

LONDON CONSERVATION SERVICES LTD



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DRAFT NATURE CONSERVATION  
MANAGEMENT PLAN  
for

# Ravensbury Park Local Nature Reserve

A REPORT FOR  
THE LONDON BOROUGH OF MERTON

April 2001

Written by

**Barry Nicholson BSc. MSc. MIEEM**

for

**Alan Scott Ecological Consultants Limited**

**21A Drakefield Road, London SW17 8RT**

**☎/📠 0171 928 9142**

**E-mail: asec@cix.co.uk**

working on behalf of

**London Conservation Services**

**c/o London Wildlife Trust**

**Harling House, 47-51 Great Suffolk Street**

**London SE1 0BS**

**☎/📠 0171 928 9142**

**E-mail: asec@cix.co.uk**

## **LONDON CONSERVATION SERVICES**

London Conservation Services (LCS) is the wholly owned trading company of the London Wildlife Trust (LWT), which is the only charity working through the whole of Greater London to help wildlife. LWT is part of a nation-wide network of Wildlife Trusts and Urban Wildlife Groups, which work to promote wildlife, and is widely regarded as one of the foremost urban nature conservation organisations in the UK. As well as managing over 50 nature reserves in London, the Trust campaigns to save and improve greenspace, gives advice to local communities and schools, and works with Local Authorities and other organisations to make London a better place, not only for wildlife, but for people too.

LCS carries out work in most areas of nature conservation and wildlife management, including: practical habitat management, advice on management of wildlife, ecological surveys, environmental education and landscape design incorporating ecological improvements and safeguards. It is able to call on a wide range of expertise provided by LWT staff and by other ecologists and free-lance professionals in the London Area and beyond.

LCS is managed by Alan Scott Ecological Consultants Limited.

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## **Introduction**

London Conservation Services (LCS) have been commissioned by the London Borough of Merton (LBM) to prepare a management plan for the proposed Ravensbury Park Local Nature Reserve. The plan, which is presented in the following report, considers the short and medium-term management works required to conserve and enhance the ecological interest of the park. It also puts forward a number of recommendations for potential longer term enhancements.

The plan is based on a habitat survey of the site carried out in February 2001 and on discussions with Martin Boyle of the London Borough of Merton.

## **Part 1: General Information**

### **1.1 Name**

Ravensbury Park

### **1.2 Location**

Ravensbury Park is situated on the northern banks on the River Wandle, about 1 kilometre south-east of Mitcham town centre. Morden Road runs along the eastern and northern boundaries, with Bishopsford Road to the east. A housing estate borders the Park in the east and further residential areas and commercial premises occur to the west. Morden Hall Park is located immediately downstream, on the other side of Morden Road.

### **1.3 Area**

XX hectares (approx.).

### **1.4 Grid Reference**

TQ 267 680 (centre of site).

### **1.5 Access**

The Park is open during daylight hours. It is accessible on foot from Bishopsford Road in the east, from Morden Road in the north and west and from Wandle Road in the south. The Park is a short distance from Mitcham Tramlink Station, which lies about 200 metres to the north along Bishopsford Road.

### **1.6 Vice County**

VC17 Surrey.

### **1.7 Map Coverage**

Ordnance Survey 1: 50,000 series Sheet 176.

Ordnance Survey 1: 25,000 series Sheet TQ26/36.

British Geological Survey 1: 50,000 series Sheet 270 South London.

### **1.8 Land Tenure**

The freehold of the site is owned by the London Borough of Merton (LBM).

### **1.9 Status**

Most of the Park has been designated as part of a Site of Metropolitan Importance for Nature Conservation (Site M91 – the Upper River Wandle and Surroundings) by the former London Ecology Unit (LEU 1998). It is identified as a Site of Importance for Nature Conservation in the Merton Unitary Development Plan (UDP). The central grassland area (Ravensbury Meadow) and northern tip of the Park are not included in the Metropolitan site.

The Park is also designated as Metropolitan Open Land, Open Space and Green Chain.

### **1.10 Public Rights of Way**

A network of footpaths run through the site. The riverside walk forms part of the Wandle Trail.

### **1.11 Planning Authority**

London Borough of Merton.

### **1.12 Sources of Information**

London Borough of Merton, The Education, Leisure and Libraries Department, The Civic Centre, London Road, Morden, Surrey. 020 8545 3657.

## **Part 2: Policy Statement**

Merton Borough Council recognises the importance of wildlife and green spaces to people living in Merton and pursues policies to defend sites of interest from development, and manages its open spaces with nature conservation in mind.

The Unitary Development Plan (UDP) highlights ways in which the natural environment can be protected and enhanced. This document directs how Merton's physical environment will alter over the next decade and provides safeguards that the Council can impose to ensure that the Borough's wildlife is protected from injurious development schemes. To further demonstrate its commitment to nature conservation the Council has designated a number of Local Nature Reserves (LNRs) and intends to declare more in the future. It is proposed that Ravensbury Park will be declared an LNR in the near future, and the production of this management plan is an important part of this process.



## **Part 3: Description & History**

### **3.1 General Description**

The site is situated along the northern bank of the River Wandle between Bishopsford Road and Morden Road, Mitcham. In the east and west the Park consists of a relatively narrow corridor of open space along the banks of the Wandle. It broadens out in the central part, where it extends northwards as far as Morden Road.

The main channel of the Wandle flows through the Park from east to west and defines the southern boundary of the site. Artificial diversionary channels take water from the Wandle and meander through the area, one of them feeding a small lake located in the eastern part of the Park.

### **3.2 History**

The history of the site and its environs is described in detail in the Historical Management Plan for Ravensbury Park, prepared by Scott Wilson Resource Consultants in 1996 (SWRC 1996).

In the 17<sup>th</sup> and 18<sup>th</sup> centuries the Ravensbury Park area was an important industrial area. Ravensbury Mill was located on the banks of the Wandle at the western end of the site and a calico factory was established to the north, just outside the current park boundary. At this time the site formed part of the Ravensbury Park Estate of Ravensbury Manor. The Manor House stood on the northern bank of the Wandle, immediately to the south of the present day staff yard. The foundations of the manor house can still be seen amongst dense young woodland and ivy.

The old Morden Road used to pass through the Park, following the route of the present day Ravensbury Lane. It passed directly in front of the Manor House and crossed the Wandle on a small bridge. In the mid-18<sup>th</sup> century the then owner of the estate, John Arbuthnott, applied successfully for the road to be diverted further west, along its present route. Mr Arbuthnott also set about laying out the gardens of the Manor and developed walks along the banks of the river. A circular walk ran around Ravensbury Meadow, the open grassland area in the centre of the Park, which may have been used for calico bleaching and drying or as a hay meadow (SWRC 1996). Diversions to the river, to supply water to the calico factory, were also made around this time.

By the late 19<sup>th</sup> century the Manor house had fallen into ruin and a substantial mixed conifer and broadleaf woodland had developed around the house and along the banks of the Wandle. In the early 20<sup>th</sup> century the former Ravensbury Park Estate was partitioned and sold for residential development. Faced with increasing development pressure and recognising the recreational potential of the area, in 1929 the Urban District Councils of Mitcham, Morden and Merton jointly purchased the remaining grounds of Ravensbury Manor to set aside as a public park. The park was formally opened on 10<sup>th</sup> May 1930.

The surrounding area became increasingly urbanised in the years following the establishment of the Park. Changes in the Park itself have been more gradual and most of the Park remains substantially as it was when first opened. The lake in the eastern part of the Park was added in the 1970's, when the riverside walk was extended eastwards as far as Bishopsford Road. The area around Ravensbury Mill has also been modified, with a new weir and by-pass channel to the Mill added and filling and simplification of other watercourses. Significant tree loss, including some very large London plane trees, occurred during the Great Storm of October 1987.

### **3.3 Geology, Topography and Hydrology**

Most of the site lies on deposits of recent river alluvium, although London Clay and Taplow Gravel deposits occur in the extreme northern tip of the site near Morden Road.

The site is less than a metre above the normal level of the River Wandle, which flows along the southern boundary of the site from east to west. Artificial diversionary channels take water from the Wandle, feeding a small artificial lake and then flowing in a loop around the northern edge of the site before re-joining the Wandle beyond Morden Road in the west. For the most part the terrestrial parts of the site are fairly level although a depression occurs in the centre of Ravensbury Meadow, which is subject to seasonal waterlogging and flooding. A drainage ditch runs along the southern and western edges of the meadow and feeds into the main diversionary channel to the north via a culvert.

### **3.4 Past Management**

Previous management of the site has been mainly orientated towards meeting amenity objectives. However new wildlife habitats have been provided around the lake in the east of the site and recent management of woodland and trees has tended to leave fallen tree trunks and other deadwood to provide a microhabitat feature. A historical management plan was developed for the Park in 1986 (SWRC 1986) which included recommendations for a number of ecological enhancements.

## Part 4: The Habitats, Flora and Fauna

A habitat survey of Ravensbury Park was carried out as part of the background research for the preparation of the management plan. The survey was carried out on the 14<sup>th</sup> and 22<sup>nd</sup> February 2001. The timing was considered adequate to characterise the habitats present on the site. However, because the survey was undertaken outside of the growing season, it was not possible to compile comprehensive species lists for the site. It is therefore recommended that further survey work be carried out in late Spring/early summer. Other information on the flora and fauna of the site has been obtained from the Historical Management Plan (SWRC 1986) and the London Ecology Unit handbook on Merton (LEU 1998).

### 4.1 Habitats

The site supports a complex mosaic of vegetation, incorporating areas of scrub, tall herb and grassland, as well as significant numbers of mature trees. Riparian habitats occur along the Wandle itself. These habitats are described in turn below and shown on figures 2a & b.

#### 4.1.1 The River Wandle

The channel of the River Wandle is managed by the Environment Agency and is not covered by the present management plan. However, because the river is such a significant feature and exerts a strong influence on the ecology of the site proper, its habitats are described briefly here.

The River Wandle is a rare London example of a chalk river. In this section it is fairly wide and swift flowing, with a well developed aquatic flora including species such as water starwort *Callitriche spp*, common water crowfoot *Ranunculus aquatilis*, curled pondweed *Potamogeton crispus*, broadleaved pondweed *P. natans* and Nuttall's pondweed *Elodea nutallii*, amongst others.

There is little emergent vegetation in this section, because the banks are generally tree-lined and heavily shaded. However a scattering of wetland plants such as gipsywort *Lycopus europaeus*, hemlock water-dropwort *Oenanthe crocata* and water figwort *Scrophularia auriculata* can be found growing on the edge of the river below the trees. The more open sections of river that occur in the centre of the Park have a hard, vertical edge.

#### 4.1.2 Lake

The lake is situated in the eastern part of the Park, south of Rawnsley Avenue and Octavia Close. Created in the 1970's, it is fed by an artificial channel taking water from the River Wandle in the south. There is an outflow over a weir at the western end of the lake, which joins the main diversionary channel a little further on. Well developed stands of emergent vegetation occur along the northern and south-western margins of the lake, with species including yellow flag *Iris pseudacorus*, fool's water cress *Apium nodiflorum*, reed *Phragmites australis*, reedmace *Typha latifolia*, reed sweet grass *Glyceria maxima* and reed canary grass *Phalaris arundinacea*. The bed of the lake is silty, with little aquatic vegetation, although water starwort and common duckweed *Lemna minor* occur in the shelter of the emergent vegetation on the margins. The inflow channel in the south is shallow, with a clean gravel bed.

Several weeping willow *Salix sepulcralis* and crack willow *Salix fragilis* trees occur around the edges of the lake and there is a small group of alder *Alnus glutinosa*, Italian alder *Alnus cordata* and weeping willow trees in an enclosure on the southern bank.

### 4.1.3 Diversionsary channels

The main diversionsary channel, which is joined by the outflow channel from the lake, flows in a loop around the outside edge of Ravensbury Meadow. It then flows parallel to the Wandle in the western part of the Park, to rejoin the river just beyond Morden Road. A short by-pass channel runs between the Wandle and the diversionsary channel near Ravensbury Mill.

For the most part the channel is edged with wooden toeboarding, which produces steep vertical banks. This, together with the shade cast by trees, restricts the development of vegetation on the channel edge but occasional hartstongue fern *Phyllitis scolopendrium*, hemlock water dropwort and other plants can be found growing in crevices between the boards. In places the toeboarding has rotted or been removed, giving a more natural bank profile and more opportunity for vegetation to establish.

The water is generally quite shallow and clear. Aquatic plants such as water starwort, Nuttall's pondweed, curled pondweed and broadleaved pondweed grow in the more open sections of the channel.

### 4.1.4 Broadleaved woodland and trees

A narrow strip of broadleaved woodland extends along the banks of the Wandle in the eastern part of the site. This includes species such as sycamore *Acer pseudoplatanus*, crack willow, ash *Fraxinus excelsior* and horse chestnut *Aesculus hippocastanum*. Holly *Ilex aquifolium*, elder *Sambucus nigra* and hawthorn *Crataegus monogyna* form a sparse understorey. The ground is covered by ivy *Hedera helix*, which also grows up many of the trees. Other field layer species include bramble *Rubus fruticosus*, stinging nettle *Urtica dioica*, cleavers *Galium aparine*, cow parsley *Anthriscus sylvestris*, bluebell *Hyacinthoides non-scripta* and lesser celandine *Ranunculus ficaria*, amongst others. Similar woodland occurs on the southern bank of the Wandle in the east of the site, which is owned by The National Trust and known as Happy Valley.

Broadleaved woodland also occurs along the banks of the main diversionsary channel in the east, extending westwards to the edge of Ravensbury Meadow. This area includes some large ash, beech *Fagus sylvatica*, horse chestnut and London plane *Platanus x hispanica* trees. English oak *Quercus robur*, holm oak *Q. ilex*, lime *Tilia x vulgaris*, elm *Ulmus sp.* and sycamore also occur, the latter forming dense stands in places. Recent planting of willow *Salix spp.* and Italian alder has been carried out. Holly, hawthorn, yew *Taxus baccata* and elder form a sparse understorey. Ivy is again prominent in the field layer, together with stinging nettle, cow parsley and bramble. Other field layer species include lord's & ladies *Arum maculatum*, wood avens *Geum urbanum*, wood false-brome grass *Brachypodium sylvaticum* and lesser celandine. Planted daffodil *Narcissus pseudonarcissus major*, snowdrop *Galanthus nivalis* and Spanish bluebell *Hyacinthoides hispanica* also occur. A patch of Japanese knotweed *Fallopia japonica*, an invasive clonal herb, grows under sycamore trees on the northern bank of the channel near the Morden Road entrance.

A narrow strip of woodland occurs along the bank of the main diversionsary channel on the western edge of the Park. This is largely dominated by sycamore, with some ash and lime. Elder and snowberry *Symphoricarpos albus* occur in the understorey, whilst bramble, stinging nettle and ivy form the main ground cover. Pendulous sedge *Carex pendula* occurs in places, with a patch of Japanese knotweed in one place on the opposite bank. A broken chainlink fence separates the woodland and riverbank from the Park proper, with a high brick wall fulfilling the same function on the stretch approaching the footbridge at the bottom of Ravensbury Grove.

Woodland also surrounds the ruins of the old manor house, to the south of the staff yard. This is again dominated by sycamore, with some elm, lime and yew. Hazel *Corylus avellana*, elder, snowberry, dog rose *Rosa canina* and butchers broom *Ruscus aculeatus* grow in the understorey, together with saplings of beech. Ivy carpets much of the ground although other species found in the field layer include cow parsley, stinging nettle, bramble, lords and ladies and wood false brome grass. A broken down chainlink fence occurs around the boundary. Leaf mould has been dumped within the woodland.

An area of woodland occupies the area to the south of Ravensbury Meadow. This contains some very large hybrid black poplar *Populus x canadensis* trees, with a lower canopy of sycamore, hawthorn and some beech and yew. Snowberry has been planted along the southern edge, where the woodland fronts on to formal gardens. Ivy is once again the main ground cover, with occasional lords and ladies, pendulous sedge, wood avens and lesser celandine plus planted daffodils.

Scattered trees occur along the banks of the Wandle in the western part of the site, including sycamore, willows, poplars and a very large London plane tree with a burnt out hollow base. Elder, bramble, ivy and stinging nettle grow below and between the trees, together with occasional patches of Japanese knotweed.

A further area of woodland occurs near the western entrance, along the northern side of the main path. This consists of mature sycamore together with some ash, silver birch *Betula pendula* and alder. The ground below the trees is evidently cut and in places grass dominated. However the area supports abundant lesser celandine, together with lords and ladies, Spanish bluebell, wood false-brome grass and ground ivy *Glechoma hederacea*. A rather unusual constituent of the ground flora here is a member of the onion or garlic family, an *Allium* species, whose narrow chive-like leaves were noted growing in some quantity amongst the grasses.

A number of trees grow in other parts of the Park, amongst the grassland or in more formal settings. Notable specimens include a large oak tree covered in ivy which occurs to the south of Ocatvia Close, large London Plane trees in and around Ravensbury Meadow and a cedar tree in the area to the north of the lake.

#### **4.1.5 Amenity grassland**

The largest grassland area is that in the central part of the Park, known as Ravensbury Meadow. The sward has evidently been improved and is largely dominated by perennial ryegrass *Lolium perenne*. There are few associated herbs apart from common species such as daisy *Bellis perennis*, mouse-ear chickweed *Cerastium fontanum*, germander speedwell *Veronica chamaedrys*, creeping buttercup *Ranunculus acris*, yarrow *Achillea millefolium* and white clover *Trifolium repens*. The low lying central part of the meadow floods during the winter months and at the time of survey much of the grass cover in this area had been killed off, leaving an area of bare mud.

A narrow ditch runs along the southern and western edge of the meadow, continuing north in a culvert to join the main diversionary channel. The ditch is rather overgrown with bramble and silted up with leaf and branch debris. Nevertheless occasional patches of meadowsweet *Filipendula ulmaria* occur on its banks.

Other areas of low diversity amenity grassland occur around the lake and near the Moorbridge Road entrance, in the north of the site near Morden Road, in the west near Ravensbury Mill and in the formal gardens on the banks of the River Wandle.

#### 4.1.6 Other habitats

Formal gardens occur on the northern and southern banks of the Wandle in the central part of the site, with a footbridge crossing the river and linking the two. Apart from the amenity grassland mentioned above, these areas contain areas of formal bedding and planted shrubberies.

## 4.2 Fauna

The bird fauna of the site has been surveyed by D. Coleman (SWRC 1996). This was undertaken as part of a BTO Waterways Bird Survey of the Wandle from Carshalton to Morden Hall Park, carried out between 1983 and 1985. This is supplemented by additional information gathered during the habitat survey undertaken for the preparation of this management plan. Other groups have not been studied in any detail and would merit systematic surveys, in particular invertebrates and mammals, including bats.

### 4.2.1 Mammals

Grey squirrels *Sciurus carolinensis* are common in the Park and no doubt cause some limited damage to trees. A fox *Vulpes vulpes* earth was noted on the banks of the diversionary channel in the western part of the site. Bats may be attracted to forage along the river and over the lake, whilst some of the older trees with cavities offer potential roosting sites. Small mammals may occur in the woodland areas.

### 4.2.2 Birds

A variety of wetland birds are associated with the river, lake and diversionary channels. Amongst the species which have bred in the Park are little grebe, mute swan, mallard, moorhen and coot, whilst grey heron, tufted duck, black-headed gull, common gull, grey wagtail and kingfisher all occur as common visitors. The woodlands and trees support a range of common woodland and garden birds including great spotted woodpecker, wood pigeon, wren, dunnock, robin, blackbird, song thrush, mistle thrush, long-tailed tit, great tit, blue tit, and chaffinch, amongst others. A number of species appear to have declined in recent years, perhaps due to the loss of suitable nesting sites.

An annotated bird species list for the Park is presented in Appendix 2.

### 4.2.3 Invertebrates

No comprehensive invertebrate survey has been carried out. LEU (1998) note that the site is a good place for seeing dragonflies in the summer, but no other information is available. A detailed invertebrate survey covering the wetland and woodland areas should be carried out as a matter of priority.

## Part 5: Evaluation

### 5.1 Nature Conservation

The River Wandle, the lake and the diversionary channels are valuable wetland habitats. They support a good range of wetland birds, attracting species such as kingfisher and grey wagtail which are scarce in London, and grey heron, a London Biodiversity Action Plan priority species. The river and channels have a well developed aquatic flora, which includes several species which are uncommon in Greater London (see table 1 below).

The woodland and other habitats within the Park complement the wetlands and add considerably to the overall habitat diversity. Song thrush, a national Biodiversity Action Plan priority species has bred in the Park in the recent past and may still do so.

Ravensbury Park is continuous with other sites of high wildlife value along the River Wandle (e.g. Watermeads and Morden Hall Park) and forms a critical link in a wildlife corridor of considerable importance. Such corridors facilitate the movement and dispersal of plants and animals and are thought to help reduce the vulnerability to chance extinctions that may occur when habitats are isolated and fragmented. They are likely to become increasingly important in the future as the distribution of plants and animals adjust to global warming.

Most of Ravensbury Park is included in the Upper River Wandle and Surroundings Site of Metropolitan Importance for Nature Conservation (site M91), as defined by the London Ecology Unit (LEU 1998). Ravensbury Meadow and the northern tip of the Park adjacent to Morden Road are excluded from the Metropolitan site on account of their relatively formal nature.

**Table 1: Uncommon plant species**

Plants	Habitat	(% of Greater London tetrads <sup>1</sup> )
Nuttall's pondweed <i>Elodea nutallii</i>	River/channel	1.5 <sup>2</sup>
Common water crowfoot <i>Ranunculus aquatilis</i>	River/channel	7
Curled pondweed <i>Potamogeton crispus</i>	River/channel	12
Broadleaved pondweed <i>Potamogeton natans</i>	River/channel	13.5

<sup>1</sup> as calculated by the London Ecology Unit from the Flora of the London Area (Burton 1983)

<sup>2</sup> rare at the time of the Flora, this species has expanded considerably in recent years

### 5.2 UDP Policies

The UDP defines policies relating to ecology and nature conservation and is available for inspection at Merton Civic Centre and most local libraries. The London Ecology Unit handbook "Nature Conservation in Merton" (LEU 1994) identifies Ravensbury Park as part of a Site of Metropolitan Importance for Nature Conservation. This designation ensures that the site is covered by Policy EN.4 of the UDP, which seeks to protect Sites of Importance to Nature Conservation in the Borough. The production of this management plan is in line with Policy EN.16 – Management of Green Spaces – Conservation Plans. The site is additionally designated as a Conservation Area and Green Chain in the UDP.

### **5.3 General Amenity/Recreation**

Ravensbury Park is open to the public during daylight hours. A system of footpaths run through the site, with a riverside walk forming part of the Wandle Trail runs along the northern bank of the Wandle.

The Park is well used by the public for quiet recreation, dog walking etc. Ravensbury Meadow is used informally for games and other children's activities. A children's playground is located in the northern part of the Park, near the café.

### **5.4 Education**

The site has potential for educational use, but it is probably less well suited and certainly less well equipped than nearby Morden Hall Park and the Snuff Mill Environmental Centre. Educational use is therefore unlikely to become important, although schools should be encouraged to use the Park if they wish to do so.

### **5.5 Management Objectives**

The general long-term aims are to conserve and enhance the existing nature conservation interest of the Park, whilst maintaining its function as a recreational resource and importance as a historic landscape.

These aims incorporate the following ideal management objectives:

1. To conserve and enhance the existing wetland habitats
2. To maintain existing woodland areas and enhance their structural diversity where appropriate
3. To enhance the grassland habitats of Ravensbury Meadow
4. To control noxious and invasive plant species
5. To interpret the ecology and history of the Park to the public
6. To collect further ecological information on the site and to monitor the effectiveness of management

### **5.6 Bibliography**

London Ecology Unit 1998 *Nature Conservation in Merton*, London Ecology Unit, London.

Scott Wilson Resource Consultants (SWRC) 1996 *An Historical Management Plan for Ravensbury Park* (Draft Report) May 1996, Unpublished report to LB Merton.



## **Part 6: Management**

### **6.1 General principles**

#### **6.1.1 General safety**

Public safety must be a priority at all times since there is free public access to most parts of the Park. Regular safety inspections should be carried out. Any hazards should be promptly reported and any necessary remedial action organised. Particular attention should be paid to access points and footpaths, to the river banks and bridges, to fences and to trees which overhang boundaries and footpaths.

#### **6.1.2 Litter**

A certain amount of fly-tipping and littering occurs around the Moorbridge Road entrance. Elsewhere in the site littering it is not a serious problem. As well as being an eyesore and attracting vermin, litter and fly-tipping can also present safety hazards, both to people and wildlife. Litter should be collected and cleared on a regular basis and any fly promptly removed. Visitors should be encouraged to take their litter home or to use litter bins, which are located at intervals around the Park. Litter bins should be emptied on a regular basis and kept in a good state of repair.

#### **6.1.3 Use of herbicides**

There will be a general presumption against the use of herbicides, however it will be necessary to use limited amounts for specific tasks (e.g. control of Japanese knotweed). Herbicides should only be used by suitably qualified operatives and must accord with all relevant Health & Safety and COSHH guidelines. The Environment Agency should be consulted regarding any proposed herbicide use adjacent to the Wandle and the diversionary channels.

#### **6.1.4 Survey and monitoring**

Survey and monitoring should be an integral component of site management. Survey work adds to the site knowledge base and helps to refine conservation priorities. Monitoring provides essential feedback, enabling management actions to be evaluated and fine-tuned.

A habitat survey was carried out in February 2001 but the timing was not adequate to provide a comprehensive picture of the flora of the site. Further botanical survey work in the spring and summer of 2001 is therefore recommended. Apart from bird surveys, there have been no detailed fauna surveys of the site. Invertebrate and bat surveys would be particularly worthwhile and should be carried out at the earliest opportunity.

As a minimum requirement, photographic monitoring should be implemented. A series of fixed photographic points should be established and photographs repeated at two year intervals to provide a photographic record of site management and development.

Records of species found on site should be made available to the London Wildlife Trust Biological Recording Project and London Natural History Society.

#### **6.1.5 Review of management plan**

This management plan is written to cover the next 5 years and should be thoroughly reviewed at the end of this period. The implementation of the plan should be subject to a brief review at the end of each year, to ensure that the specified works are being carried out and that they are having the desired effect.

### 6.1.6 Planting and other introductions

Only limited further introduction of plants to the site is anticipated (e.g. to enhance Ravensbury Meadow). All plant introductions to the site should be of native species, preferably material of local provenance. This will ensure maximum benefit to wildlife and help to promote local distinctiveness. All plant introductions should be recorded.

There should be a general presumption against the introduction of animal species.

### 6.1.7 Dead wood

Dead wood is an essential habitat for many species, especially invertebrates, bryophytes and fungi. The removal of dead wood and the excessive 'tidying-up' which often takes place in parks and gardens leads to relatively sterile conditions and takes away an essential part of the ecosystem. It is therefore desirable to retain as much dead wood as possible within the less formal parts of the Park. Standing dead trees should be allowed to stand wherever possible, as this provides a habitat for a different range of fauna, for example feeding and nesting opportunities for woodpeckers and other birds. However, standing dead trees can be a safety hazard and this consideration must always take precedence in areas of high public use. Consequently any trees which are in a demonstrably unsafe condition and are situated near paths, boundaries or other regularly used areas must be made safe.

### 6.1.8 Species control & management

#### ***Noxious and invasive plant species***

Japanese knotweed *Fallopia japonica* occurs in at least two locations on the banks of the diversionary channel and also along the bank of the River Wandle (see figure 3). This species was introduced as a garden plant in the nineteenth century and subsequently became widely naturalised. It forms dense, persistent clumps, which gradually spread by means of underground rhizomes, at the expense of surrounding vegetation. The plant should ideally be eradicated before it can spread further. This can be achieved by a combination of cutting and herbicide application (Cooke 1988, Child & Wade 2000). The plant should be treated with glyphosate herbicide at the rate of 5 litres (1.8 kg) per hectare during the spring when the leaves have fully expanded. Surviving stems should then be cut down in mid-summer and any subsequent re-growth repeat treated with herbicide at the end of the summer (August). Repeat treatments will be required for several years in order to achieve complete eradication. *The Environment Agency must be consulted with regard to this programme since it involves herbicide use close to a watercourse.*

Himalayan balsam *Impatiens glandulifera* is well established along the Wandle riverside and elsewhere in the Park. This is a naturalised annual herb which may grow to a height of 2 metres and can form dense stands which suppress other ground vegetation. It dies back at the end of the growing season and can leave riverbanks vulnerable to erosion as a result. Although it can be cut, is readily pulled and is susceptible to herbicide treatment, the plant is very difficult to control, since winter flooding often brings with it a fresh input of seed from further upstream. No control measures for this species are therefore proposed although its abundance should be monitored and control requirements kept under review.

Sycamore, an introduced but long established tree, is sometimes perceived as a threat to woodlands due to its invasive nature and supposedly low ecological value. The problem is often overstated and in practice the tree can be a useful feature. It provides a valuable nectar source for bees and other insects and supports a large biomass of aphids which in turn attract insectivorous birds. It is also very tolerant of pollution and is well adapted to urban habitats. Sycamore is the main woodland tree throughout much of the Park. It is not considered a problem species in the context of this site and no control measures are proposed.

## **Ivy**

Ivy is a valuable late nectar source for insects, is one of the larval food plants of the holly blue butterfly *Celastrina argiolus*, provides abundant fruit for birds and other animals and affords excellent cover for nesting birds and over-wintering insects. Despite its ecological value, ivy is still all too often perceived as a threat to trees. It is not parasitic on trees nor does it compete with them for light. Ivy will therefore generally be left to grow undisturbed within the Park but may be controlled by pruning back in certain circumstances, for example where it threatens to cover important historical structures or rare specimen trees.

## **Animal pest species**

Norway or brown rats *Rattus norvegicus* are likely to occur within the site. Norway rats are a significant health hazard, being responsible amongst other things for the spread of conditions such as Weil's disease. In order not to encourage rats, it is important to control and prevent littering and flytipping within the site. If rat populations become abundant control measures may be required. Such measures should be carefully evaluated and implemented to ensure that there is no harm to other wildlife populations.

Magpies and carrion crows are sometimes perceived as problem species due to their habit of preying upon the nestlings of songbirds. Such predation is a natural phenomenon and there is no evidence that it has been responsible for the decline in songbird numbers which has been observed in recent decades. No control of these species is therefore proposed.

### **6.1.9 Dogs**

Visitors utilising the Park should be encouraged to keep their dogs on a leash to minimise disturbance to wildlife. Fouling by dogs presents a problem and visitors should be requested not to allow their animals to defecate within the site and to clear up after them if they do. Dog bins are provided within the Park.

### **6.1.11 Bye-laws**

The declaration of the site as a statutory Local Nature Reserve will enable the formulation of new bye-laws to protect wildlife.

### **6.1.12 Interpretation**

It is important to provide visitors to the Park with information about the wildlife that occurs there and the management that is being carried out to conserve it. This can be achieved in a variety of ways, for example through information leaflets, guided walks, articles in the local press etc. The site features in Walk 5: Morden Hall and Ravensbury Park, one of a series of five self-guided walk leaflets produced by the London Borough of Merton and distributed with the London Ecology Unit Handbook 'Nature Conservation in Merton' (LEU 1998).

The provision of interpretation boards is a simple and direct way of informing people about the site. Interpretation boards can make people feel more welcome and positive about their visit and, by providing information about what is to be seen, can increase the level of enjoyment. There is an existing information board on the banks of the Wandle in the centre of the site. Additional boards, giving detailed information about the site's ecology, history and management could be installed in other locations within the Park, for example next to the lake and adjacent to Ravensbury Meadow. All boards should be kept clean and in good repair.

## **6.2 Habitat Management**

### **6.2.1 Lake**

Despite the fact that the lake is hard edged, the shallow water on its margins has allowed the development of extensive stands emergent vegetation, most notably on the northern and south-western edges. These provide valuable nesting cover for waterfowl, as well as refugia for fish fry and aquatic invertebrates. The development of such emergent vegetation should be encouraged around other sections of the lake edge. Providing the substrate is suitable (i.e. soft silt with shallow water) this can be achieved by simply transplanting rhizomes from established stands elsewhere on the lake. The plants may need to be protected by wire mesh netting in the first instance to prevent them being uprooted by waterfowl.

Although the emergent vegetation provides nesting sites for waterfowl, local residents report that eggs are often stolen from nests and that the birds are disturbed by dogs entering the lake etc. To provide a more secure nesting site it is therefore proposed that a small artificial island be created in the centre of the lake. Detailed design will depend on the exact nature of the bed and depth profile of the lake but a simple timber palisade type structure might be feasible. This should be back filled with silt to slightly below average water level and planted with emergent vegetation. Trees should not be planted as these will quickly shade out the emergents and will not provide such good nesting cover.

Water quality in the lake appears good but leaf litter and silt are gradually accumulating, reducing the water depth and, potentially, increasing the nutrient status. Periodic de-silting work will therefore need to be carried out to maintain water depth and quality. The precise methodology employed is not important but care should be taken to minimise disturbance to the banks and stands of emergent vegetation and to avoid the bird nesting season. Silt should generally be removed from the site although a limited amount may be used to build up shallow edges suitable for emergent planting and to create the small island referred to above.

A number of trees occur around the lake edges. These provide shade and cover and add to the overall microhabitat diversity. However no further tree planting should be carried out around the lake margins so as to avoid excessive shading and the input of more leaf litter.

Amenity grassland occurs to the north and east of the lake. Most of this is mown short and at present does not provide a complementary habitat to the lake. However a strip of several metres width on the northern edge of the lake has been left uncut and has developed a cover of bramble, rank grasses and tall herbs which provide a useful buffer strip to the lake and an additional habitat in its own right. It is recommended that a similar unmown strip be left along the entire eastern bank of the lake.

The practice of erecting a mesh fence to prevent cygnets and other young waterfowl being washed over the weir on the outlet stream should be continued.

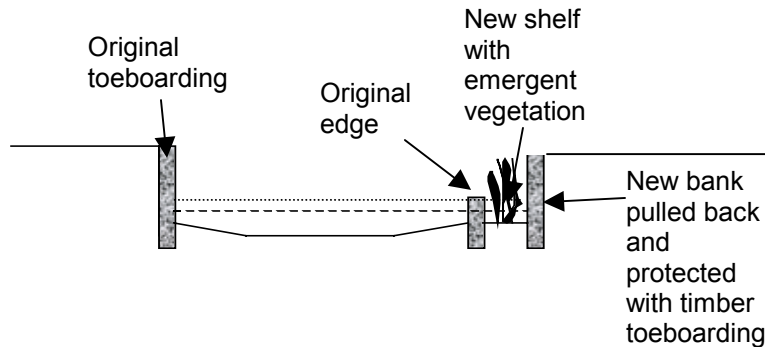
### **6.2.2 Diversionary channels**

The diversionary channels require little in the way of routine management apart from the clearance of obstructions and any necessary bank repairs. In places it is recommended that ecological enhancements to the channels be investigated, in liaison with the Environment Agency. Potential enhancements include:

- The removal of wooden toeboarding in selected locations to allow the development of a more natural bank profile. The inlet to the main diversionary channel may be one location in which this could be tried since the existing timbers are already rotting and partially removed.

- Where bank protection is still required, the creation of a stepped bank with a submerged shelf to allow the development of emergent vegetation, along the lines indicated in figure 4 below. Such shelves can be created on one or both sides, depending on the situation.

**Figure 4. Stepped bank with shelf**



For much of its length the main diversionary channel flows beneath a tree canopy. However in the northern part of the Park the channel emerges from the trees. The channel here is fenced off and the freeboard supports a strip of mown grassland vegetation. It is recommended that the mowing regime on the freeboard be relaxed, with the grassland allowed to grow uncut through the spring and early summer. This will allow a greater range of wildflowers and grasses to flourish and provide a useful complement to the wetland habitat of the channel. The grass should be cut in late June and the arisings collected and removed. A further cut should be carried out at the end of the summer, again with removal of arisings.

Nesting boxes for grey wagtail should be erected in suitable locations along the diversionary channel (i.e. under bridges and in the vicinity of Ravensbury Mill).

### **6.2.3 Woodland**

Most of the woodland areas in the Park require little in the way of active management intervention, apart from annual safety inspections and any resulting tree surgery/safety work. However in selected areas a more active approach would be beneficial.

The woodland area to the south of Ravensbury Meadow would benefit from selective coppicing of shrubs and smaller trees, carried out with the aim of diversifying the structure of the woodland and creating a denser understorey. Rotational coppicing of trees and shrubs along the northern edge of the wood, where it borders the drainage ditch, would be particularly worthwhile as it would create a graded woodland edge habitat and reduce the shading effect on the ditch. Large trees such as hybrid black poplar should be left uncut.

Control of Japanese knotweed is required in at least three locations, as indicated on figure 3. Control procedures should follow those outlined in section 6.1.8 above.

Regular mowing occurs beneath the trees in several woodland areas. This tends to produce a weedy, sparsely vegetated field layer of little ecological or amenity value. It also inhibits natural regeneration of tree and shrub species. It is therefore recommended that this practice

be discontinued and that a more natural woodland field layer and understorey be allowed to develop. The practice of placing piles of leaf sweepings in woodland areas, especially in the vicinity of the Manor House ruins, should also be discontinued. Ideally a suitable composting site should be found within the Park or elsewhere. If leaves have to be placed within woodland areas they should be spread thinly so as to avoid smothering ground vegetation.

Wherever possible any felled timber should be placed in habitat piles within the woodland to provide dead wood habitat. Existing dead or fallen trees should be left in situ to provide dead wood habitat wherever safety considerations allow.

Opportunities for hole nesting birds are limited in the existing woodland areas and it would therefore be worthwhile erecting a selection of bird nest boxes around the Park, including boxes designed for tawny owl, spotted flycatcher, tits and treecreeper. The provision of bat roosting boxes would also be beneficial.

#### **6.2.4 Amenity Grassland**

Most of the amenity grassland areas within the Park serve a useful recreation function and should continue to be managed as at present. However the southern part of Ravensbury Meadow, the large expanse of grassland in the centre of the site, is subject to winter flooding which damages the existing grass sward and limits the use of the area. Part of this area, extending as far north as the plane trees in the centre of the meadow, might therefore usefully be developed as a wildflower meadow. The existing grassland is of low diversity and is likely to take many years to develop a more interesting flora if left to its own devices. It is therefore recommended that additional wildflower and grass species be introduced to the sward, preferably as seed collected from a nearby grassland of conservation interest such as Morden Cemetery. A variety of techniques have been developed to diversify grasslands. Short of digging up the turf and starting from scratch, probably the most appropriate technique will be to drill the seed into the existing sward. This works best when the existing grassland is killed off in narrow strips using a herbicide, into which the wildflower seeds are drilled. As the wildflowers establish they gradually spread out from the drilled rows into the intervening grassland.

Following enhancement, the key to maintaining botanical diversity will be to implement a regular cutting regime. Cutting the grassland for hay in the summer months has the effect of reducing the vigour of the dominant grasses and herbs and gives other less-competitive species the opportunity to spread. By removing the cuttings, soil nutrient levels are also gradually diminished, which again favours the less competitive species. The cut should be carried out in mid August-early September, after the majority of the constituent species have flowered and set seed. The hay should ideally be left for a couple of days to dry and shed seed, before being raked up and removed.

The ditch along the southern and western edges of the meadow provides another potentially valuable habitat feature. At the moment it is rather overgrown and silted up with leaf litter and other debris. It is therefore proposed that the ditch be restored. Encroaching bramble and other vegetation should be cut back and the ditch cleaned out. The silt should be placed on the woodland side of the ditch. The restoration should take place over two years, with c. 50% of the total length cleaned out each year. This will ensure that part of the ditch habitat remains undisturbed to act as a refugium for invertebrates and other fauna. Care should be taken to preserve the small clump of meadowsweet which occurs on the southern part of the ditchline.

### **6.3 Management by Compartments**

To facilitate implementation of the management plan the site has been divided into a number of compartments on the basis of habitats or other physical features. Each compartment is described below, together with an outline of the management required. Compartment boundaries and projects are shown in figure 3.

#### **6.3.1 Compartment 1**

### Description

An area of open sycamore dominated woodland at the western end of the Park by the Morden Road entrance. Much of the area is cut on a regular basis, restricting the development of the field layer and understorey. Lesser celandine is abundant in places.

### Objectives

To conserve the woodland and allow the development of a more natural field layer and understorey

To maintain a neat edge along footpaths

### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Stop regular cutting of the field layer and allow vegetation to develop naturally
- Maintain a 1 metre wide strip of short vegetation along pathsides by regular mowing in the growing season

## **6.3.2 Compartment 2**

### Description

A mixed compartment containing areas of woodland and trees along the banks of the diversionary channel plus amenity grassland and ornamental planting around the old mill stone opposite Ravensbury Mill. A narrow line of trees grow on the banks of the Wandle, including a large burnt out hollow plane tree. Japanese knotweed occurs in places below the trees.

### Objectives

To conserve the woodland and riverbank trees

To control Japanese knotweed

To maintain existing formal areas

To provide nesting opportunities for grey wagtail

### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Control Japanese knotweed through an on-going glyphosate and cutting programme
- Continue current management in formal areas
- Erect grey wagtail nest boxes below footbridges etc.



### **6.3.3 Compartment 3**

#### Description

Woodland growing along the banks of the diversionary channel. Also incorporates a small bramble covered open area on the north bank, behind the houses in Hengelo Gardens. Fly-tipping is a problem in this area. A patch of Japanese knotweed grows nearby. A broken down chainlink fence runs along the edge of the woodland in the east, preventing access to the diversionary channel from the Park

#### Objectives

To conserve the woodland

To provide potential nesting opportunities for hole nesting birds and roosting sites for bats

To investigate possible enhancements to the banks of the diversionary channel

To control Japanese knotweed

To maintain boundary fences

To control fly-tipping

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Erect bird and bat boxes on trees within the more secluded, inaccessible parts of the woodland
- Liaise with the Environment Agency to investigate possible methods of enhancing the banks of the diversionary channel, with particular reference to the open area behind Hengelo Gardens
- Control Japanese knotweed through an on-going glyphosate and cutting programme
- Repair chainlink fence
- Remove fly-tipping and erect warning notices to deter further tipping

### **6.3.4 Compartment 4**

#### Description

An open lawn area with planted ornamental trees. Notable for the presence of a very large specimen of London plane. Part of the trunk of another tree blown down in the great storm of October 1987 has been left on the edge of the area and provides valuable dead wood habitat.

#### Objectives

To maintain the amenity grassland and ornamental trees

To retain the decaying plane log as a dead wood habitat

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Continue current grassland management
- Retain the decaying plane log and leave a 0.5 metre unmown strip around it.

### **6.3.5 Compartment 5 – the Manor House ruins**

#### Description

Are of dense sycamore dominated woodland around the remains of the old manor house. Ivy carpets much of the area. Derelict fencing occurs within the woodland. The boundary fence is broken down in places.

#### Objectives

To conserve the woodland and maintain it as a quiet sanctuary area

To provide potential nesting opportunities for hole nesting birds and roosting sites for bats

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Remove derelict fencing and repair boundary fence
- Erect bird and bat boxes on trees within the more secluded, inaccessible parts of the woodland
- Discontinue practice of disposing of leaf sweepings in the woodland

### **6.3.6 Compartment 6**

#### Description

Formal lawns and beds alongside the Wandle in the central part of the Park.

#### Objectives

To maintain the formal nature of the area

#### Prescription

- Continue existing management

### **6.3.7 Compartment 7**

#### Description

Woodland area containing large hybrid black poplar trees, with a lower canopy of sycamore, hawthorn and some beech and yew. Snowberry occurs along the southern edge on the boundary with compartment 6.

#### Objectives

To conserve the woodland and enhance structural diversity

To create a graded edge along the northern margin

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Carry out selective coppicing of shrubs and smaller trees to enhance structural diversity and density of the understorey
- Carry out rotational cutting of shrubs along the northern edge of the woodland to create a graded edge

### **6.3.8 Compartment 8**

#### Description

Area of parkland with mature ornamental trees over amenity grass.

#### Objectives

To maintain ornamental trees and amenity grassland

#### Prescription

- Continue current management

### **6.3.9 Compartment 9**

#### Description

An open section of the main diversionary channel with a well developed aquatic flora. Several trees occur on the freeboard but much of this is covered by short mown grassland.

#### Objectives

To preserve the open character of the diversionary channel and investigate possible enhancements to its banks

To develop the grassland on the freeboard as a wildflower meadow

To retain existing trees

To provide nesting opportunities for grey wagtail

#### Prescription

- Liaise with the Environment Agency to investigate possible methods of enhancing the banks of the diversionary channel
- Discontinue regular mowing of the freeboard. Implement twice annual cutting in late June and late August/September, with collection and removal of arisings.
- Inspect trees on an annual basis and carry out any necessary safety works
- Erect grey wagtail nest box below footbridge

### **6.3.10 Compartment 10**

#### Description

The northern part of the Park by the Morden Road entrance, with areas of amenity grassland, children's playground and café.

#### Objectives

To maintain existing functions

#### Prescription

- Continue current management

### **6.3.11 Compartment 11 – Ravensbury Meadow**

#### Description

A large expanse of amenity grassland. The southern part of the meadow is subject to winter flooding. Scattered trees occur in the centre and northern part of the meadow. A narrow drainage ditch runs around the southern and eastern margin of the compartment.

#### Objectives

To preserve the existing functions of the area

To develop the southern ill-drained part of the area as a wildflower meadow

To restore and enhance ditch habitats

To retain existing trees

To interpret the area to the public

#### Prescription

- Continue existing management in the northern half of the compartment
- Discontinue regular mowing in the southern half of the compartment and diversify the existing sward by introducing additional native wildflower and grass species
- Mow the new wildflower meadow annually in mid August/early September and remove arisings
- Cut back encroaching scrub and de-silt ditch, treating c. 50% of the total length each year over two years
- Inspect trees on an annual basis and carry out any necessary safety works
- Erect interpretation board

### **6.3.12 Compartment 12**

#### Description

Woodland growing along the banks of the diversionary channel and extending westwards to the edge of Ravensbury Meadow. Contains a mix of planted and self-established trees, including some large London plane and horse chestnut trees. A patch of Japanese knotweed occurs in the extreme north. Parts of the woodland floor in the south appear to be cut and have a predominantly grassy ground vegetation.

#### Objectives

To conserve the woodland and allow the development of a more natural field layer and understorey

To maintain a neat edge along footpaths

To investigate possible enhancements to the banks of the diversionary channel

To control Japanese knotweed

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Discontinue regular cutting of the field layer and allow vegetation to develop naturally
- Maintain a 1 metre wide strip of short vegetation along pathsides by regular mowing in the growing season

- Liaise with the Environment Agency to investigate possible methods of enhancing the banks of the diversionary channel
- Control Japanese knotweed through an on-going glyphosate and cutting programme

### **6.3.13 Compartment 13**

#### Description

An area of amenity grassland with ornamental trees. The main diversionary channel runs along the eastern edge of the compartment.

#### Objectives

To maintain the existing character of the area

To investigate possible enhancements to the banks of the diversionary channel

#### Prescription

- Continue current management of amenity grassland
- Inspect trees on an annual basis and carry out any necessary safety works
- Liaise with the Environment Agency to investigate possible methods of enhancing the banks of the diversionary channel

### **6.3.14 Compartment 14**

#### Description

A mainly wooded compartment situated between the River Wandle and the lake (Compartment 15). The tree cover is quite varied and includes both planted ornamentals and native trees. The central part of the compartment is regularly mown, which has produced a rather patchy grassy sward below the trees.

#### Objectives

To conserve the woodland and allow the development of a more natural field layer and understorey

To maintain a neat edge along footpaths

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Discontinue regular cutting of the field layer and allow vegetation to develop naturally
- Maintain a 1 metre wide strip of short vegetation along pathsides by regular mowing in the growing season

### **6.3.15 Compartment 15 – the Lake**

#### Description

An artificial lake fed by a diversionary channel from the River Wandle. Includes well established stands of emergent vegetation on the northern and south-eastern margins. Several willow trees grow on the edge of the lake. A strip of rough grassland, tall herb and bramble runs along on the boundary with compartment 16 to the north.

#### Objectives

To maintain and enhance the lake as a wetland habitat for waterfowl and other fauna

To enhance nesting opportunities for waterfowl

To maintain existing trees and prevent excessive shading of the lake

To create a buffer of strip of complementary habitat around the margins of the lake

To interpret the area to the public

#### Prescription

- De-silt the lake as required to maintain water depth and quality
- Create a small island in the centre of the lake to provide a secure nesting area for waterfowl
- Extend emergent vegetation along eastern margin of lake through additional planting
- Inspect trees on an annual basis and carry out any necessary safety works. Prune back as necessary to prevent excessive shading of lake. Avoid additional tree planting in this area
- Retain existing strip of rough vegetation as a buffer zone along northern boundary of the compartment, cutting on a piecemeal basis to maintain structural diversity
- Discontinue mowing in a c. 3 metre wide strip along the eastern margin of the compartment to extend the buffer zone
- Erect interpretation board

### **6.3.16 Compartment 16**

#### Description

A mostly formal area of amenity grassland at the eastern end of the Park, extending from the lake to the Moorbridge Road entrance. Includes a large de-limbed oak tree covered with ivy, plus cedar and other specimen trees. A narrow strip of woodland runs along the banks of the Wandle on the southern edge of the compartment. Fly tipping and littering are a significant problem around the Moorbridge Road entrance.

#### Objectives

To conserve riverside trees and woodland

To preserve existing specimen trees

To maintain amenity grassland

To control fly tipping

#### Prescription

- Inspect trees on an annual basis and carry out any necessary safety works
- Continue current management of amenity grassland
- Clear fly tipping and litter on a regular basis and erect warning notices to deter offenders

## Part 7: Work Programme

### 7.1 5 year work programme

Task	Compartment	Year				
		2001/02	2002/03	2003/04	2004/05	2005/06
Annual tree inspection	All	✓	✓	✓	✓	✓
Tree safety works	All	As required				
Regular mowing of path margins during growing season	1, 12, 14	✓	✓	✓	✓	✓
Herbicide treatment/cutting of Japanese knotweed	2, 3, 12	✓	✓	✓	✓	✓
Erect grey wagtail nest boxes	2, 9	✓				
Erect bird and bat boxes	3, 5	✓				
Liaise with EA re. enhancement of channel banks	3, 9, 12, 13	✓	✓	✓		
Fence repairs	3, 5	✓				
Remove fly-tipping & erect warning notices	3, 16	✓				
Remove derelict fencing	5	✓				
Selective coppicing of trees and shrubs	7		✓		✓	
Rotational cutting of shrubs to create graded edge	7	✓		✓		✓
Cut grassland on channel freeboard and remove arisings (2x p.a.)	9	✓	✓	✓	✓	✓
Enhance meadow by introducing additional wildflower and grass seed	11		✓			
Cut meadow and remove arisings	11			✓	✓	✓
Cut back encroaching scrub and de-silt ditch (c. 50% of total length p.a.)	11	✓	✓			
De-silt lake	15	As required (c. once every 10-20 years)				
Create small island	15		✓			
Extend emergent vegetation through additional planting	15	✓				
Prune back trees to prevent excessive shading of lake	15	As required				
Maintain buffer strip of rough vegetation along lake margins, cutting on a piecemeal basis to maintain structural diversity	15	As required				
Install interpretation boards	11, 15		✓			
Regular removal of litter	All	✓	✓	✓	✓	✓
Conduct further botanical survey in spring/summer 2002	All	✓				
Conduct invertebrate survey	All		✓			
Carry out photographic monitoring	All	✓		✓		✓
Review management plan	All					✓

## 7.2 Annual Work Programme Financial Year 2001/02

<u>Timing</u>	<u>Compartments</u>	<u>Management Task</u>
<b>Quarter 2 July – September</b>	1, 12, 14	Regular mowing of path margins
	2, 3, 12	Herbicide treatment of Japanese knotweed, with subsequent cutting of re-growth
	3, 9, 12, 13	Liaise with EA re. enhancement of channel banks
	All	Remove litter on a regular basis
	9	Cut grassland on channel freeboard and remove arisings (August/Sept.)
	3,16	Remove fly-tipping & erect warning notices
	15	Extend emergent vegetation around lake through additional planting
<b>Quarter 3 October – December</b>	All	Annual tree inspection
	All	Tree safety works (as required)
	3, 5	Erect bird and bat boxes
	2, 9	Erect grey wagtail nest boxes
	7	Rotational cutting of shrubs to create graded edge
	All	Remove litter on a regular basis
	11	Cut back encroaching scrub and de-silt ditch (c. 50% of total length)
	15	Maintain buffer strip of rough vegetation along lake margins, cutting on a piecemeal basis to maintain structural diversity
<b>Quarter 4 January – March</b>	All	Remove litter on a regular basis
	3, 5	Fence repairs
	5	Remove derelict fencing
	15	Prune back trees to prevent excessive shading of lake



### 7.3 Annual Work Programme Financial Year 2002/03

<u>Timing</u>	<u>Compartments</u>	<u>Management Task</u>
<b>Quarter 1 April – June</b>	1, 12, 14	Regular mowing of path margins
	All	Remove litter on a regular basis
	All	Conduct further botanical survey
	All	Conduct invertebrate survey
	9	Cut grassland on channel freeboard and remove arisings (late June)
	11,15	Install interpretation boards
<b>Quarter 2 July – September</b>	1, 12, 14	Regular mowing of path margins
	2, 3, 12	Repeat treatment of Japanese knotweed, with subsequent cutting of re-growth
	3, 9, 12, 13	Liaise with EA re. enhancement of channel banks
	11	Enhance meadow by introducing additional wildflower and grass seed
	15	Create small island
	All	Remove litter on a regular basis
	9	Cut grassland on channel freeboard and remove arisings (August/Sept.)
		All
<b>Quarter 3 October – December</b>	All	Tree safety works (as required)
	3, 5	Clear out bird and bat boxes
	7	Selective coppicing of trees and shrubs
	All	Remove litter on a regular basis
	11	Cut back encroaching scrub and de-silt ditch (c. 50% of total length)
	15	Maintain buffer strip of rough vegetation along lake margins, cutting on a piecemeal basis to maintain structural diversity
		All
<b>Quarter 4 January – March</b>	3, 5	Carry out any necessary fence repairs
	15	Prune back trees to prevent excessive shading of lake

## References

Child, L. & Wade, M. 2000 *The Japanese Knotweed Manual*, Packard Publishing, Chichester.

Cooke, A.S. 1988 *Japanese Knotweed: Its Status as a Pest and its Control in Conservation Areas*, Nature Conservancy Council, Peterborough.

London Ecology Unit 1998 *Nature Conservation in Merton*, London Ecology Unit, London.

## Appendix 1: Plant Species List

Species	Abundance <sup>1</sup>
<i>Phyllitis scolopendrium</i> (Linnaeus) Newman 14/02/2001	R
<i>Ginkgo biloba</i> (Linnaeus) 14/02/2001	R
<i>Cedrus sp.</i> 14/02/2001	R
<i>Chamaecyparis lawsoniana</i> (A.Murray) Parl.) 14/02/2001	O
<i>Taxus baccata</i> (Linnaeus) 14/02/2001	O
<i>Ranunculus repens</i> (Linnaeus) 14/02/2001	F
<i>Ranunculus ficaria</i> (Linnaeus) 14/02/2001	LA
<i>Chelidonium majus</i> (Linnaeus) 14/02/2001	O
<i>Platanus x hispanica</i> (Miller ex Muenchh.) 14/02/2001	F
<i>Ulmus sp.</i> 14/02/2001	O
<i>Urtica dioica</i> (Linnaeus) 14/02/2001	F
<i>Parietaria judaica</i> (Linnaeus) 14/02/2001	O
<i>Fagus sylvatica</i> (Linnaeus) 14/02/2001	O
<i>Fagus sylvatica</i> 'Dawyck' 14/02/2001	R
<i>Quercus ilex</i> (Linnaeus) 14/02/2001	O
<i>Quercus robur</i> (Linnaeus) 14/02/2001	O
<i>Betula pendula</i> (Roth) 14/02/2001	O
<i>Alnus glutinosa</i> (Linnaeus) Gaertner) 14/02/2001	F
<i>Alnus incana</i> (Linnaeus) Moench) 14/02/2001	R
<i>Alnus cordata</i> (Lois.) Duby) 14/02/2001	O
<b>Species</b>	<b>Abundance</b>

<sup>1</sup> **DAFOR Scale:** This provides an estimate of the relative abundance of each species recorded, whereby D = Dominant; A = Abundant; F = Frequent; O = Occasional and R = Rare.

<i>Corylus avellana</i> (Linnaeus)	
14/02/2001	O
<i>Stellaria media</i> (Linnaeus) Villars)	
14/02/2001	O
<i>Cerastium fontanum</i> (Baumg.)	
14/02/2001	O
<i>Fallopia japonica</i> (Houtt.) Ronse Decraene)	
14/02/2001	O
<i>Rumex crispus</i> (Linnaeus)	
14/02/2001	O
<i>Rumex sanguineus</i> (Linnaeus)	
14/02/2001	O
<i>Rumex obtusifolius</i> (Linnaeus)	
14/02/2001	O
<i>Tilia x vulgaris</i> (Hayne)	
14/02/2001	O
<i>Populus nigra 'italica'</i> (Linnaeus (Munchh))	
14/02/2001	R
<i>Populus x canadensis</i> (Moench)	
14/02/2001	O
<i>Salix fragilis</i> (Linnaeus)	
14/02/2001	O
<i>Salix x sepulcralis</i> (Simonck.)	
14/02/2001	O
<i>Filipendula ulmaria</i> (Linnaeus) Maxim.)	
14/02/2001	O
<i>Geum urbanum</i> (Linnaeus)	
14/02/2001	O
<i>Rosa arvensis</i> (Hudson)	
14/02/2001	R
<i>Rosa canina</i> (sensu str.Linnaeus)	
14/02/2001	O
<i>Prunus avium</i> (Linnaeus) Linnaeus)	
14/02/2001	O
<i>Prunus sp.</i>	
14/02/2001	O
<i>Pyracantha coccinea</i> (M.Roemer)	
14/02/2001	R
<i>Crataegus monogyna</i> (Jacq.)	
14/02/2001	O

**Species                      Abundance**

*Rubus fruticosus* (Linnaeus) agg.

22/02/2001	A
<i>Trifolium repens</i> (Linnaeus)	
14/02/2001	A
<i>Ilex aquifolium</i> (Linnaeus)	
14/02/2001	R
<i>Buxus sempervirens</i> (Linnaeus)	
14/02/2001	O
<i>Aesculus hippocastanum</i> (Linnaeus)	
14/02/2001	O
<i>Acer pseudoplatanus</i> (Linnaeus)	
14/02/2001	A
<i>Hedera helix</i> (Linnaeus)	
14/02/2001	A
<i>Anthriscus sylvestris</i> (Linnaeus) Hoffm.)	
14/02/2001	A
<i>Aegopodium podagraria</i> (Linnaeus)	
14/02/2001	O
<i>Oenanthe crocata</i> (Linnaeus)	
14/02/2001	O
<i>Apium nodiflorum</i> (Linnaeus) Lag.)	
14/02/2001	O
<i>Vinca major</i> (Linnaeus)	
14/02/2001	O
<i>Pentaglottis sempervirens</i> (Linnaeus) Tausch ex LinnaeusBailey)	
14/02/2001	O
<i>Ballota nigra</i> (Linnaeus)	
14/02/2001	O
<i>Lamium purpureum</i> (Linnaeus)	
14/02/2001	O
<i>Glechoma hederacea</i> (Linnaeus)	
14/02/2001	F
<i>Lycopus europaeus</i> (Linnaeus)	
14/02/2001	O
<i>Callitriche</i> sp.	
14/02/2001	O
<i>Fraxinus excelsior</i> (Linnaeus)	
14/02/2001	O
<i>Ligustrum vulgare</i> (Linnaeus)	
14/02/2001	O
<b>Species</b>	<b>Abundance</b>
<i>Scrophularia auriculata</i> (Linnaeus)	
14/02/2001	O
<i>Linaria purpurea</i> (Linnaeus) Miller)	

14/02/2001		R
<i>Veronica filiformis</i> (Smith)		
14/02/2001		F
<i>Veronica chamaedrys</i> (Linnaeus)		
14/02/2001		O
<i>Galium aparine</i> (Linnaeus)		
14/02/2001		F
<i>Sambucus nigra</i> (Linnaeus)		
14/02/2001		F
<i>Symphoricarpos albus</i> (Linnaeus) S.F.Blake)		
14/02/2001		O
<i>Arctium minus</i> (Hill) Bernh.)		
14/02/2001		O
<i>Cirsium arvense</i> (Linnaeus) Scop.)		
22/02/2001		F
<i>Cirsium vulgare</i> (Savi) Ten.)		
22/02/2001		O
<i>Picris echioides</i> (Linnaeus)		
22/02/2001		O
<i>Taraxacum officinale</i> (Linnaeus) agg.		
22/02/2001		F
<i>Bellis perennis</i> (Linnaeus)		
14/02/2001		F
<i>Achillea millefolium</i> (Linnaeus)		
14/02/2001		F
<i>Elodea nuttallii</i> (Planchon) H.St.John)		
14/02/2001		F
<i>Potamogeton natans</i> (Linnaeus)		
14/02/2001		O
<i>Potamogeton crispus</i> (Linnaeus)		
14/02/2001		O
<i>Arum maculatum</i> (Linnaeus)		
14/02/2001		F
<i>Lemna minor</i> (Linnaeus)		
14/02/2001		F
<i>Carex pendula</i> (Hudson)		
14/02/2001		O
<b>Species</b>		<b>Abundance</b>
<i>Lolium perenne</i> (Linnaeus)		
14/02/2001		D
<i>Poa annua</i> (Linnaeus)		
14/02/2001		F

<i>Dactylis glomerata</i> (Linnaeus)	
14/02/2001	F
<i>Glyceria maxima</i> (Hartman) O.Holmb.)	
14/02/2001	O
<i>Arrhenatherum elatius</i> (Linnaeus) P.Beauv.)	
14/02/2001	O
<i>Brachypodium sylvaticum</i> (Hudson) P.Beauv.)	
14/02/2001	O
<i>Phragmites australis</i> (Cav.) Trin. ex Steudel)	
14/02/2001	O
<i>Typha latifolia</i> (Linnaeus)	
14/02/2001	O
<i>Hyacinthoides non-scripta</i> (Linnaeus) Chouard ex Rothm.)	
14/02/2001	F
<i>Hyacinthoides hispanica</i> (Miller) Rothm.)	
14/02/2001	F
<i>Allium sp.</i>	
14/02/2001	R
<i>Galanthus nivalis</i> (Linnaeus)	
14/02/2001	F
<i>Narcissus pseudonarcissus major</i> (Curtis) Baker)	
14/02/2001	F
<i>Ruscus aculeatus</i> (Linnaeus)	
14/02/2001	R
<i>Iris pseudacorus</i> (Linnaeus)	
14/02/2001	O

Note: The above list is based on a survey undertaken in February 2001. Due to the fact that the survey was undertaken outside the growing season, when many species would be dormant and not evident, the list should not be regarded as a comprehensive list of plant species growing in Ravensbury Park.

## **Appendix 2 : Annotated Bird List for Ravensbury Park**

The following is an extract from Appendix 3 of the Historical Management Plan for Ravensbury Park, prepared by Scott Wilson Resource Consultants in 1996 (SWRC 1996).

### ***The Birds of Ravensbury Park***

This report is the work of Derek Coleman. The report is based on a Waterways Bird Survey that has been carried out for the British Trust for Ornithology along the River Wandle from Carshalton to Morden Hall Park between 1983 and 1995. This survey entails nine early morning visits during the breeding season. Other less frequent visits have been made at other times of the year. Observations away from the river are limited and some assumptions have been made for non-waterways birds.

#### ***LITTLE GREBE***

This species has become frequent as a breeding species and now regularly attempts to breed. The only successful breeding attempt was also the first attempt, a late brood in September 1990. Since 1991, one or two pairs have been sitting. The reason for the high failure rate is probably for several reasons; disturbance by people and other waterway birds, flooding of nests and pollution (one pair deserted in 1991 after a pollution incident). The species is also regular in winter with up to five in recent winters but nine on 14th January 1995.

#### ***GREY HERON***

This species is regular on the Wandle and has increased over the years. Ravensbury Park is not one of its favoured stretches; disturbance and possibly a lack of suitable feeding sites are probably responsible.

#### ***MUTE SWAN***

A pair bred on the backwater in 1986 and 1987 raising six and five young respectively. The area on the backwater where they bred was fenced off to minimise disturbance. The birds deserted after the October storm in 1987. A pair prospected the Park in 1994 but did not build a nest and a pair, which were released from the Egham Swan Sanctuary, prospected Morden Hall Park in 1995 and were in Ravensbury Park in March 1996. It might be possible to encourage swans to breed by providing a nesting platform. The siting of the platform should be considered since breeding swans will disturb other nesting waterway birds. It is suggested that the platform should be on the main river, since disturbance will be more of a problem on the backwater.

#### ***CANADA GOOSE***

This species has become a problem in many London parks. It still occurs in low numbers at Ravensbury Park with counts of more than ten unusual. The only brood ever seen was in 1990 when four young were seen. They have attempted breeding in other years.

#### ***MANDARIN***



This attractive introduced species is now of conservation importance since it has declined in its native range in the Far East. Two females were seen in July 1988 and a pair were present in March 1990. The species nests in holes in trees and may be reluctant to use nest boxes, but with its increase in the county might be encouraged to breed on the Wandle. A nest box in Happy Valley should be considered.

#### *MALLARD*

This duck breeds commonly along the Wandle with up to ten pairs in Ravensbury Park. The Park is very important as a loafing and moulting area where large numbers occur after the breeding season and during the winter. The supplementary feeding by the public is probably important but so are grassy areas on the west side of the river. A very high count of 129 was made on 27th January 1996.

#### *SHOVELLER*

An occasional winter visitor with records of a pair on 14th January 1995 and a male on 27th January 1996.

#### *POCHARD*

This winter visitor is attracted by supplementary feeding at Waddon Ponds, however, it is rare at Ravensbury Park and has only been recorded during the cold spell in 1991.

#### *TUFTFED DUCK*

Another species that has increased on the Wandle in recent years. Territories have been allocated in some years but no broods have ever been seen. This species likes islands to nest on close to suitable habitat. The island in the southern half of the Park is in a stretch of shallow water, which is not suitable for this species. The provision of an island on the backwater should be given consideration. This species is a regular winter visitor, with up to 30, attracted by the supplementary feeding.

#### *SMEW*

In cold spells, the Wandle remains ice free and is a very important refuge for ducks and wading birds. In the very cold spell of February 1991, a Smew was seen in the Park.

#### *KESTREL*

One pair may occasionally breed. Nesting sites might be limiting regular breeding so the provision of a nesting box should be considered.

#### *SPARROWHAWK*

An occasional visitor.

#### *MOORHEN*

This species has increased in the Park from three to five pairs in the early 1980s to seven to eight pairs in the early 1990s. The change in management of bankside vegetation from savage clearance most years to a limited clearance at longer intervals was considered to be responsible for the increase along the Wandle.

## *COOT*

Like Moorhen, this species has also increased from six pairs in the early 1980s to ten pairs in the early 1990s. The Park has always had one of the highest densities along the river and has probably been an important source of colonisation for the adjacent sections.

Supplementary feeding by the public is important. The breeding birds remain throughout the winter in contrast to the early 1980s when only one or two birds were present. The suggestion may be that feeding conditions are sub-optimal in winter and birds would prefer to find better conditions but for a very territorial species, they may now have to defend their territory throughout the year. The high population of this species may have adverse effects on other species, in particular they may 'disturb' breeding attempts of Little Grebe, Tufted Duck and Moorhen.

## *GREEN SANDPIPER*

One was seen on 10th April 1985.

## *COMMON SANDPIPER*

A passage migrant, singles have been recorded on 1st May 1984 and 5th May 1989.

## *BLACK-HEADED GULL*

A common visitor outside the breeding season attracted by supplementary feeding. In 1988, a bird remained until 23rd April and may have been prospecting for a nest site.

## *COMMON GULL*

A common winter visitor in small numbers.

## *SWIFT*

A feeding area for birds nesting locally and possibly further afield. This species may feed well away from its nesting site.

## *GREEN WOODPECKER*

This species was first recorded in 1995, although it may have occurred in 1994. It has colonised Morden Hall Park in recent years and birds from there probably use Ravensbury Park to feed. There is probably not enough suitable habitat to support a breeding pair.

## *GREAT SPOTTED WOODPECKER*

One pair very probably breed in the Park.

## *LESSER SPOTTED WOODPECKER*

This species appears to be in decline along the Wandle, it is also considered to be declining nationally. One, probably two pairs, used to breed in the Park but now only one pair may breed. The reasons for the decline remain unknown.

## *HOUSE MARTIN*

The Park acts as a feeding area for local breeding birds.

### *GREY WAGTAIL*

A pair has bred at Ravensbury Mill, with the new development. A useful conservation measure would be to ensure that nesting sites are available. This species has more than one brood and may use a different nest for each brood and so a choice of nest sites would be advantageous. Nesting sites could easily be provided. Another pair breeds near Bishopsford Road, usually in Watermeads, but is not regular. Nesting sites could also be provided for this species in the Park. In 1995, a pair bred on the side channel in the Park for the first time.

### *PIED WAGTAIL*

One pair may occasionally breed.

### *FIELDFARE*

This winter visitor is only likely to be seen in cold winters and then only in small numbers.

### *REDWING*

Another winter visitor to the Park, which is usually more numerous in cold winters when up to 50 may be present.

### *MISTLE THRUSH*

Two or three pairs probably breed.

### *BLACKCAP*

This species requires a dense shrub layer in wooded areas for breeding and commonly breeds in suitable habitat along the Wandle. It is regularly recorded in spring on migration but the habitat is probably not extensive enough for birds to stay and breed. This species might well be encouraged to breed. It also occurs occasionally in winter.

### *WHITETHROAT*

A species which likes scrubby areas and breeds in suitable habitat along the Wandle. There are no known records for the Park.

### *WOOD WARBLER*

One migrant recorded on 18th May 1991.

### *CHIFFCHAFF*

An occasional winter visitor and fairly regular passage migrant.

### *GOLDCREST*

An autumn migrant and winter visitor in small numbers.

### *SPOTTED FLYCATCHER*

This species used to readily breed in suburban parks and may well have bred in the past but there are no known breeding records. It was recorded on 2nd August 1986. It is declining nationally. However, potential nesting sites might be identified to try to attract this species with the view of erecting nest boxes, which are readily used by this species.

#### *LONG-TAILED TIT*

One pair may occasionally breed.

#### *COAL ITT*

One pair may occasionally breed.

#### *NUTHATCH*

This species used to be regularly recorded and a pair probably bred, however, there have been fewer records in recent years and it probably no longer breeds.

#### *JAY*

One pair may occasionally breed.

#### *CHAFFINCH*

One pair may occasionally breed.

#### *GOLDFINCH*

A species that can be seen throughout the year and may occasionally breed.

#### *BULLFINCH*

A pair probably bred occasionally in the past but have not done so in recent years.

#### *REED BUNTING*

A species that could be attracted if suitable habitat was provided. The change to more sympathetic management for wildlife at Morden Hall Park led to this species colonising the Park, although it still does not breed there every year.

Other species which breed every year:

Feral Rock Dove

Woodpigeon

Wren

Dunnock

Robin

Blackbird

Song Thrush

Blue Tit

Great Tit

Magpie

Carrion Crow

Starling

House Sparrow

Greenfinch

**Additional bird species recorded during the habitat survey of February 2001**

Kingfisher – one noted along diversionary channel

Ring-necked Parakeet – small flock feeding in mature trees