	02/06/2004	KAC		Man Plan Habitat survey, esp. in area of new pipeline
Juncus conglomeratus	Compact Rush	Pond Wood, Orchard balancing pond	03 Jun 1998, 04/08/2004	KH, KAC		SWT SNCI survey, Man Plan habitat survey
Juncus effusus	Soft Rush	Butcher;s Grove	1990			
Juncus inflexus	Hard Rush	Pond Wood	27 Mar 2003	JFL & KP		
Lactuca serriola	Prickly Lettuce	Pond Wood	27 Mar 2003	JFL & KP		
Lamium album	White Dead-nettle	Pond Wood	1990			
Lamium purpureum	Red Dead-nettle		1974	RCS/JES		
Lapsana communis	Nipplewort	Pond Wood	29 Jun 1988	JFL, KP & JES		
Larix decidua	Larch	WE	04/04/03	JFL, KP	Planted	
Lathyrus nissolia	Grass Vetchling		23/06/2004	KAC		Man Plan Habitat survey
Lathyrus pratensis	Meadow Vetchling	WE	04/04/03	JFL, KP		
Lemna minor		Willow Plantation West Park Bdy	1990			
Lemna minuta	Least Duckweed	Pond Wood	27 Mar 2003	JFL & KP		
Leontodon autumnalis	Autumnal Hawkbit	Pond Wood	27 Mar 2003	JFL & KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Leontodon saxatilis	Lesser Hawkbit	Pond Wood	27 Mar 2003	JFL & KP		
Lepidium draba	Hoary Cress	WE	04/04/03	JFL, KP		
Leucanthemum vulgare	Oxeye Daisy	Pond Wood	27 Mar 2003	JFL & KP		
Ligustrum ovalifolium	Garden Privet	Old Hospital Villas	14/07/2004	KAC	Introduced alien (N)	Man Plan Habitat survey. Old lane in grounds of former Long Grove Hospital exchange land
Ligustrum vulgare	Wild Privet	Pond Wood	27 Mar 2003	JFL & KP		
Linaria vulgaris	Common Toadflax	Chalk area	1990			Man Plan Habitat survey – not recorded here in 2004
Linum usitatissimum	Cultivated Flax	Pond Wood	04 Apr 2003	JFL & KP	Escape from cultivation (N)	
Liriodendron tulippa	Tulip Tree	Old Hospital Villas	14/07/2004	KAC	Planted	Man Plan Habitat Survey. Old Long Grove Hospital Villas on exchange land
Lobularia maritima	Sweet Alison	WE	04/04/	JFL, KP	Naturalised alien (N)	
Lolium multiflorum	Italian Rye-grass		1974	RCS/JES		
Lolium perenne	Perennial Rye-grass	Pond Wood	27 Mar 2003	JFL & KP		
Lonicera periclymenum	Honeysuckle	Pond Wood	29 Jun 1988	JFL, KP & JES		
Lotus corniculatus	Bird's-foot Trefoil	Meadow N. of Pond Wood; Chalk area	24/06/2004	KAC		Man Plan Habitat survey. Grassland sward in meadow between Pond Wood and Four Acre Wood. Also still present in Chalk area.

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Lotus pedunculatus	Greater Bird's-foot Trefoil	Grassland in extreme SW	24/06/2004	KAC		Man Plan Habitat survey. Grassland in extreme SW, in between pipe line route and southern boundary.
Lunaria annua	Honesty	WE	04/04/03	JFL, KP	Naturalised alien (N)	
Luzula forsteri	Forster's Woodrush		1974	RCS/JES		
Luzula pilosa	Hairy Woodrush	Pond Wood	1990			
Luzula campestris	Field Woodrush	Exchange Land	24/06/2004	KAC		Man Plan Habitat survey. Area of old ant hills in exchange land area
Lycopus europaeus	Gipsywort	Pond Wood	27 Mar 2003	JFL & KP		
Lysimachia nummularia	Creeping Jenny		1974	RCS/JES		
Lysimachia vulgaris	Yellow Loosestrife	Butcher's Grove	1990			
Mahonia aquifolium	Oregon-grape	Pond Wood	27 Mar 2003	JFL & KP	Naturalised alien (N)	
Malus domestica	Apple	Pond Wood	29 Jun 1988	JFL, KP & JES	Planted in orchards	
Malus sylvestris	Crab Apple sens. str.	Pond Wood	27 Mar 2003	JFL & KP		
Malva sylvestris	Common Mallow					
Matricaria discoidea	Pinappleweed		1974; Aug 2004	RCS/JES; KAC		Man Plan Habitat survey - 2004
Matricaria recutita	Scented Mayweed	Pond Wood	27 Mar 2003	JFL & KP		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Medicago lupulina	Black Medick	Pond Wood	27 Mar 2003	JFL & KP		
Melica uniflora	Wood Melick	Pond Wood	29 Jun 1988	JFL, KP & JES		
Melilotus albus	White melilot	Old Tip area	16/09/04	KAC		Man Plan Habitat survey – old tip area
Melilotus officinalis	Ribbed Melilot	Chalk area	16/09/04	KAC		Still present in Chalk area. Also M. cf. officinalis on exchange land (KAC)
Mentha aquatica	Water Mint	Meadow Pond	04/08/2004	KAC		Man Plan Habitat survey – locally abundant round margins of Meadow Pond.
Mercurialis annua	Annual Mercury	WE	04/04/03	JFL, KP		
Mercurialis perennis	Dog's Mercury	WE	04/04/03	JFL, KP		
Milium effusum	Wood Millet	Pond Wood	27 Mar 2003	JFL & KP	Native	Native
Moehringia trinervia	Three-nerved Sandwort	Pond Wood	27 Mar 2003	JFL & KP		
Mycelis muralis	Wall lettuce	Pond Wood	29 Jun 1988	JFL, KP & JES		
Myosotis scorpioides	Water Forget-me-not	Meadow Pond	06/08/2004	KAC		Man Plan Habitat survey – Typha fringe to Meadow Pond
Myosotis sylvatica	Wood Forget-me-not	WE	04/04/03	JFL, KP		
Odontites vernus	Red Bartsia	Various	24/06/2004	KAC		Man Plan Habitat survey – various localities
Oxalis acetosella	Wood-sorrel	Pond Wood	29 Jun 1988	JFL, KP & JES		
Papaver somniferum	Opium Poppy	WE	04/04/03	JFL, KP	Casual alien (A)	

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Papaver sp.	A Poppy	Old Tip	15/07/04	KAC		Man Plan Habitat survey – old tip area
Persicaria amphibia	Amphibious Bistort	Abbots Stream	1990			
Persicaria lapathifolia	Pale Persicaria	Pond Wood	27 Mar 2003	JFL & KP		
Persicaria maculosa	Redshank	Pond Wood	27 Mar 2003	JFL & KP		
Phalaris arundinacea	Reed canary-grass	Meadow Pond	06/08/2004	KAC		Man Plan habitat survey – good stands on fringes of Meadow Pond.
Phleum bertolonii	Smaller Cat's-tail	Pond Wood	27 Mar 2003	JFL & KP		
Phleum pratense	Timothy	Pond Wood	27 Mar 2003	JFL & KP		
Phyllitis scolopendrium	Hart's-tongue Fern	Pond Wood	27 Mar 2003	JFL & KP	Native	Streamside banks in woodland 100+ plants of all ages ,thriving colony. Native
Picris echioides	Bristly Ox-tongue	WE	04/04/03	JFL, KP		
Pilosella officinarum	Mouse-ear Hawkweed	Exchange Land	24/07/2004	KAC		Man Plan Habitat survey. Exchange land on area of now demolished hospital buildings
Pinus contorta	Lodgepole Pine	WE	04/04/03	JFL, KP	Planted	In Planted woodland
Pinus nigra	Austrian Pine	WE	04/04/03	JFL, KP	Planted	In planted woodland
Pinus nigra ssp. *laricio*	Corsican Pine	WE	04/04/03	JFL, KP	Planted	
Pinus sylvestris	Scots Pine	Pond Wood	29 Jun 1988	JFL, KP & JES		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Pistia stratiotes	Water Lettuce	Meadow Pond	16/09/2004	KAC	Garden throw-out	Man Plan Habitat survey – several plants noted around eastern fringe of Meadow Pond. Probable recent introduction.
Plantago lanceolata	Ribwort Plantain	Pond Wood	27 Mar 2003	JFL & KP		
Plantago major	Greater Plantain	Pond Wood	29 Jun 1988	JFL, KP & JES		
Plantago maritima	Sea Plantain	Chalk area	1990			Dubious record, plant not re-found here during Man Plan Habitat survey in 2004
Platanus x hispanica	London Plane	WE	04/04/03	JFL, KP	Planted	
Poa annua	Annual Meadow-grass	Pond Wood	29 Jun 1988	JFL, KP & JES		
Poa nemoralis	Wood Meadow-grass	Pond Wood	1990			
Poa pratensis sens. lat.	Smooth Meadow-grass	Pond Wood	27 Mar 2003	JFL & KP		
Poa trivialis	Rough Meadow-grass	Pond Wood	27 Mar 2003	JFL & KP		
Polygonum aviculare agg.	Knot-grass (agg.)	Pond Wood	27 Mar 2003	JFL & KP		
Polystichum aculeatum	Hard Shield-fern	Pond Wood	29 Jun 1988	JFL, KP & JES		
Polystichum setiferum	Soft Shield-fern	Pond Wood	27 Mar 2003	JFL & KP	Native	Streamside banks in damp woodland plants scattered near stream of varying ages. Native
Populus tremula	Aspen	Pond Wood	29 Jun 1988	JFL, KP & JES		
Populus sp.	Polpars (planted)				Planted	
Potentilla reptans	Trailing Tormentil	Chalk area	19/09/2004	KAC		Man Plan Habitat survey

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Potentilla sterilis	Barren Strawberry	Four Acre Wood	1990			
Primula veris	Cowslip		1974; 2004	RCS/JES; KAC		Man Plan Habitat survey – noted in several localities
Primula vulgaris	Primrose	Pond Wood	27 Mar 2003	JFL & KP		
Prunella vulgaris	Selfheal	Pond Wood	27 Mar 2003	JFL & KP		
Prunus avium	Wild Cherry	Pond Wood	1990			
Prunus domestica	Wild Plum		1974	RCS/JES		
Prunus laurocerasus	Cherry Laurel	Exchange land	14/07/04	KAC	Planted (N)	Man Plan Habitat survey. Local plantings on exchange land areas
Prunus lusitanica	Portugal Laurel	Pond Wood	1990		Established alien (N)	
Prunus spinosa	Blackthorn	Pond Wood	29 Jun 1988	JFL, KP & JES		
Pteridium aquilinum	Bracken	Pond Wood	29 Jun 1988	JFL, KP & JES		
Pulicaria dysentrica	Common Fleabane	Chalk area	16/09/2004	KAC		Man Plan Habitat survey. Rare plants noted in Chalk area.
Pyrus communis sens lat	Pear	WE	04/04/03	JFL, KP		Planted in old orchard, Said to be the variety "Bellesime D'Hiver" a 17th century French cooking pear.
Quercus cerris	Turkey Oak	Pond Wood	29 Jun 1988	JFL, KP & JES	Planted	
Quercus ilex	Holm Oak	WE	04/04/03	JFL, KP	Planted	
Quercus petraea	Sessile Oak	Pond Wood	03 Jun 1998	KH		SWT SNCI survey
Quercus robur	Pedunculate Oak	Pond Wood	29 Jun 1988	JFL, KP & JES		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Ranunculus acris	Meadow Buttercup	Pond Wood	29 Jun 1988	JFL, KP & JES		
Ranunculus auricomus	Goldilocks Buttercup	WE, Butcher's Grove	04/04/03, 1990	JFL, KP		
Ranunculus ficaria	Lesser Celandine	Pond Wood	1990			
Ranunculus ficaria ssp. *bulbilifer*	Bulbiferous Celandine	WE	04/04/03	JFL, KP		
Ranunculus repens	Creeping Buttercup	Pond Wood	29 Jun 1988	JFL, KP & JES		
Reseda lutea	Wild Mignonette					
Reseda luteola	Weld	WE	04/04/03	JFL, KP		
Rhamnus cathartica	Buckthorn	Butcher's Grove	1990			
Rhinanthus minor	Yellow Rattle	NE meadow area	16/07/2004	KAC		Man Plan Habitat survey – meadow area in between golf course and Lambert's Wood.
Ribes rubrum	Red Currant	Pond Wood	1990			
Ribes uva-crispa	Gooseberry	Butcher's Grove	1990			
Robinia pseudoacacia	False Acacia	Butcher's Grove	1990		Alien (N)	
Rorippa nastutrium-aquaticum	Watercress	Abbots Stream, Orchard bal pond overflow	1990, 2004	KAC		Man Plan habitat survey – Overflow/by-pass channel to Orchard balancing pond.
Rorippa sylvestris	Creeping Yellowcress		1974	RCS/JES		
Rosa arvensis	Field Rose	Pond Wood	29 Jun 1988	JFL, KP & JES		
Rosa canina agg.	Dog Rose	Pond Wood	29 Jun 1988	JFL, KP & JES		
Rubus caesius	Dewberry		1974	RCS/JES		
Rubus idaeus	Raspberry		1974	RCS/JES		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Rubus fruticosus agg.	Bramble	Pond Wood	29 Jun 1988	JFL, KP & JES		
Rumex acetosa	Common Sorrel					
Rumex conglomeratus	Clustered Dock	Pond Wood	27 Mar 2003	JFL & KP		
Rumex crispus	Curled Dock	Pond Wood	27 Mar 2003	JFL & KP		
Rumex obtisifolius	Broad-leaved Dock	Various	2004	KAC		Man Plan Habitat survey - widespread
Rumex obtusifolius var. *transiens*		Pond Wood	27 Mar 2003	JFL & KP	Established	Damp woodland by stream patch 10 x 3 metres. Established.
Rumex sanguineus	Wood Dock	Pond Wood	29 Jun 1988	JFL, KP & JES		
Salix alba	White Willow	Various	Jun/Jul 2004	KAC	Planted	Man Plan Habitat survey – planted in various recent woodlands
Salix caprea	Goat Willow	Pond Wood	29 Jun 1988	JFL, KP & JES		
Salix cinerea subsp. *oleifolia*	Grey Willow	Pond Wood	27 Mar 2003	JFL & KP		
Salix fragilis	Crack Willow	Pond Wood	29 Jun 1988	JFL, KP & JES		
Salix x sepulcralis	Weeping willow	Orchard Pond	04/08/2004	KAC	? Planted	Man Plan Habitat survey – large mature tree
Salix viminalis	Osier	WE	04/04/03	JFL, KP		
Sambucus nigra	Elder	Pond Wood	29 Jun 1988	JFL, KP & JES		
Scirpus lacustris	Common club-rush	Meadow Pond	06/08/2004	KAC		Man Plan Habitat Survey. Locally frequent around Meadow Pond margins.
Scrophularia auriculata	Water Figwort	Pond Wood; Chalk area	1990; 16/09/2004	KAC		Man Plan Habitat survey – rare plant noted in Chalk area.

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Scrophularia nodosa	Common Figwort	Pond Wood/WE	29 Jun 1988	JFL, KP & JES		
Senecio erucifolius	Hoary Ragwort					
Senecio jacobaea	Ragwort					
Senecio squalidus	Oxford Ragwort				Naturalised alien	
Silene dioica	Red Campion	WE	04/04/03	JFL, KP		
Silene latifolia	White Campion	Chalk area	1990			Not noted here during Man Plan Habitat survey.
Silene vulgaris	Bladder Campion	Chalk area	1990			Not noted here during Man Plan Habitat survey
Sinapis alba	White Mustard		1974	RCS/JES		
Sinapis arvensis	Charlock	WE	04/04/03	JFL, KP		
Sison amomum	Stone Parsley		2004	KAC		Man Plan Habitat survey – various localities, including rough grassland in Long Grove Hospital former grounds.
Sisymbrium officinale	Hedge Mustard		Aug 2004	KAC		Man Plan Habitat survey
Solanum dulcamara	Bittersweet	Pond Wood	27 Mar 2003	JFL & KP		
Sonchus arvensis	Field Sow-thistle					
Sonchus asper	Prickly Sow-thistle	Pond Wood	27 Mar 2003	JFL & KP		
Sonchus oleraceus	Smooth Sow-thistle	Butcher's Grove	08 Jun 1998	KH		SWT SNCI survey
Sorbus aucuparia	Rowan	Pond Wood	29 Jun 1988	JFL, KP & JES		

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Stachys officinalis	Betony	Light Rly between burning area and West Park bdy.	1990			
Stachys sylvatica	Hedge Woundwort	Pond Wood	29 Jun 1988	JFL, KP & JES		
Stellaria alsine	Bog Stitchwort	Willow Plantation West Park Bdy	1990			
Stellaria graminea	Lesser Stitchwort	Pond Wood	27 Mar 2003	JFL & KP		
Stellaria holostea	Greater Stitchwort	Pond Wood	27 Mar 2003	JFL & KP		
Stellaria media	Chickweed					
Symphoricarpos albus	Snowberry	Pond Wood	27 Mar 2003	JFL & KP	Naturalised alien (N)	
Symphytum officinale	Comfrey	Abbots Stream	1990			
Symphytum cf. *x uplandicum*	Russian Comfrey	Various	24/06/2004	KAC		Man Plan Habitat survey
Tamus communis	Black Bryony	Pond Wood	29 Jun 1988	JFL, KP & JES		
Tanacetum parthenium	Feverfew	Butcher's Grove	08 Jun 1998	KH		SWT SNCI survey
Tanacetum vulgare	Tansy	Exchange Land	14/07/2004	KAC		Man Plan Habitat survey – demolished buildings on exchange land area.
Taraxacum aggregate	Dandelion	Pond Wood	29 Jun 1988	JFL, KP & JES		
Taxus baccata	Yew	Pond Wood	27 Mar 2003	JFL & KP	? planted	
Teucrium scorodonia	Wood Sage	Pond Wood	03 Jun 1998	KH		SWT SNCI survey

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Tilia cordata	Small-leaved Lime	Pond Wood	04 Apr 2003	JFL & KP	Planted	Planted
Tilia x europea	Lime	WE, Great Wood	04/04/03, 03/06/98	JFL & KP, KH		
Tilia sp.	a lime	Pond Wood	04 Apr 2003	JFL & KP	Planted	Species T. x euchlora, Caucasian Lime. Planted
Torilis japonica	Upright Hedge-parsley	Pond Wood	29 Jun 1988	JFL, KP & JES		
Tragopogon pratensis	Goat's-beard	Pond Wood	27 Mar 2003	JFL & KP		
Trifolium dubium	Lesser Trefoil	Butcher's Grove	08 Jun 1998, 23.06.04	KH, KAC		SWT SNCI survey, Man Plan habitat survey
Trifolium pratense	Red Clover	WE	04/04/03			
Trifolium repens	White Clover					
Tripleurospermum inodorum	Scentless Mayweed	WE	04/04/03	JFL, KP		
Typha latifolia	Bulrush	Pond Wood	27 Mar 2003	JFL & KP		
Ulmus glabra	Wych Elm	Pond Wood	1990			
Ulmus procera	English Elm	Pond Wood	29 Jun 1988	JFL, KP & JES		
Urtica dioica	Common Nettle	Pond Wood	29 Jun 1988	JFL, KP & JES		
Urtica urens	Small Nettle	WE	04/04/03	JFL, KP		
Veronica beccabunga	Brooklime	Orchard balancing pond	04/08/2004	KAC		Man Plan Habitat survey. Orchard balancing pond and overflow channel, plus Orchard Pond

Latin name	Common name	Location	Date	Recorder (s)	Status	Comments
Veronica chamaedrys	Germander Speedwell	Pond Wood	27 Mar 2003	JFL & KP		
Veronica montana	Wood Speedwell	Pond Wood, Butcher's Grove	27 Mar 2003, 1990	JFL & KP		
Veronica officinalis	Heath Speedwell	Butcher's Grove	08 Jun 1998	KH		SWT SNCI Survey
Veronica persica	Common Field-speedwell	Pond Wood	27 Mar 2003	JFL & KP		
Veronica serpyllifolia	Thyme-leaved Speedwell	WE	04/04/03	JFL, KP		
Viburnum opulus	Guelder-rose	Pond Wood	29 Jun 1988	JFL, KP & JES		
Vicia cracca	Tufted Vetch	Abbots Stream	1990			
Vicia hirsuta	Hairy Tare		23/06/2004	KAC		Man Plan Habitat survey
Vicia sativa	Common Vetch					
Vicia sativa subsp. *segetalis*	Common Vetch	Pond Wood	27 Mar 2003	JFL & KP		
Vicia sepium	Bush Vetch	Pond Wood	27 Mar 2003	JFL & KP		
Vicia tetrasperma	Smooth Tare		23/06/2004	KAC		Man Plan habitat survey
Viola reichenbachiana	Early Dog-violet	WE	04/04/03	JFL, KP		
Viola riviniana	Common Dog-violet	Pond Wood	27 Mar 2003	JFL & KP		

Bryophytes

The following bryophytes have been recorded within the Country Park. The majority were recorded by either Karl Crowther (KAC) and/or Giles Groome (GG) on 10.02.2005.

Latin name	English name	Location	Date	Recorder
Atrichum undulatum	Common Smoothcap	Pond Wood	10.02.2005	KAC/ GG
Barbula unguiculata	Bird's-claw Beard-moss	Concrete base of old piggery	10.02.2005	KAC
Brachythecium rutabulum	Rough-stalked Feather-moss		10.02.2005	KAC/ GG
Bryum capillare	Capillary Thread-moss	Concrete base of old piggery	10.02.2005	KAC
Calliergonella cuspidata	Pointed Spear-moss	Old ant hills in Long Grove Hospital exchange land area	10.02.2005	GG
Ceratodon purpureus	Redshank	Concrete base of old piggery	10.02.2005	KAC
Eurhynchium praelongum	Common Feather-moss		10.02.2005	KAC/ GG
Fissidens sp.	A Pocket-moss	Pond Wood	10.02.2005	GG
Grimmia pulvinata	Grey-cushioned Grimmia	Concrete base of old piggery	10.02.2005	KAC
Lunularia cruciata	Crescent-cup Liverwort	Outfall of Pond Wood Pond	10.02.2005	KAC/ GG
Mnium hornum	Swan's-neck Thyme-moss	Pond Wood	1990	Not known
Plagionmium undulatum	Hart's-tongue Thyme-moss	Pond Wood	10.02.2005	KAC/ GG
Syntrichia ruralis	Great Hairy Screw-moss	Concrete base of old piggery	10.02.2005	KAC

Lichens

No lichen records available

Fungi

A majority of these records have been taken from a paper printout of the EEBC database ('list to 06.11.1984'). The recorder is not known. Unfortunately, the corner of one page was torn and information was missing (an un-damaged copy could not be found on file).
Table not yet complete

Latin name	Common name	Location	Date	Status
Agaricus arvensis	Horse Mushroom		06.11.1984	
Amantia phalloides	Death Cap		06.11.1984	
Armillaria mellea	Honey Fungus		06.11.1984	
Auricularia auricula judae	Ear Fungus		06.11.1984	
Auricularia mesenterica	None		06.11.1984	
Bolbitius vitellinus	None		06.11.1984	
Boletus chrysenteron	??		06.11.1984	
Boletus subtomentosus	??		06.11.1984	
Boletus versicolor	??		06.11.1984	
Calocera viscosa	None		06.11.1984	
Clavariadelphus fistulosus	??		06.11.1984	
Clavulina cristata	None		06.11.1984	
Clitocybe dicolor (decembris)	None		06.11.1984	
Clitocybe flaccida	??		06.11.1984	
Clitocybe geotropa	None		06.11.1984	
Clitocybe nebularis	None		06.11.1984	
Clitocybe phyllophila	None		06.11.1984	
Collybia butyracea	None		06.11.1984	
Collybia dryophila	None		06.11.1984	
Collybia fusipes	None		06.11.1984	
Coprinus disseminatus	None		06.11.1984	
Coprinus micaeus	None		06.11.1984	
Coprinus picaceus	None		06.11.1984	
Coprinus plicatilis	None		06.11.1984	
Coriolus variabilis	??		06.11.1984	
Dacrymyces stillatus	None		06.11.1984	
Daedaleopsis confragrosa	None		06.11.1984	
Daldinia concentrica	None		06.11.1984	
Entoloma rhodoplium	??		06.11.1984	
Exidia glandulosa (truncata)	None		06.11.1984	
Flamulina velutipes	None		06.11.1984	
Geastrum triplex	An Earth Star		06.11.1984	

Latin name	Common name	Location	Date	Status
Hebeloma sacchariolens	None		06.11.1984	
Hypholoma fasciculare	Sulphur-tuft		06.11.1984	
Inocybe geophyla var. lilacina	None		06.11.1984	
Laccaria amethystea	None		06.11.1984	
Laccaria laccata	None		06.11.1984	
Lacrymaria velutina (Psathhyrella lacrymabunda)	None		06.11.1984	
Lactarius quietus	??		06.11.1984	
Lepiota procera	??		06.11.1984	
Lepiota rhacodes	??		06.11.1984	
Lepiota rhacodes var. hortensis	??		06.11.1984	
Lepista nuda	A Wood Blewitt		06.11.1984	
Lepista sp.	A Wood Blewitt	Pond Wood	1990	
Macrolepiota procera	Parasol Mushroom	Butcher's Grove	1990	
Marasmius oreades	Fairy Ring		06.11.1984	
Marasmius rotula	None		06.11.1984	
Melamscrella symphyli	??		06.11.1984	
Melanoleuca arcuata	??		06.11.1984	
Melanoleuca melaleuca (vulgaris)	None		06.11.1984	
Mycena flavo-alba	None		06.11.1984	
Mycena galericulata	None		06.11.1984	
Mycena galopus	None		06.11.1984	
Neobulgaria pura	None		06.11.1984	
Phallus impudicus	Stinkhorn	Pond Wood	1990	
??Phlebia sp. (torn page)			06.11.1984	
Piptoporus betulinus	Birch Polypore	Pond Wood	1990	
Piptoporus sp. (torn page)			06.11.1984	
Pleurotus sp. (torn page)			06.11.1984	
Pleurotus sp. (torn page)			06.11.1984	
Pluteus cervinus	None		06.11.1984	
Pluteus umbrosus	None		06.11.1984	
Polyporus squamosus	None		06.11.1984	
Psilocybe physaloides	??		06.11.1984	
Puccinia punctiformis	??		06.11.1984	
Rhodotus palmatus	None		06.11.1984	
Russula atropurpurea (krombholzii)	None		06.11.1984	

Latin name	Common name	Location	Date	Status
Russula foetens	None		06.11.1984	
Russula laurocerasi (fragrans)	None		06.11.1984	
Russula ochroleuca	None		06.11.1984	
Russula xerampelina (erythropoda)	None		06.11.1984	
Scleroderma citrinum	None		06.11.1984	
Scleroderma verrucosum	None		06.11.1984	
Stereum hirsutum	??		06.11.1984	
Stropharia inuncta	None		06.11.1984	
Tricholoma ustaloides (albobrunneum)	None		06.11.1984	
Tricholomopsis platyphylla	??		06.11.1984	
Tyromyces caesius	??		06.11.1984	
Volvariella bombycinia	None		06.11.1984	
Xylaria hypoxylon	None		06.11.1984	

Invertebrates

John Biglin undertook some recording of moths (Lepidoptera) during the 1990s. More recently there has been casual invertebrate recording, namely of butterflies (Lepidoptera) and Dragonflies (Odonata) since the formation of the Friends of Horton Country Park in 2000 (recorders include Bob & Ann Smith, Tony Quinn and Tony Gibbs). A recent beetle record has been provided by Ian Menzies (ISM).

Key to Status

RDB	Nationally rare species, recorded in 1-15 national hectads (RDB1 = endangered; RDB2 = vulnerable; RDB3 = rare).
Notable A	Nationally scarce, recorded in 16-100 hectads (Notable A = 16-30 hectads).
Notable B	Nationally scarce, recorded in 16-100 hectads (Notable B = 31-100 hectads).
LBAP	Species on the National Biodiversity Action Plan Long list

Common name	Latin name	Status	Comments
Lepidoptera (butterflies and moths)			
Orange Tip	*Anthocharis cardamines*		
Purple Emperor	*Apatura iris*	Notable B/LBAP	Woodlands

Common name	Latin name	Status	Comments
Ringlet	*Aphantopus hyperantus*		
Silver-washed Fritillary	*Argynnis paphia*	LBAP	Woodlands
Clouded Yellow	*Colias croceus*		
Brimstone	*Gonepteryx rhamni*		
Peacock	*Inachis io*		
White Admiral	*Lagoda camilla*	Local	
Small Copper	*Lycaena phlaeas*		
Meadow Brown	*Maniola jutrina*		
Speckled Wood	*Pararge aegaria*		Woodlands
Comma	*Polygonia c-album*		
Common Blue	*Polyommatus icarus*		
Gatekeeper	*Pyronia tithonus*		
White-letter Hairstreak	*Strymonidia w-album*		
Red Admiral	*Vanessa atlanta*		
A micro moth	*Agapeta hamana*		
Mottled/Willow Beauty	*Alcis repandata repandata*		
Dark Arches	*Apamea monoglypha*		
Dun-bar	*Cosmia trapezina*		
Marbled Beauty	*Cryphia domestica*		
Common Footman	*Eilema lurideola*		
Common Heath	*Ematurga atomaria*		
Lime-speck Pug	*Eupithecia centaureata*		
Riband Wave	*Idaea straminata*		
Clay	*Mythinma ferrago*		
Smoky Wainscot	*Mythimna impura*		
Common Wainscot	*Mythimna pallens*		
Swallow-tailed Moth	*Ourapteryx sambucaria*		
Ruby Tiger	*Phragmatobia fuliginosa fuliginosa*		
Early *Thorn*	*Selenia dentaria*		
5-spot Burnet	*Zygaena trifolii*		
Odonata (Dragonflies and Damselflies)			
Southern Hawker	*Aeshna cyanea*		
Brown Hawker	*Aeshna grandis*		
Migrant Hawker	*Aeshna mixta*		
Emperor Dragonfly	*Anax imperator*		
Common Blue Damselfly	*Enallagma cyathigerum*		
Broad-bodied Chaser	*Libellula depressa*		
Common Darter	*Sympetrum striolatum*		
Coleoptera (Beetles)			
A ladybird	*Clitosthetus arcuatus*	RDB1	Pond Wood (old) (ISM, 18.03.05)
Common Cardinal Beetle	*Pyrochroa serraticornis*		Pond Wood in 1998

Common name	Latin name	Status	Comments
			(SWT SNCI survey)

Vertebrates

Sources of information are discussed under the individual headings below.

Key to status (general):

LBAP = Species on the United Kingdom Biodiversity Action Plan "Long List"
UKSAP = "Priority Species" of United Kingdom Biodiversity Action Plan
SyBAP = Surrey Biodiversity Action Plan species

Birds

The list of birds has been based primarily upon the various issues of the Friends of Horton Country Park Newsletter (contributors include Tony Quinn, Bob Smith, Tony Gibbs, Brian Godbold and Alison Fure).

Please note the occurrence of a species whose presence is being regarded as confidential (on the "Long List" of the UKBAP) and thus not included in the table below. Epsom and Ewell Borough Council are aware of its presence and, if necessary, will undertake any appropriate management for this species.

Common Name	Latin name	Conservation status	Comments
Cormorant	*Phalacrocorax carbo*	LBAP/Amber Listed	Rare sightings
Little Grebe	*Tachybaptus ruficollis*		Rare migrant, Meadow Pond
Grey Heron	*Ardea cinerea*		Breeds (Great Wood)
Canada Goose	*Branta canadensis*		Possibly breeds
Mute Swan	*Cygnus olor*	LBAP/Amber Listed	Breeds (Meadow Pond, not every year)
Mallard	*Anas platyhynchos*	LBAP	Breeds
Shelduck	*Tadorna tadorna*	LBAP/Amber Listed	Rare migrant
Egyptian Goose	*Alopochen aegyptaicus*		Rare sighting (once only)
Mandarin Duck	*Aix galericulata*		May have bred
Tufted Duck	*Aythya fuligula*	LBAP	Rare winter visitor
Common Buzzard	*Buteo buteo*	LBAP	Occasional sightings (breed nearby)
Sparrowhawk	*Accipiter nisus*	LBAP	Occasionally breeds (pine plantation nr. orchard)

Common Name	**Latin name**	**Conservation status**	**Comments**
Kestrel	*Falco tinnunculus*	UKSAP/Amber Listed	Occasionally breeds (Long Grove Wood area)
Pheasant	*Phasianus colchicus*		May breed
Water Rail	*Rallus aquaticus*	LBAP/Amber Listed	Rare winter visitor
Moorhen	*Gallinula chloropus*		Breeds (most ponds)
Coot	*Fulica atra*		Breeds (Meadow Pond)
Lapwing	*Vanellus vanellus*	LBAP/Amber Listed	Rare visitor, possibly increasing (now breeds at Park Farm)
Snipe	*Gallinago gallinago*	LBAP/Amber Listed	Scarce winter visitor (Orchard balancing pond and Meadow Pond)
Jack Snipe	*Lymnocryptes minimus*	LBAP	Rare winter visitor (Meadow Pond)
Woodcock	*Scolopax rusticola*	LBAP/Amber Listed	Rare winter visitor (possibly overlooked)
Green Sandpiper	*Tringa ochropus*	LBAP/Amber Listed	Rare migrant
Black-headed Gull	*Larus ridibundus*	Amber Listed	Common visitor
Common Gull	*Larus canus*	Amber Listed	Common visitor
Lesser Black-backed Gull	*Larus fuscus*	LBAP/Amber Listed	Scarce winter visitor
Great Black-backed Gull	*Larus marinus*		Scarce winter visitor
Herring Gull	*Larus argentatus*	LBAP/Amber Listed	Scarce winter visitor
Wood Pigeon	*Columba palumbus*		Breeds (up to 200 noted)
Stock Dove	*Columba oenas*	Amber Listed	Breeds in small numbers
Collared Dove	*Streptopelia decaocto*		Breeds
Turtle Dove	*Streptopelia turtur*	UKSAP/Red Listed	Rare summer visitor. Last recorded in 2000 (declining in Surrey)
Cuckoo	*Cuculus canorus*	Amber Listed	Rare spring/summer visitor (last record 1988)
Barn Owl	*Tyto alba*	LBAP/Amber Listed	Occasional local breeder
Long-eared Owl	*Asio otus*	LBAP	Rare winter visitor (last record 1991)
Short-eared Owl	*Asio flammeus*	LBAP/Amber Listed	Rare winter visitor (no details of last record)
Little Owl	*Athene noctua*		Breeding resident
Tawny Owl	*Strix aluco*	LBAP	May breed (last heard in 2001)
Swift	*Apus apus*		Common summer visitor
Ring-necked Parakeet	*Psittacula krameri*		Common visitor

Common Name	**Latin name**	**Conservation status**	**Comments**
Kingfisher	*Alecdo atthis*	LBAP/Amber Listed	Rare winter visitor (last reported in 2002 at Golf Course balancing pond)
Green Woodpecker	*Picus viridis*	LBAP/Amber Listed	Breeding resident (2-3 pairs)
Great Spotted Woodpecker	*Dendrocarpos major*	LBAP	Breeding resident (3-4 pairs)
Lesser Spotted Woodpecker	*Dendrocopus minor*	LBAP/Red Listed	Possible breeding resident
Woodlark	*Lullula arborea*	UKSAP/Red Listed	Rare migrant (last seen Meadow Pond in 1998)
Skylark	*Alauda arvensis*	UKSAP/Red Listed	Occasional visitor (breeds on Park Farm)
Sand Martin	*Riparia riparia*	LBAP/Amber Listed	Unusual visitor
Swallow	*Hirundo rustica*	LBAP/Amber listed	Breeds (one pair usually in stables next to Ranger's Office)
House Martin	*Delichon urbica*	LBAP/SyBAP /Amber Listed	Unusual visitor
Tree Pipit	*Anthus trivialis*	LBAP/Amber Listed	No recent sightings
Meadow Pipit	*Anthus pratensis*	LBAP/Amber Listed	Scarce winter visitor (mainly around Meadow Pond and Polo Field)
Grey Wagtail	*Motacilla cinerea*	LBAP/Amber Listed	Rare winter visitor
Pied Wagtail	*Mocatilla alba*	LBAP	Possible breeding resident
Waxwing	*Bombycilla garrulus*	TBA	Rare winter visitor (50+ noted in Feb. 2005)
Red-backed Shrike	*Lanius collurio*	UKSAP/Red Listed	Rare migrant (recorded mid-1990s)
Wren	*Troglodytes troglodytes*		Breeding resident
Dunnock	*Prunella modularis*	LBAP/Amber Listed	Breeding resident
Grasshopper Warbler	*Locustella naevia*	LBAP/Red Listed	Rare migrant (held summer territories in Hendon Grove in 1990s). No post-2000 records.
Reed Warbler	*Acrocephalus scirpaceus*	LBAP/LBAP	Breeds (last at Meadow Pond in 1998 and 1999).
Dartford Warbler	*Sylvia undata*	LBAP/Amber Listed	Very rare visitor (Meadow Pond in October 1999)

Common Name	Latin name	Conservation status	Comments
Garden Warbler	*Sylvia borin*	LBAP	Breeds (last recorded as such in 1999)
Blackcap	*Sylvia atricapilla*	LBAP	Breeding resident (probably most common breeding warbler)
Whitethroat	*Sylvia communis*	LBAP	Breeds (most common in N. part of park – hedgerows/scrub)
Lesser Whitethroat	*Sylvia curruca*	LBAP	Occasional breeder (last record as such in 2000)
Willow Warbler	*Phylloscopus trochilus*	LBAP/Amber Listed	Regular breeder in several localities
Chiffchaff	*Phylloscopus collybita*	LBAP	Regular breeder, fairly common in suitable woodland
Goldcrest	*Regulus regulus*	LBAP/Amber Listed	Scarce winter visitor
Spotted Flycatcher	*Musciapa striata*	UKSAP/Red Listed	Breeds locally
Wheatear	*Oenanthe oenanthe*	LBAP	Rare migrant
Whinchat	*Saxicola rubetra*	LBAP	Rare migrant
Stonechat	*Saxicola torquata*	LBAP/Amber Listed	Rare migrant
Robin	*Erithacus rubecula*		Common breeding resident
Nightingale	*Luscinia megarhynchos*	LBAP/Amber Listed	Rare migrant (formerly bred in Pond Wood, no recent records)
Black Redstart	*Phoenicurus ochruros*	LBAP/Amber Listed	Rare migrant
Redstart	*Phoenicurus phoenicurus*	LBAP/Amber Listed	Rare migrant
Fieldfare	*Turdus pilaris*	LBAP/Amber Listed	Common winter visitor (flocks of up to 200)
Ring Ouzel	*Turdus torquatus*	LBAP/Red Listed	Rare migrant (last in 1980s)
Blackbird	*Turdus merula*		Common breeding resident
Redwing	*Turdus iliacus*	LBAP/Amber Listed	Common winter visitor (flocks of up to 200)
Song Thrush	*Turdus philomelos*	UKSAP/Red Listed	Fairly common breeding resdient
Mistle Thrush	*Turdus miscivorus*	Amber Listed	May breed (in south of park)
Long-tailed Tit	*Aegithalos caudatus*		Fairly common breeding resdient
Coal Tit	*Parus ater*	LBAP	Scarce winter visitor

Common Name	**Latin name**	**Conservation status**	**Comments**
Blue Tit	*Parus caeruleus*	LBAP	Common breeding resident
Great Tit	*Parus major*	LBAP	Common breeding resident
Marsh Tit	*Parus palustris*	LBAP/Red Listed	Rare visitor (last seen at Pond Wood in 2001)
Nuthatch	*Sitta europaea*	LBAP	Breeding resident (favours Butcher's Grove)
Treecreeper	*Certhia familiaris*	LBAP	May breed (Butcher's Grove)
Corn Bunting	*Emberzia calandra*	UKSAP/Red Listed	Formally bred (Horton Farm and presumably the park – last in 1958)
Yellowhammer	*Emberzia citrinella*	LBAP/Red Listed	Breeding resident
Reed Bunting	*Emberiza schoeniclus*	UKSAP/Red Listed	Breeding resident (mostly around Meadow Pond)
Chaffinch	*Fringilla coelebs*		Common breeding resident
Greenfinch	*Carduelis chloris*	LBAP	Breeding resident
Siskin	*Carduelis spinus*	LBAP	Scarce winter visitor
Goldfinch	*Carduelis carduelis*	LBAP	Breeding and also some large flocks recorded
Linnet	*Carduelis cannabina*	UKSAP/Red Listed	Scarce summer visitor and possible occasional breeder
Redpoll	*Acanthis flammea*		Scarce winter visitor
Common Crossbill	*Loxia curvirostra*	LBAP	Very rare visitor
Bullfinch	*Pyrrhula pyrrhula*	UKSAP/Red Listed	Breeding resident
House Sparrow	*Passer domesticus*	Red Listed	Breeding resident (around HQ area)
Tree Sparrow	*Passer montanus*	UKSAP/Red Listed	Probably formerly bred. Last seen in early 1990s (winter)
Starling	*Sturnus vulgaris*	Red Listed	Breeds around HQ area. Good numbers on grazed pastures in winter)
Jay	*Garrulus glandarius*		Breeding resident
Magpie	*Pica pica*		Common breeding resdient

Common Name	Latin name	Conservation status	Comments
Jackdaw	*Corvus monedula*		Breeding resident - formerly large roost of 500-1,000 birds in ground of Long Grove Hospital, may now have moved to Pond Wood
Carrion Crow	*Corvus corone corone*		Common breeding resident

Red/Amber list taken from the RSPB website (Anon., 2002), which in turn has been based upon Gregory *et al*. (2002). Species on the 'Long List' of the Biodiversity Action Plan have been taken from Appendix F of the 'UK Steering Group report' (UK Biodiversity Steering Group, 1995).

Herptiles

The following is the only known record at present (this undoubtedly reflects a lack of records rather than a scarcity of herptiles).

Common Name	Latin name	Conservation status	Comments
Palmate Newt	*Triturus helveticus*		
Great Crested Newt	*Triturus cristatus*	WCA Schedule 5; UKSAP; LBAP	

Mammals

Information sources include a bat survey of unknown origin conducted in 1991 (EEBC files), a bat survey by Alison Fure on July 7th 2001 and reported in the Friends of Horton Country Park Newsletter no. 6 (April 2002), plus a bat survey of the Long Grove Copse Villa by Ross Baker and Lynne Whitfield, in August 2002.

Mervyn Newman of Surrey Wildlife Trust has identified the presence of Water Voles, whilst a number of casual sightings of other mammals were made during a botanical survey in 1990.

Common name	Latin name	Status	Comments
Roe Deer	*Cervus elaphus*		Common throughout
Fox	*Vulpes vulpes*		
Grey Squirrel	*Sciurus carolinensis*		Common throughout

Common name	Latin name	Status	Comments
Weasel	*Mustela nivalis*		1990 record from Pond Wood during botanical survey
Water Vole	*Arvicola terrestris*	WCA Schedule 5; UKSAP	Stream S. of Pond Wood
Bank Vole	*Clethrionomys glareolus*		1990 record from Pond Wood during botanical survey
Wood Mouse	*Apodemus sylvaticus*		1990 record from Pond Wood during botanical survey
Pygmy Shrew	*Sorex minutus*		1991 record from Pond Wood area
Common Pipistrelle	*Pipistrellus pipistrellus*	WCA Schedule 5; UKSAP	1991 and 2001 bat surveys in S. of park
Soprano pipistrelle	*Pipistrellus pygmaeus*	WCA Schedule 5; UKSAP	1991 and 2001 bat surveys in S. of park
Serotine	*Eptescius serotinus*	WCA Schedule 5;	Equestrian Centre area in 2001
Noctule	*Nyctalus noctula*	WCA Schedule 5;	Equestrian Centre area in 2001
Brown Long-eared Bat	*Plecotus auritus*	WCA Schedule 5;	Extreme S. of park close to West Park Hospital in 1991 survey. Likely use of Long Grove Villa building as night-time feeding roost (Baker & Whitfield, 2002)

Appendix IV – LNR Byelaws and Other Statutory Information

BYELAWS made Under Section 41 of the Countryside Act 1968

with respect to

HORTON COUNTRY PARK

1. Throughout these byelaws the expression "the Council" means the Council of the Borough of Epsom and Ewell and the expression "the land" means the country park known as Horton Country Park.

2. No person shall on the land

(i) climb any wall or fence on or enclosing the land or any tree or any barrier, railing, post or other erection.

(ii) without reasonable excuse remove or displace any wall or fence on or enclosing the land or any barrier, railing, post or seat, or any part of any erection or ornament or any implement provided for use in the laying out or maintenance of the land.

3. No person shall affix or cause to be affixed any advertisement, bill, placard or notice upon any building, wall, fence, gate, door, pillar, post, tree, rock or stone on or enclosing the land.

4.

(a) No person shall light a fire on the land or place or throw or let fall a lighted match or any other thing so as to be likely to cause a fire. Provided that this byelaw shall not apply to any event held in pursuance of an agreement with the Council.

(b) This byelaw shall not prevent the lighting or use of a properly constructed camping stove or cooker in any area set aside for the purpose in such a manner as not to cause danger of or damage by fire.

5.

(a) No person shall ride or drive a mechanically propelled vehicle on any part of the land where there is no right of way for vehicles.

(b) If the Council has set apart a space on the land for use by vehicles of any class this byelaw shall not prevent the riding or driving of those vehicles in the space so set apart or on the direct route between it and the entrance to the land.

6. Where the Council indicate by a notice conspicuously exhibited on or alongside any gate on the land that leaving that gate open is prohibited, no person having opened that gate or caused it to be opened shall leave it open.

7. No person shall without the consent of the Council erect a tent or use any vehicle, including a caravan or any other structure for the purpose of camping on the land except on any area which may be set apart and indicated by notice as a place where camping is permitted.

8. No person shall except in the exercise of any lawful right or privilege or in pursuance of a lawful agreement with the Council have in his possession while he is on the land any firearm unless it is so covered with a securely fastened gun cover that it cannot be fired.

In this byelaw the expression 'firearm' means any lethal barrelled weapon of any description from which any shot bullet or other missile can be discharged. This byelaw shall apply to all parts of the land except any part thereof which is public right of way.

9.

(i) No person in charge of a dog, other than a registered blind person in charge of a guide dog shall without reasonable excuse permit the dog to enter or remain in any field on the land used for the grazing of livestock or horses.

(ii) Notice of the effect of this byelaw shall be given by a sign displayed in a conspicuous position at each entrance to each such field.

(iii) An officer of the Council or any constable may require a person in charge of a dog which has entered any such field to remove the dog from the field.

(iv) For the purpose of this byelaw the keeper of the dog shall be deemed to be in charge thereby unless the court is satisfied that at the time when the dog entered or remained on the field it had been placed or taken into the charge of some other person.

(v) In paragraph (iv) above "the keeper" shall include the owner of the dog or any person who habitually has it in his possession.

10.

(a) No person shall without lawful excuse or authority on the land kill, molest or intentionally disturb any animal, bird or fish or engage in hunting, shooting or fishing or the setting of traps or nets or the laying of snares.

(b) This byelaw shall not prohibit any fishing which may be authorised by the Council or the checking and recording of mammals or birds.

11. No person shall, except in pursuance of a lawful agreement with the Council, turn out or permit any animal to graze on the land.

12. No person shall on the land sell or offer or expose for sale or let to hire or offer or expose for letting to hire any commodity or article except in pursuance of an agreement with the Council.

13. No person shall obstruct the flow of any drain or watercourse or open shut or otherwise interfere with any sluice gate or similar apparatus on the land.

14. Where any rides or parts of the land have by notices affixed in a conspicuous position on the land been set apart by the Council as a place where horse riding is permitted. a person shall not except in the exercise of any lawful right or privilege ride a horse in any other part of the land.

15. No person shall on the land drive pitch or chip a hard golf ball, except on any land set aside by the Council for use as a golf link. golf driving range, golf practice area or putting course.

16. No person shall intentionally recklessly or negligently foul or pollute any waterway comprised in the land.

17.

(a) No person shall place on any lake pond or waterway on or comprised in the land any power driven model boat or control the movement of any such boat.

(b) In this byelaw "power driven" means driven by combustion of petrol vapour or other combustible vapour or other combustible substances.

18. No person shall by operating or causing or permitting to be operated any wireless set gramophone, amplifier, tape recorder or similar instrument make cause or permit to be made any noise which is so loud or so continuous or repeated as to give reasonable cause for annoyance to other persons in the Country Park.

19.

(a) No person shall on any part of the land release any power-driven model aircraft for flight or control the flight of such an aircraft or without reasonable excuse cause any such aircraft to take off or land.

(b) In this byelaw "model aircraft" means an aircraft which either weighs not more than 5 kilograms without its fuel or is for the time being exempted (as a model aircraft) from the provision of the Air Navigation Order.

(c) In this byelaw "power driven" means driven by the combustion of petrol vapour or other combustible vapour or other combustible substances.

20. No person shall on the land:

(a) intentionally obstruct any officer of the Council in the proper execution of his duties;

(b) intentionally obstruct any person carrying out an act which is necessary to the proper execution of any contract with the Council; or

(c) intentionally obstruct any other person in the proper use of the land or behave so as to give reasonable grounds for annoyance to other persons on the land.

21. Where any lake, pond or waterway has by notice affixed in conspicuous positions on the land been set apart by the Council as a place where boating is permitted, a person shall not except in the exercise of any lawful right or privilege place or use any boat on any lake, pond or waterway in any other part of the land.

22.

(a) An act necessary to the proper execution of his duty on the land by an officer of the Council or any act which is necessary to the proper execution of any contract with the Council, shall not be an offence under these byelaws.

(b) Nothing in or done under any of the provisions of these byelaws shall in any respect prejudice or injuriously affect any public right of way through the land or the rights of any person acting legally by virtue of some estate, right or interest in over or affecting the land or any part thereof.

23. Every person who shall offend against any of these byelaws shall be liable on summary conviction to a fine not exceeding level two on the standard scale.

The Common Seal of the Council of the Borough of Epsom and Ewell was here unto affixed this 10th day of August 1988 in the presence of:&emdash;

Mayor, Borough Secretary and Solicitor

The foregoing byelaw(s) are hereby confirmed by the Secretary of State and shall come into operation on the 5th day of December 1988.

Signed by authority of the Secretary of State.

C.L. SCOBLE An Assistant Under-Secretary of State HOME OFFICE, LONDON SW1