

LONDON CONSERVATION SERVICES LTD



Morden Park Management Plan

A report for
The London Borough of Merton
July 2000

Report Written by

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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 London's 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; such as practical management for nature conservation, advice on management of wildlife, ecological surveys, environmental education and landscape design incorporating ecological improvements and safeguards. It is able to call on the wide range of expertise of the LWT staff and many other professional ecologists and free-lance professionals in the London Area and beyond.

LCS is managed by Alan Scott Ecological Consultants Limited.

| | |
|---|-----------|
| Introduction..... | 3 |
| Part 1 General Information..... | 4 |
| 1.1 Name | 4 |
| 1.2 Location..... | 4 |
| 1.3 Area | 4 |
| 1.4 Grid Reference | 4 |
| 1.5 Access..... | 4 |
| 1.6 Vice County..... | 4 |
| 1.8 Map Coverage | 4 |
| 1.9 Land Tenure | 4 |
| 1.10 Status | 5 |
| 1.11 Public Rights of Way | 5 |
| 1.12 Planning Authority: | 5 |
| 1.13 Sources of Information | 5 |
| 1.14 Photographic Coverage | 5 |
| Part 2 Policy Statement..... | 6 |
| PART 3 General Description & History | 7 |
| 3.1 General Description..... | 7 |
| 3.2 Local Significance of Morden Park..... | 7 |
| 3.3 The History of Morden Park..... | 7 |
| 3.4 Geology and Topography | 8 |
| Part 4 The Habitats, Flora and Fauna | 9 |
| 4.1 Habitat Descriptions | 9 |
| 4.1.2 Broadleaved Woodland | 9 |
| 4.1.3 Scattered Trees | 10 |
| 4.1.4 Tall Herbs..... | 10 |
| 4.1.5 Semi-improved Neutral Grassland..... | 10 |
| 4.1.6 Standing Water & Wet Marginal Vegetation | 11 |
| 4.1.7 Running Water | 11 |
| 4.2 Fauna | 12 |
| 4.2.1 Mammals..... | 12 |
| 4.2.2 Birds | 12 |
| 4.2.3 Amphibians | 12 |
| 4.2.5 Invertebrates | 12 |
| Part 5: Evaluation | 13 |
| 5.1 Identification of Important Features | 13 |
| 5.2 Nature Conservation..... | 13 |
| 5.3 UDP Policies | 13 |
| 5.4 General Amenity/Recreation | 14 |
| 5.5 Education..... | 14 |
| 5.6 Management Objectives | 14 |
| Part 6 Management | 15 |
| 6.1 General principles..... | 15 |
| 6.1.1 General safety | 15 |
| 6.1.3 Litter | 15 |
| 6.1.4 Use of herbicides | 15 |
| 6.1.5 Survey and monitoring | 15 |
| 6.1.6 Review of Management Plan | 16 |
| 6.1.7 Planting and other introductions | 16 |

| | | |
|---------|--|----|
| 6.1.8 | Dead wood..... | 16 |
| 6.2: | Habitat Management Proposals..... | 17 |
| 6.2.1 | Meadows | 17 |
| 6.2.2 | The Woodland | 17 |
| 6.2.3: | Trees | 18 |
| 6.2.4 | Standing Water & Wet Marginal Vegetation | 18 |
| 6.2.5 | Running Water | 19 |
| 6.3 | Management by Compartments..... | 20 |
| | Description | 20 |
| 6.3.2 | Compartment 2 | 20 |
| 6.3.3 | Compartment 3 | 20 |
| 6.3.4 | Compartment 4 | 21 |
| 6.3.5 | Compartment 5 | 22 |
| 6.3.6 | Compartment 6..... | 22 |
| 6.3.7 | Compartment 7 | 23 |
| 6.3.8 | Compartment 8..... | 24 |
| 6.3.9 | Compartment 9 | 24 |
| 6.3.10 | Compartment 10..... | 25 |
| 6.4 | General management Projects | 26 |
| 6.4.1 | Footpaths | 26 |
| 6.4.2 | Litter | 26 |
| 6.4.4 | Interpretation | 26 |
| PART 7: | Work Programme..... | 27 |
| | Compartment 4..... | 27 |
| | Bibliography..... | 32 |
| | Appendix 1: Biological Records..... | 33 |
| | Appendix 2: Site Description from Nature Conservation in Merton Handbook | 37 |
| | Map 1: Location..... | 38 |
| | Map 2: Compartments..... | 39 |
| | Map 3: Habitat Plan | 40 |
| | Map 4: Management Required | 41 |

Introduction

This plan has been compiled by London Conservation Services (LCS) under contract to the London Borough of Merton (LBM). The site description was produced by Barry Nicholson following a vegetation survey carried out in June 2000. The plan was then compiled by Alan Scott during July 2000 following site visits with Ruth Hutton of the London Borough of Merton, Education, Leisure and Libraries Department.

The plan covers those areas of Morden Park which are being managed as wildlife habitats and which are to be designated as a Local Nature Reserve in the near future. The habitats and species present are described and the management require to preserve and enhance the wildlife value of the site is detailed.

Part 1 General Information

1.1 Name

Morden Park.

1.2 Location

Morden Park is owned by Merton Council and is freely accessible to the public at all times.

It lies approximately 1 kilometre south west of Morden Town Centre adjacent to the A24.

1.3 Area

25 Hectares (approx.)

1.4 Grid Reference

TQ 245 675

1.5 Access

The site is open to the public at all times and a system of footpaths exists round the site.

Access can be gained from Hillcross road, Lower Morden Lane Epsom Road and London Road.

Buses run along Epsom and London Roads and Morden South Railway Station is situated just to the East of the Park.

1.6 Vice County

V17 Surrey

1.8 Map Coverage

BGS 1: 50,000 Sheet 270 South London

OS 1: 50,000 series sheet 176

OS 1: 25,000 sheet TQ 26/36

OS 1:10,000 sheet TQ 26NW

1.9 Land Tenure

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

1.10 Status

Borough Grade 2 Importance for Nature Conservation
Metropolitan Open Land
Schedule Ancient Monument (The Mound)
Conservation Area and Archaeological Priority Area within the Merton Unitary
Development Plan (UDP).

1.11 Public Rights of Way

No public rights of way exist across the site but it is open to the public at all times.

1.12 Planning Authority:

London Borough of Merton.

1.13 Sources of Information

London Borough of Merton, The Education, Leisure and Libraries Department, The
Civic Centre, London Road, Morden, Surrey. (0181) 545 3657

1.14 Photographic Coverage

Held in the civic centre, environmental services.

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 already designated a number Local Nature Reserves and intends to declare more in future. It is proposed that a major part of Morden Park will acquire LNR status, and the production of this management plan is an important part of this process.

PART 3 General Description & History

3.1 *General Description*

Morden Park is owned by Merton Council and is freely accessible to the public at all times. It lies approximately 1 kilometre south west of Morden Town Centre adjacent to the A24.

Much of Morden Park is short mown amenity grassland and other amenity facilities. This plan, however, looks at the significant area in the south western section of the park which has been managed in recent years to encourage the development of meadow and other wildlife habitats, which is the proposed LNR.

The east Pyl Brook flows along the western boundary of the Park.

3.2 *Local Significance of Morden Park*

Morden Park is a relatively large area of accessible open space in an essentially urban area. As such it provides a place where local people can enjoy contact with the natural environment without the need to travel. The development of more natural habitats (meadows, wetlands and woodland) is particularly important in this context. The adoption of this management plan will enhance the attractiveness of the site to both local people and wildlife and by reducing peoples need to travel especially by car, additionally benefit the wider environment.

3.3 *The History of Morden Park*

A much more detailed history of Morden Park is given in the Historical Management Plan (Cobham Resource Consultants 1994) and only a very brief outline is given here.

The earliest historical evidence in the area relates to the major Roman road called Stane Street, which ran through the present site of the park. Later the area was part of the Manor of Morden, which is mentioned in a donation of a gift of land by Edward the Confessor to Westminster Abbey in 968

It probably remained as agricultural land until the second half of the 18th Century when John Ewart, an eminent London distiller, leased the land. He built Morden Park House and the extent and many of the features of the park today date from that period. However much of the area was still agricultural land. The mound dates from this period.

During the 19th Century the area remained as an agricultural Estate. Ordnance survey maps from this period show the development of the site. The 1874 Ordnance Survey map shows an ornamental pond, fed by a drainage ditch, in the south east of the site where the wet woodland is now found and the line of oak trees running south from the mound. By 1895 the dense woodland boundaries and the area of wet woodland in the south east can be seen and the Pyl Brook has been canalised.

In the 1930's the Park was leased by Merton Park Golf Club. In 1936 negotiations started for the of the land by the Urban District of Merton and Morden but it took until 1945 before it finally passed into the hands of the council.

In the 1950' the park was developed as a municipal public park, with a cricket pavilion, bandstand and cycle track, and the playing fields in the north of the park were leased to the London County Council.

In recent years areas meadow management was introduced to areas in the west of the park. This has now been expanded to the area now covered by this management plan.

3.4 Geology and Topography

The Park is situated on London Clay and slopes down to the west to the Pyl Brook. The soil is of weathered clay and in the south west is waterlogged. This is in the region of the old ornamental lake and broken drains probably contribute to it. In the centre the artificially created Mound rises to several metres above the surrounding parkland.

Part 4 The Habitats, Flora and Fauna

4.1 Habitat Descriptions

This description of the habitats is based on an ecological survey of Morden Park, which was carried out by London Conservation Services Ltd. at the request of the London Borough of Merton. The survey followed standard phase 1 habitat survey methodology, as developed for Greater London by the London Ecology Unit (LEU 1994). Constituent habitats were described and mapped. A plant species list for the site was compiled and an assessment of plant species abundance made. Systematic recording of fauna was not undertaken, although notes were made of any animal species encountered during the course of the habitat survey.

The survey was carried out on the 3rd June 2000. The timing of the survey was considered adequate to accurately characterise the habitats and species present, although species with an early or late development phenology may have been under-recorded.

Habitats within this area include:

- Native and non-native broadleaved woodland
- Scattered trees
- Tall herbs
- Semi-improved neutral grassland
- Standing water (ponds)
- Wet marginal vegetation (in ponds)
- Running water

These habitats are described below. A habitat plan of the site is shown in Map 3 and a list of plant species recorded is presented in Appendix 1.

4.1.2 Broadleaved Woodland

A narrow belt of mixed native and non-native broadleaved woodland runs along the margins of the park. This reaches its greatest extent in the south-east corner of the site. The woodland is derived mainly from planted trees which include Turkey oak *Quercus cerris*, English oak *Q. robur*, ash *Fraxinus excelsior*, common lime *Tilia x vulgaris*, horse chestnut *Aesculus hippocastanum* and grey poplar *Populus x canescens*, amongst others. Scattered pine trees *Pinus sp.* also occur. There is a sparse understorey of hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, snowberry *Symphoricarpos albus*, wild privet *Ligustrum vulgare* and blackthorn *Prunus spinosa*. Elm suckers *Ulmus sp.* form thickets in places. The field layer is generally dominated by ivy *Hedera helix*, bramble *Rubus fruticosus*, stinging nettle

Urtica dioica and cow parsley *Anthriscus sylvestris*. Other species include wood avens *Geum urbanum*, hedge woundwort *Stachys sylvatica*, lords and ladies *Arum maculatum*, garlic mustard *Alliaria petiolata*, Spanish bluebell *Hyacinthoides hispanica* and wood false-brome grass *Brachypodium sylvaticum*. A small patch of wild garlic or ramsons *Allium ursinum* occurs in the woodland to the north of the Pyl Brook, in the south-east of the site. Nearby, on the edge of the pitch-and-putt course, localised water-logging has occurred and a number of trees are dead or dying. Italian alder *Alnus cordata* has been planted in this area.

Small areas of woodland occur within the central, grassland-dominated part of the site. These include groves of mature English oak and horse chestnut as well as areas of young planted woodland containing trees such as silver birch *Betula pendula*, ash, field maple *Acer campestre*, wild cherry *Prunus avium*, hazel *Corylus avellana*, hawthorn and other species.

A more extensive area of mature, English oak-dominated woodland occurs to the north of the site, running south from the tennis courts in the old ILEA playing fields. The trees are quite widely spaced and the woodland has the character of a parkland, with a grass dominated field layer. There are several dead trees, which provide a valuable dead wood habitat. Thickets of regenerating ash occur in places, whilst other tree species include horse chestnut and turkey oak. Patches of bramble and stinging nettle occur in the field layer, together with grasses such as rough-stalked meadow grass *Poa trivialis*, cocksfoot *Dactylis glomerata* and foxtail *Alopecurus pratensis*.

4.1.3 Scattered Trees

There are a number of mature English oak and other trees scattered across the site. Many of these occur in lines, possibly indicating old field boundaries.

4.1.4 Tall Herbs

Tall herbaceous vegetation occurs in places along woodland edges, often in mosaic with low bramble scrub. Stinging nettle and cow parsley are the most abundant species, with others including creeping thistle *Cirsium arvense*, hogweed *Heracleum sphondylium*, hedge mustard *Sisymbrium officinale*, common mallow *Malva sylvestris*, lesser burdock *Arctium minus* agg. and mugwort *Artemisia vulgaris*.

4.1.5 Semi-improved Neutral Grassland

Neutral grassland covers most of the site. This was formerly managed as short-mown amenity grassland but the cutting regime has now been relaxed and large areas are now managed as wildflower meadow. Some grassland improvement, in the form of re-seeding and fertiliser application, undoubtedly took place in the past and perennial ryegrass *Lolium perenne*, which is indicative of improved grassland, is still dominant over extensive areas. However there are significant expanses of more species-rich grassland, which presumably escaped the worst effects of improvement. These areas are typified by the presence of a variety of grasses, including the meadow grasses *Poa pratensis* and *P. trivialis*, Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra*, meadow fescue *Festuca pratensis*, soft brome *Bromus*

hordeaceus ssp. *hordeaceus*, meadow barley *Hordeum secalinum*, and crested dog's-tail *Cynosurus cristatus*. Wildflowers include meadow buttercup *Ranunculus acris*, sorrel *Rumex acetosa*, lesser stitchwort *Stellaria graminea*, bird's-foot-trefoil *Lotus corniculatus*, oxeye daisy *Leucanthemum vulgare*, hardheads *Centaurea nigra* and cat's-ear *Hypochaeris radicata*. The former ILEA playing fields are particularly diverse, with species including tall fescue *Festuca arundinacea*, sweet vernal-grass *Anthoxanthum odoratum*, slender soft-brome *Bromus lepidus*, grey sedge *Carex divulsa*, bulbous buttercup *Ranunculus bulbosus*, autumn hawkbit *Leontodon autumnalis*, hairy tare *Vicia hirsuta*, grass vetchling *Lathyrus nissolia* and meadow vetching *L. pratensis*. The meadow to the east of the mature oak woodland supports a generally drier and shorter grassland sward, of note for the abundance of glaucous sedge *Carex flacca*, a species more commonly found in calcareous grassland.

4.1.6 Standing Water & Wet Marginal Vegetation

A rectangular pond is located in a fenced enclosure on the eastern margin of the oak woodland in the north of the site. This is heavily shaded by surrounding trees but supports patches of marginal vegetation which include reedmace *Typha latifolia*, yellow flag iris *Iris pseudacorus* and hard rush *Juncus inflexus*. Bushes of grey willow *Salix cinerea* also occur.

There is also a small linear pond/ditch in the waterlogged area on the southern edge of the pitch-and-putt course. This contains water starwort *Callitriche* sp., duckweed *Lemna minor*, hard rush and figwort *Scrophularia* sp. The surrounding area is very wet and supports wet grassland species such as marsh foxtail *Alopecurus geniculatus* and hairy sedge *Carex hirta*, and patches of yellow flag iris and great willowherb *Epilobium hirsutum*.

4.1.7 Running Water

The Pyl Brook runs through the southern part of the site. The channel is quite narrow and confined within timber toe-boarding. The brook is heavily shaded by neighbouring woodland for most of its length, which in conjunction with the toe-boarding limits the potential for the development of marginal and aquatic vegetation. Nevertheless occasional patches of water starwort and Canadian pondweed *Elodea canadensis* are present within the channel, whilst fool's water-cress *Apium nodiflorum* and flote grass *Glyceria fluitans* occur sporadically on the margins. Water quality within the brook appears to be good.

4.2 Fauna

The animals of the site have not been recorded in any detail. It would be desirable to carry out surveys of birds and invertebrates in the near future, In addition other groups should be recorded as and when the expertise is available (e.g. local naturalists, volunteers, students, etc.).

The following descriptions are based on observations during the botanical survey in June 2000, casual observations during the site visits to produce this plan and verbal records for Peter Guest of the London Wildlife Trust.

A variety of common woodland birds were noted in the woodland parts of the site, including wood pigeon *Columba palumbus*, green woodpecker *Picus viridis*, chiffchaff *Phylloscopus collybita*, blackbird *Turdus merula*, great tit *Parus major*, starling *Sturnus vulgaris*, magpie *Pica pica* and Carrion crow *Corvus corone*. Grey squirrels *Sciurus carolinensis* were also noted, together with speckled wood butterflies *Pararge aegeria*.

4.2.1 Mammals

Grey squirrels are the most commonly observed mammals and foxes also occur. The only other mammal recorded is the 55KHz pipistrelle bat *Pipistrellus pygmaeus* which is known to feed over the site. Further surveys should be carried out.

4.2.2 Birds

A variety of common woodland birds were noted in the woodland parts of the site, including wood pigeon *Columba palumbus*, green woodpecker *Picus viridis*, chiffchaff *Phylloscopus collybita*, blackbird *Turdus merula*, great tit *Parus major*, starling *Sturnus vulgaris*, magpie *Pica pica* and Carrion crow *Corvus corone*. In addition tawny owl *Strix aluco* and sparrowhawk *Accipiter nisus* are thought to breed in the park.

4.2.3 Amphibians

No amphibians or reptiles have been recorded. Further surveys should be carried out.

4.2.5 Invertebrates

No comprehensive invertebrate survey has been carried out and records relate mostly to butterflies. Meadow brown *Maniola jurtina*, Small skipper *Thymelicus sylvestris*, large skipper *Ochlodes venata*, common blue *Polyommatus icarus* and small tortoiseshell *Aglais urticae* have been recorded but this is by no means an exhaustive list. Anthills of the yellow meadow ant *Lasius flavus* were found to be developing within the grassland areas. Further surveys should be carried out.

Part 5 Evaluation

5.1 Identification of Important Features

The most important nature conservation/wildlife feature of the site is the meadow habitat. Semi-improved neutral grassland is a relatively uncommon habitat in Greater London. Such habitats have undergone serious declines at the national level in recent decades and figure prominently in the UK Biodiversity Action Plan. Of particular note are the meadows, which are developing on the former ILEA playing fields and on the slopes in the western part of Merton Park.

Woodland, tall herb, ponds and the Pyl Brook are also valuable wildlife habitats and add to the overall diversity and importance of the site. The ponds and the Pyl Brook in particular have significant potential for enhancement.

The following plant species that are uncommon in Greater London occur within the site:

| Species | % of Greater London tetrads from which recorded* |
|--|--|
| Slender soft-brome <i>Bromus lepidus</i> | 5 |
| Grass vetchling <i>Lathyrus nissolia</i> | 9 |

* based on the Flora of the London Area (Burton 1983)

5.2 Nature Conservation

The woodland, meadows, ponds, old trees and other woody vegetation provide the principal nature conservation interest of the Park. One of the main objectives of the management plan is to maintain and increase the diversity of native species of flora and fauna on the site. The site's value is increased in relative terms because of the location of the site in a largely urban area. The Pyl Brook is a green corridor linking the site to other wildlife areas.

5.3 UDP Policies

The U.D.P 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" identifies the Park as a Borough Grade 2 Site of Importance for Nature Conservation. This designation ensures that the site is protected by Policy EN.4 as well as by Policy EN.1 because of its designation as Metropolitan Open Land. The production of this management plan is in line with Policy EN.16 – Management of Green Spaces – Conservation Plans.

5.4 General Amenity/Recreation

The main function of the area covered by this plan is for passive recreational pursuits such as dog walking, walking, picnicking and bird watching. There is open access to the site and it is well served by local bus routes.

There are a number of pathways around the site which provide access to the majority of areas and help to prevent excessive trampling of natural vegetation. The path through the woodland boundary is probably suitable for disabled access for much of the year (in winter it may be too muddy). If funds are available an improved surface could be put down to ensure access all year round.

There is unrestricted access for dogs as this has not been a problem due to the large amount of space.

5.5 Education

The Park, as a piece of semi-natural encapsulated countryside in an urban area has great potential for the teaching of Natural History and Nature Conservation issues involving field visits to the site. Local Schools and Colleges could be encouraged to use the site by the provision of curriculum based educational teaching material relating to the wildlife and history of the Park. Particularly the Technical College based in the Park should be encouraged to use the site and maybe able to monitor the wildlife and development of the habitats. The provision of a pond dipping/viewing platform next to the pond in Compartment 8 would also be attractive to schools.

Interpretative panels and information leaflets indicating some of the habitats and reasons for the maintenance regimes will increase the public's awareness of conservation and explain the contribution of the site in providing a refuge for wildlife.

Local schools could be involved in the management of the site. A number of projects exist in which the pupils could become involved. The most interesting is probably the planting of oaks grown from seed collected on the site. The children could be involved in the collection, growing and planting stages and then be able to come back in the future to see how successful it has been. Another projects would be the hedge creation in Compartment 6.

5.6 Management Objectives

1. To provide people with an accessible place to enjoy nature.
2. To manage the area as a Nature Reserve for the benefit of indigenous flora and fauna.
3. To maintain and enhance the existing ecological value of the site through the protection and enhancement of the woodland, grassland and water habitats.
4. To improve and maintain footpaths.
5. To provide opportunities for educational use by local schools.
6. To provide interpretative panels and information leaflets to improve local awareness of conservation and wildlife in the Park.

Part 6 Management

6.1 General principles

6.1.1 General safety

This is a priority as there is free public access to the area. All boundaries, bridges, footpaths and other visitor facilities need to be inspected regularly and any necessary remedial action taken immediately (see sections on footpaths and boundaries). Regular inspections must also be carried out of all trees near boundaries and footpaths, to ensure they are in a safe condition, i.e. not about to fall over or shed dead branches onto an area frequently used by the public. Appropriate action should be taken but in recognition that standing dead wood is an essential feature of the woodland ecosystem.

6.1.3 Litter

Litter makes a site look untidy and uncared for and can spoil the enjoyment of visitors. Some litter can also be unsafe, or lethal to small mammals and some invertebrates. Litter will be cleared on a regular basis.

6.1.4 Use of herbicides

There will be a presumption against the use herbicides however on occasions it may be necessary to use limited amounts for specific tasks. To meet the requirements of the law, any such treatment must be carried out by a suitably qualified person and herbicide use must accord to all relevant Health & Safety and COSHH guidelines.

6.1.5 Survey and monitoring

It is essential that all management work is recorded and monitored in order to be able to ensure that the work carried out is of benefit to the wildlife on the reserve and to visitors. A system of recording management tasks should be instigated.

It is important to know what species and habitats are already on the site. The vegetation of the reserve has been surveyed in 2000. Vegetation and tree surveys should be carried out every five years.

Animal groups are very under-recorded and this should be redressed if possible. Ideally an invertebrate survey should be undertaken of the site and repeated every 5 years. Regular bird monitoring should also be carried out on an ongoing basis. Other surveys should be carried out as and when the expertise is available (e.g. local naturalists, volunteers, students, etc.). The local Technical College may be able to help with this.

All surveying should conform to standardised techniques, from which accurate and relevant data can be drawn. Monitoring, likewise, should conform to standardised methodology.

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

6.1.6 Review of Management Plan

This management plan is written to cover the next 5 years and should be reviewed at the end of this period. In addition the plan should be briefly reviewed annually by the management committee and LWT staff to ensure that the work is being carried out and that it is having the desired effect.

6.1.7 Planting and other introductions

Very little planting of trees or other species is recommended in this plan; instead natural regeneration and sympathetic management will allow the habitats to develop (e.g. meadow management of the grass areas will encourage a species rich grassland to develop). However, any planting which does take place should only be of native British species. Ideally seeds from the site should be collected, grown on and then planted out.

6.1.8 Dead wood

This is an essential habitat for many species, especially invertebrates, bats, bryophytes and fungi, and is necessary for the continued 'health' of the woodland ecosystem. Standing dead wood is also important for woodpeckers and other birds for feeding and nesting. Removal of dead wood and 'tidying-up' leads to relatively sterile conditions and takes away an essential part of the woodland ecology. The aim is to provide as much dead wood as feasible - lying, standing, and hanging - without compromising other management aims.

However, standing dead wood can be a safety hazard and this must always take precedence in areas of high public use. Consequently any trees which are in a demonstrably unsafe condition must be made safe especially where they are near boundaries or footpaths.

Information should be provided for visitors about the role of dead wood in the reserve and that they should be aware of the potential hazard that it may pose to those who stray off the designated paths.

All wood broken from windblow or cut from management should be left on-site as a habitat – either in large-log piles or scattered as low brush. In some cases it can be used as a material in appropriate management tasks on site (e.g. edging footpaths, building steps, etc.).

6.2: Habitat Management Proposals

6.2.1 Meadows

Traditional hay meadows have been managed by being grazed after the hay crop has been collected until February or March when they are again left for the grass to grow. As grazing is not a possibility here then the now established hay cutting should continue but a few modifications may increase the conservation benefit. Many of the meadow flowers set seed after the normal cutting time, but are mostly perennials so only need occasional seeding years. Many invertebrates also do not have life cycles that are compatible with the cutting regime but there are two possible modifications to the present regime that may be beneficial. Both Kirby (1992) and Crofts & Jefferson (1994) recommend that the later the cut be taken the better for both flora and fauna. Kirby adds that it is beneficial to leave some uncut and it is therefore suggested that some areas should only be cut every other year. This change in practice may look a little untidy so the purpose behind the change will need to be explained to local people. The biannual cuts should prevent any area becoming smothered by thatch, but this will need to be monitored. The remaining areas should continue to be cut annually in late July/August and the cuttings removed.

6.2.2 The Woodland

Generally speaking the management of the woodlands on the site will consist of non-intervention. The main work will consist of that necessary to ensure safety of visitors and to keep paths open.

The woodland strip around the western boundary (Compartment 9) is well used by local people and a wood chip surfaced path runs for its entire length, mostly under large horse chestnuts. The woodland should be inspected annually by the Council Tree Officer to ensure safety and any necessary work carried out. Ivy climbing up trees should not be cleared unless there is a real danger of the weight causing the tree to fall. This provides a valuable habitat for invertebrates (including the holly blue), a late winter food source for many birds and roosting opportunities for bats and owls. The path will need to be periodically re-surfaced with wood chip or if funds are available re-surfaced with a self binding material (e.g. hoggin) to improve disability access. The vegetation along the edges of the path should be cut back during the spring and summer as necessary to keep the paths clear (probably every month to 6 weeks). In the autumn the vegetation should be strimmed back to a distance of approximately 2m on each side of the path to encourage the development of woodland flowers and improve the area for invertebrates.

There is now a considerable body of knowledge regarding the value of standing and fallen dead and dying timber. Under no circumstances should dead wood be tidied away or cut from trees unless clearly dangerous. Cut timber should be left lying on the ground preferably in partial shade, and normally simply where it has fallen

The wet woodland in the south east (Compartment 3) has a more diverse under storey and some small open glade areas, presently dominated by nettles. A number of the trees are dying in the wetter areas. Once again the main management issue is safety and the area should be inspected annually and any necessary work carried out bearing in mind the need to leave standing dead timber where possible. The glades are important areas for invertebrates and should be strimmed annually in the autumn and the cuttings piled in the nearby woodland.

The area of woodland by the old ILEA playing Fields (Compartment 7) and the scattered blocks of woodland/scrub should again be managed by non-intervention, except for any necessary safety work.

6.2.3: Trees

The old trees are the most important conservation consideration. Much research work has been done in recent years on veteran trees and their importance to rare invertebrates, especially beetles, and to fungi (Read 1996). Their hollowed out interiors are also important to many invertebrates, bats and to birds such as owls. Only the very minimum necessary tree surgery (such as limb reduction rather than removal) should be contemplated on these trees, which should be allowed to grow old gracefully. It is worthwhile remembering that many of these trees could be still alive in 200 years time.

Some tree planting has already taken place around the perimeter of the meadow area where it borders the amenity grassland in the rest of the park. This should be extended to create a thicker border to the reserve. Seed for trees on the site, especially the large old oaks, should be collected and grown on; possibly by a local school.

6.2.4 Standing Water & Wet Marginal Vegetation

Two areas of standing water exist on the site. The large pond in the north part of the site (Compartment 8) is rather silted up and shaded by surrounding trees and shrubs. It should be hand dredged in autumn 2000 (to remove leaf litter, dead wood, etc. which are contributing to the silting up) and some of the surrounding shrubs coppiced to let more light into the water. This should then be repeated each year in the autumn and the pond monitored to assess the effect of the management. If the pond is still tending to become too silted up more drastic de-silting with machinery should be considered.

At present the pond is entirely fenced off, presumably to ensure safety of visitors. However it also means that visitors can not see the pond. Consideration could be given to creating a pond dipping/viewing platform on the eastern corner where there is a more open area. The rest of the pond margin would stay fenced to prevent access.

The second pond (Compartment 3) is very small and situated next to the wet woodland. It is surrounded by wet marginal vegetation. The pond should be enlarged by digging out part of the area of wet vegetation. Lining should hopefully not be necessary but it should be monitored to ensure that it hold water for much of

the year. The remaining wet marginal vegetation should be managed by strimming 50% in the autumn each year and piling the cuttings in the adjacent woodland.

6.2.5 Running Water

The Pyl Brook (Compartment 10) has been canalised in the past and the banks consist of wooded toe boards or concrete. The Brook is also very shaded by trees and shrubs. LBM are having consultations with the Environment Agency to look at carrying out improvements to the river course. This is a very important aspect of the management of the site but is beyond the scope of this management plan at present. However, once the improvements have been carried out the subsequent management regime should be incorporated into the plan.

6.3 Management by Compartments

6.3.1 Compartment 1

Description

This is the main area of neutral semi-improved grassland and is the largest compartment. It was formerly managed as short-mown amenity grassland but the cutting regime has now been relaxed and large areas are now managed as wildflower meadow. Perennial ryegrass, which is indicative of improved grassland, is still dominant over extensive areas, however there are significant expanses of more species-rich typified by the presence of a variety of grasses, including the meadow grasses, Yorkshire fog, red fescue, meadow fescue and crested dog's-tail. Wildflowers include meadow buttercup, sorrel, bird's-foot-trefoil and oxeye daisy.

Objective

To manage the area as a traditional hay meadow to maximise the diversity and number of species present.

Management

The entire areas should be mown at a height of approximately 10cm in late July/August and the cuttings removed.

Cut access paths through grassland on regular basis when adjacent areas of the amenity grassland in the Park are mown.

6.3.2 Compartment 2

Description

This is another area of neutral semi-improved grassland supporting a similar range of species to Compartment 1. It is situated on the lower slopes of the hill down to the Pyl Brook adjacent to the woodland and scrub.

Objective

To manage the area to maximise both the botanical and invertebrate diversity and provide over-wintering areas for invertebrates.

Management

50% of the area should be mown to a height of 10cm in late July/August, on a rotation so that each area is cut every other year. In 2000/01 sub-compartments 2a and 2c should be cut and in 2001/02 2b and 2d.

6.3.3 Compartment 3

Description

An area of mixed native and non-native broadleaved woodland derived mainly from planted trees which include Turkey oak, English oak, ash, common lime, hippocastanum and grey poplar, amongst others. There is an understorey of hawthorn, holly and blackthorn. Elm suckers form thickets in places. The field layer is generally dominated by ivy, bramble, stinging nettle and cow parsley. Nearby, on

the edge of the pitch-and-putt course, localised water-logging has occurred and a number of trees are dead or dying. Italian alder has been planted in this area.

Two small glades (sub-compartment 3a and 3b) occur in the woodland, which are dominated by nettles.

The small pond (3c) in the waterlogged area on the northern edge of the woodland contains water starwort duckweed, hard rush and figwort. The surrounding area (3d) is very wet and supports wet grassland species such as marsh foxtail, hairy sedge and yellow flag iris

Objective

To allow the to develop as a semi natural woodland habitat with a minimum of management intervention.

To extend the pond to create a large water body which will support a greater diversity of species.

To maintain the wet marginal vegetation and prevent encroachment by bramble and wood species.

Management

The woodland should be managed largely by non-intervention. The main exception is any work required to ensure the safety of the public. The area should be inspected annually by the council tree officer and any necessary work carried out. Here possible this should consist of making trees safe, leaving standing dead timber. All felled timber should remain on site.

The two glade areas should be strimmed in the autumn, one glade each year, and the cuttings stacked in the woodland.

The pond should be enlarged by digging out and the spoil stacking in the nearby woodland. In future the pond should be dredged annually in the autumn by hand to remove dead leaves, etc.

50% of the area of wet marginal vegetation (3d) should be strimmed in the autumn and the cuttings stacked in the woodland.

6.3.4 Compartment 4

Description

This compartment consists of small areas of woodland which occur within the central grassland composed largely of mature English oak and horse chestnut as well as areas of young planted woodland containing trees such as silver birch, ash, field maple, wild cherry, hazel, hawthorn and other species. Sub-compartment 4e is composed of large mature oaks underplanted recently with native whips. Some of this planting has been successful but some appears to have failed. Further planting should take place using seed collected on site, possibly involving a local school.

Objective

To allow the to develop as a semi natural woodland habitat with a minimum of management intervention.

To extend the areas of woodland in 4e using seed from the site.

Management

The woodland should be managed largely by non-intervention. The main exception is any work required to ensure the safety of the public. The area should be inspected annually by the council tree officer and any necessary work carried out. Here possible this should consist of making trees safe, leaving standing dead timber. All felled timber should remain on site.

Seed should be collected form trees on site, especially the old oaks, and grown on before planting back into 4e. This would be a very good project to involve a local school.

6.3.5 Compartment 5**Description**

This compartment consists of the historic Mound and supports and woodland habitat similar in nature to Compartment 4. Erosion is occurring due to visitors climbing the steep slopes.

Objective

To allow the to develop as a semi natural woodland habitat with a minimum of management intervention.

To improve the access to the top of the Mound for visitors and provide information about the history and wildlife.

Management

The woodland should be managed largely by non-intervention. The main exception is any work required to ensure the safety of the public. The area should be inspected annually by the council tree officer and any necessary work carried out. Here possible this should consist of making trees safe, leaving standing dead timber. All felled timber should remain on site.

An English Heritage grant has been obtained to create steps on the steep eroded slopes and install an interpretive board on the top of the Mound in autumn 2000.

6.3.6 Compartment 6**Description**

This is the area of grassland on the site of the old ILEA playing fields. The grassland is particularly diverse, with species including tall fescue, sweet vernal-grass, slender soft-brome, grey sedge, bulbous buttercup bulbosus, hawkbit, hairy tare, grass vetchling and meadow vetching. The meadow to the east of the mature oak woodland supports a generally drier and shorter grassland sward, of note for the abundance of glaucous sedge.

The area is separated from the rest of the site by an unattractive chainlink fence. This could be improved visually by planting a hedge and then removing the fence once the hedge is established. . A similar fence runs down the sides of the path through the middle of the site and this should be removed, as it is now redundant.

Objective

To manage the area as a traditional hay meadow to maximise the diversity and number of species present.

To improve the area visually by replacing the fences with native hedges.

Management

The entire areas should be mown at a height of approximately 10cm in late July/August and the cuttings removed.

Plant a native hedge along fence line on southern boundary of the compartment and remove fence once hedge established.

Remove fences along path through centre of compartment.

6.3.7 Compartment 7

Description

An extensive area of mature, English oak-dominated woodland to the north of the site, running south from the tennis courts in the old ILEA playing fields. The trees are quite widely spaced and the woodland has the character of a parkland, with a grass dominated field layer. There are several dead trees, which provide a valuable dead wood habitat. Thickets of regenerating ash occur in places, whilst other tree species include horse chestnut and turkey oak. Patches of bramble and stinging nettle occur in the field layer, together with grasses such as rough-stalked meadow grass, cocksfoot and foxtail.

Objective

To allow the to develop as a semi natural woodland habitat with a minimum of management intervention.

Management

The woodland should be managed largely by non-intervention. The main exception is any work required to ensure the safety of the public. The area should be inspected annually by the council tree officer and any necessary work carried out. Here possible this should consist of making trees safe, leaving standing dead timber. All felled timber should remain on site.

6.3.8 Compartment 8

Description

This is the largest area of open water on the site. It is fenced off from the rest of the site and surrounded by dense shrubs and trees. It supports patches of marginal vegetation which include reedmace, yellow flag iris and hard rush. Bushes of grey willow *Salix cinerea* also occur. It appears to be rather silted up.

Objective

To manage the pond to provide a habitat for a variety of aquatic and marginal plants and animals.

The fence excludes all access at present and consideration should be given to creating a viewing platform at the eastern end.

Management

The pond should be de-silted by hand dredging in autumn 2000 to remove dead leaves, wood, etc. This should be repeated annually and the situation monitored to see if it is sufficient to maintain open water. If not then more extensive dredging using machinery will be necessary.

When the annual dredging takes place some of the bushes should be coppiced to increase the light reaching the pond.

6.3.9 Compartment 9

Description

This is the densely wooded strip on the west and east boundary of the site. The species make up is similar to Compartment 3. A line of large horse chestnuts runs along the centre for much of the length. A well used footpath with a surface of wood chips runs through the site.

Objective

To allow the to develop as a semi natural woodland habitat with a minimum of management intervention.

To provide good safe access to visitors.

Management

The woodland should be managed largely by non-intervention. The main exception is any work required to ensure the safety of the public. The area should be inspected annually by the council tree officer and any necessary work carried out. Here possible this should consist of making trees safe, leaving standing dead timber. All felled timber should remain on site.

The footpath should be resurfaced with wood chips as necessary. Consideration should be given to re-surfacing with hogggin or similar material to provide disabled access. The vegetation along the path edges should be cut back as necessary during the spring and summer to keep the paths open. In the autumn the vegetation

should be cut back to a distance of approximately 2m to encourage floristic diversity and improve the habitat for invertebrates.

6.3.10 Compartment 10

Description

This is the Pyl Brook, which runs through the southern part of the site. The channel is quite narrow and confined within timber toe-boarding and is heavily shaded by neighbouring woodland for most of its length. Vegetation includes occasional patches of water starwort and Canadian pondweed in the channel and fool's water-cress and flote grass sporadically on the margins.

Objective

To improve the riverine habitats to support a wide range of flora and fauna.

Management

The management of this area is not within the scope of this plan. However LBM are having discussions with the Environment Agency concerning improvements to the river. Once these have been implemented the ensuing management regime should be included in this plan.

6.4 General management Projects

6.4.1 Footpaths

Footpaths are essential to allow access to visitors and must be kept in a safe condition. Three types of path exist on the site. In the meadow areas mown tracks have been created and these simply kept open by mowing at the same time as the amenity grassland elsewhere in the Park.

The second type of footpath is that found in the woodland in Compartment 9. This is surfaced with woodchip. It will be necessary to replace the woodchip at interval as it rots down. Alternatively a hard surface such as hoggin could be put down to improve the disabled access. Management of this path should consist of regular safety checks to ensure that there are no trip hazards, dead trees, etc. and cutting back the sides as necessary to keep the path open. In addition in the autumn the sides should be cut back to approximately 2m to open the edges to encourage a diversity of wildflowers.

The third type is the tarmac surfaced paths in Compartment 6. Again this should be checked regularly for safety. The path is bordered by an unattractive chainlink fence. These should be removed to improve the area visually.

6.4.2 Litter

This is both unattractive and can be dangerous. The site should be litter picked at least every week. Any fly tipping should be removed as soon as possible.

6.4.4 Interpretation

Provision of interpretive signboards and leaflet are very important to tell the public about the aims of the management of the Park. These should be produced as soon as possible.

PART 7 Work Programme

7.1 5 year work programme

| | Financial Year | | | | |
|--|----------------|---------|---------|---------|---------|
| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 |
| Compartment 1 | | | | | |
| Mow meadows in late July/August and remove hay | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mow access paths regularly during spring and summer | ✓ | ✓ | ✓ | ✓ | ✓ |
| Compartment 2 | | | | | |
| Mow meadows in late July/August and remove hay | 2a 2c | 2b 2d | 2a 2c | 2b 2d | 2a 2c |
| Compartment 3 | | | | | |
| Carry arboricultural safety inspection annually and carry out any necessary safety work to trees | ✓ | ✓ | ✓ | ✓ | ✓ |
| Strim glade in autumn and remove cuttings | 3a | 3b | 3a | 3b | 3a |
| Enlarge pond | 3c | | | | |
| Strim 50% of wet marginal vegetation in autumn and remove cuttings | 3d | 3d | 3d | 3d | 3d |
| Compartment 4 | | | | | |
| Carry arboricultural safety inspection annually and carry out any necessary safety work to trees | ✓ | ✓ | ✓ | ✓ | ✓ |

| | | | | | |
|--|---|--|--|--------------|--|
| Collect seeds from old oaks and other trees on site and grow on to be planted out once large enough. | ✓ | | | As necessary | |
|--|---|--|--|--------------|--|

Compartment 5

| | | | | | |
|--|---|---|---|---|---|
| Carry arboricultural safety inspection annually and carry out any necessary safety work to trees | ✓ | ✓ | ✓ | ✓ | ✓ |
|--|---|---|---|---|---|

| | | | | | |
|---------------------------------------|---|--|--|--|--|
| Create steps on steeply eroded slopes | ✓ | | | | |
|---------------------------------------|---|--|--|--|--|

| | | | | | |
|---------------------------|---|--|--|--|--|
| Install information board | ✓ | | | | |
|---------------------------|---|--|--|--|--|

Compartment 6

| | | | | | |
|--|---|---|---|---|---|
| Mow meadows in late July/August and remove hay | ✓ | ✓ | ✓ | ✓ | ✓ |
|--|---|---|---|---|---|

| | | | | | |
|--|---|--|--|--|--|
| Plant hedge along fence line on southern boundary of compartment | ✓ | | | | |
|--|---|--|--|--|--|

| | | | | | |
|--|--|--|--|------------------------|--|
| Remove fence on southern boundary of compartment | | | | Once hedge established | |
|--|--|--|--|------------------------|--|

| | | | | | |
|----------------------------------|---|---|---|---|---|
| Remove fence along sides of path | ✓ | ✓ | ✓ | ✓ | ✓ |
|----------------------------------|---|---|---|---|---|

Compartment 7

| | | | | | |
|--|---|---|---|---|---|
| Carry arboricultural safety inspection annually and carry out any necessary safety work to trees | ✓ | ✓ | ✓ | ✓ | ✓ |
|--|---|---|---|---|---|

Compartment 8

| | | | | | |
|---|---|---|---|---|---|
| Hand dredge the pond to remove dead leaves, wood etc. in the autumn | ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Selectively coppice bushes overhanging pond in the autumn | ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|---|

Compartment 9

| | | | | | |
|--|---|---|---|---|---|
| Carry arboricultural safety inspection annually and carry out any necessary safety work to trees | ✓ | ✓ | ✓ | ✓ | ✓ |
|--|---|---|---|---|---|

| | | | | | |
|--|---|---|---|---|---|
| Resurface footpath with wood chips | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cut back vegetation along paths as necessary during spring and summer to keep paths open | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cut back vegetation along paths to distance of 2m in the autumn | ✓ | ✓ | ✓ | ✓ | ✓ |

Compartment 10

Carry out improvements to river course and riverine habitats in consultation with the Environment Agency

As necessary

7.2 Annual Work Programme for Remainder of Financial Year 2000/01

| <u>Management Task</u> | <u>Compartment</u> |
|---|--------------------|
| Quarter 2 July – September | |
| Mow meadows and remove hay | 1 2a 2c 6 |
| Carry out arboricultural safety | 3 4 5 7 9 |
| Cut back vegetation to keep paths open | 9 |
| Quarter 3 October – December | |
| Carry out any necessary tree safety work | 3 4 5 7 9 |
| Strim glade and remove cuttings | 3a |
| Enlarge pond | 3c |
| Strim 50% of wet marginal vegetation and remove cuttings | 3d |
| Collect seeds from oaks and other tree species and grow on in nursery | Throughout |
| Create steps on steeply eroded slopes | 5 |
| Install information board | 5 |
| Hand dredge the pond to remove dead leaves, wood etc. | 8 |
| Selectively coppice bushes over-hanging pond | 8 |
| Cut back vegetation along paths to distance of 2m | |
| Quarter 4 January – March | |
| Plant hedge | 6 |
| Remove fences along sides of path | 6 |
| Resurface footpath with wood chips | 9 |
| Ongoing Maintenance | |
| Collect litter on a regular basis | Throughout |

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Appendix 1: Biological Records

Appendix 1: Plant Species Recorded from Merton Park Conservation Areas

| CLASS/ORDER | FAMILY | SPECIES | ABUNDANCE | REMARKS |
|---|-----------------|--|---------------------------------|--|
| PINOPIIDA (Conifers, Gymnosperms) | Pinaceae | <i>Pinus sp.</i> | F | Woodland |
| MAGNOLIOPSIDA MAGNOLIIDA (Dicotyledons) | Ranunculaceae | <i>Ranunculus repens</i> <i>Ranunculus acris</i> <i>Ranunculus bulbosus</i> | F C O | Grassland Grassland Grassland |
| | Platanaceae | <i>Platanus x hispanica</i> | O | Woodland |
| | Ulmaceae | <i>Ulmus c.f. procera.</i> | A | Broadleaved woodland |
| | Urticaceae | <i>Urtica dioica</i> | A | Woodland/tall herb |
| | Fagaceae | <i>Fagus sylvatica</i> <i>Quercus robur</i> | R A | Woodland Woodland/scattered trees |
| | | <i>Quercus ilex</i> <i>Quercus cerris</i> | O O | Woodland Woodland |
| | Betulaceae | <i>Betula pendula</i> <i>Alnus cordata</i> <i>Carpinus betulus</i> <i>Corylus avellana</i> | LC O R O | Young woodland Woodland Woodland Young woodland |
| | Caryophyllaceae | <i>Stellaria graminea</i> <i>Stellaria media</i> <i>Cerastium fontanum</i> | O O O | Grassland Grassland/woodland Grassland |
| | Polygonaceae | <i>Polygonum aviculare</i> <i>Rumex acetosa</i> <i>Rumex crispus</i> | O F O | Paths/grassland Grassland Woodland/tall herb/grassland |
| | | <i>Rumex obtusifolius</i> <i>Rumex sanguineus</i> | O O | Woodland/ tall herb/ grassland Woodland |
| | Tiliaceae | <i>Tilia x vulgaris</i> | O | Woodland |
| | Malvaceae | <i>Malva sylvestris</i> | F | Tall herb/grassland |
| | Violaceae | <i>Viola sp.</i> | R | Woodland |
| | Salicaceae | <i>Populus x canescens</i> <i>Populus nigra var.</i> <i>italica</i> <i>Populus x</i> <i>canadensis</i> <i>Populus c.f.</i> <i>trichocarpa</i> <i>Salix fragilis</i> | O O O O O O F | Woodland Woodland Woodland Woodland Woodland Woodland Woodland/Beverley Brook |
| | | <i>Salix cinerea</i> <i>Salix caprea</i> <i>Salix sp.</i> | O O R | Woodland Woodland Woodland |
| | Brassicaceae | <i>Sisymbrium officinale</i> <i>Alliaria petiolata</i> <i>Capsella bursa-</i> <i>pastoris</i> | O O O | Woodland/tall herb Woodland Grassland |

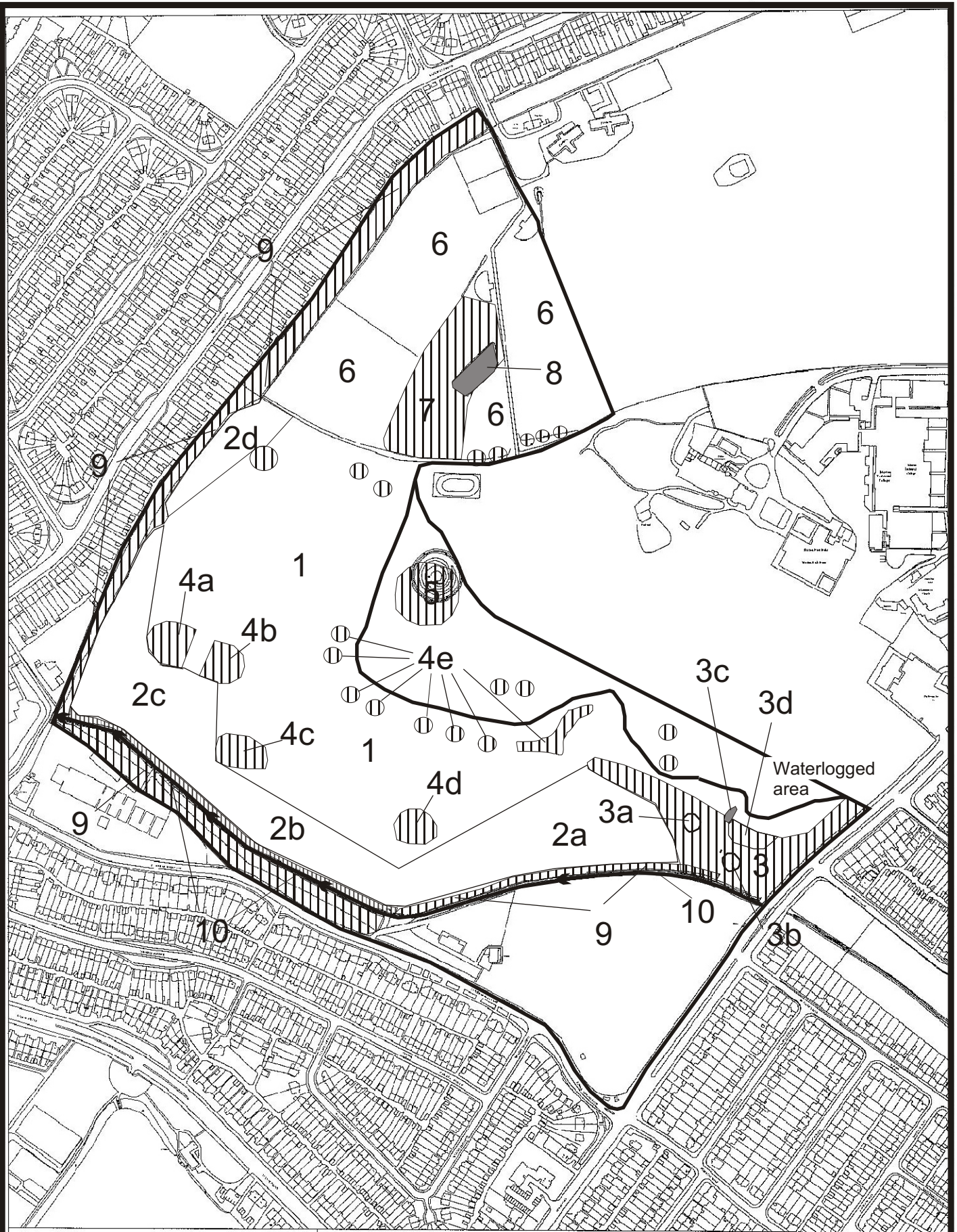
| CLASS/ORDER | FAMILY | SPECIES | ABUNDANCE | REMARKS |
|-------------|------------------|----------------------------------|-----------|------------------------------|
| | Rosaceae | <i>Rubus fruticosus</i> | A | Woodland/woodland edge |
| | | agg. | | |
| | | <i>Potentilla reptans</i> | F | Grassland |
| | | <i>Geum urbanum</i> | F | Woodland |
| | | <i>Rosa arvensis</i> | O | Woodland |
| | | <i>Rosa canina</i> | O | Woodland |
| | | <i>Prunus avium</i> | O | Young woodland |
| | | <i>Prunus spinosa</i> | O | Woodland |
| | | <i>Prunus sp.</i> | O | Woodland |
| | | <i>Sorbus aucuparia</i> | O | Woodland |
| | | <i>Crataegus monogyna</i> | F | Woodland |
| | Fabaceae | <i>Robinia pseudacacia</i> | R | Woodland |
| | | <i>Lotus corniculatus</i> | F | Grassland |
| | | <i>Vicia sativa</i> | F | Grassland |
| | | <i>Vicia hirsuta</i> | O | Grassland |
| | | <i>Lathyrus pratensis</i> | F | Grassland |
| | | <i>Lathyrus nissolia</i> | F | Grassland |
| | | <i>Trifolium repens</i> | F | Grassland |
| | | <i>Trifolium dubium</i> | O | Grassland |
| | | <i>Trifolium pratense</i> | F | Grassland |
| | Onagraceae | <i>Epilobium hirsutum</i> | O | Ponds |
| | Aquifoliaceae | <i>Ilex aquifolium</i> | O | Woodland |
| | Hippocastanaceae | <i>Aesculus hippocastanum</i> | F | Woodland/scattered trees |
| | Aceraceae | <i>Acer pseudoplatanus</i> | F | Woodland |
| | | <i>Acer platanoides</i> | O | Woodland |
| | | <i>Acer campestre</i> | O | Woodland |
| | Geraniaceae | <i>Geranium robertianum</i> | F | Woodland |
| | | <i>Geranium dissectum</i> | F | Grassland/tall herb |
| | | <i>Geranium molle</i> | O | Grassland |
| | Araliaceae | <i>Hedera helix</i> | C | Woodland |
| | Apiaceae | <i>Anthriscus sylvestris</i> | A | Woodland/tall herb |
| | | <i>Apium nodiflorum</i> | O | Beverley Brook |
| | | <i>Heracleum sphondylium</i> | F | Woodland/tall herb/grassland |
| | Solanaceae | <i>Solanum dulcamara</i> | O | Woodland/ponds |
| | Convolvulaceae | <i>Calystegia silvatica</i> | O | Woodland/scrub |
| | Boraginaceae | <i>Pentaglottis sempervirens</i> | O | Woodland |
| | | <i>Myosotis sylvestris</i> | O | Woodland |
| | Lamiaceae | <i>Stachys sylvatica</i> | O | Woodland |
| | | <i>Ballota nigra</i> | O | Woodland/tall herb |
| | | <i>Lamium album</i> | O | Woodland/scrub/tall herb |
| | | <i>Glechoma hederacea</i> | O | Woodland/grassland |
| | | <i>Prunella vulgaris</i> | O | Grassland |
| | Callitricaceae | <i>Callitriche sp.</i> | O | Beverley Brook/ponds |
| | Plantaginaceae | <i>Plantago lanceolata</i> | F | Grassland |
| | | <i>Plantago major</i> | F | Grassland/paths |
| | | <i>Plantago coronopus</i> | O | Grassland/paths |
| | Oleaceae | <i>Fraxinus excelsior</i> | C | Woodland |
| | | <i>Ligustrum vulgare</i> | F | Woodland |
| | Scrophulariaceae | <i>Scrophularia sp.</i> | O | Ponds |
| | | <i>Veronica chamaedrys</i> | F | Grassland |
| | Rubiaceae | <i>Galium aparine</i> | F | Woodland/ tall herb |
| | Caprifoliaceae | <i>Sambucus nigra</i> | F | Woodland |
| | | <i>Symphoricarpos albus</i> | O | Woodland |
| | | <i>Lonicera periclymenum</i> | O | Woodland |

| CLASS/ORDER | FAMILY | SPECIES | ABUNDANCE | REMARKS | |
|------------------------------|--------------------|----------------------------------|--------------------------|-----------------------------------|----------------|
| LILLIDAE (Monocotyledons) | Asteraceae | <i>Arctium minus</i> agg. | O | Tall herb/woodland edge | |
| | Asteraceae (cont.) | <i>Cirsium arvense</i> | O | Tall herb/grassland | |
| | | <i>Cirsium vulgare</i> | O | Grassland | |
| | | <i>Centaurea nigra</i> | F | Grassland | |
| | | <i>Hypochaeris radicata</i> | F | Grassland | |
| | | <i>Leontodon autumnalis</i> | F | Grassland | |
| | | <i>Tragopogon pratensis</i> | F | Grassland | |
| | | <i>Taraxacum officinale</i> agg. | F | Grassland/tall herb/woodland | |
| | | <i>Crepis vesicaria</i> | O | Grassland | |
| | | <i>Bellis perennis</i> | F | Grassland | |
| | | <i>Tanacetum parthenium</i> | O | Woodland/tall herb | |
| | | <i>Artemisia vulgaris</i> | O | Tall herb | |
| | | <i>Achillea millefolium</i> | O | Grassland | |
| | | <i>Leucanthemum vulgare</i> | F | Grassland | |
| | | <i>Matricaria discoidea</i> | O | Grassland | |
| | | <i>Senecio jacobea</i> | F | Grassland | |
| | | <i>Senecio erucifolius</i> | R | Grassland | |
| | | Hydrocharitaceae | <i>Elodea canadensis</i> | O | Beverley Brook |
| | | Araceae | <i>Arum maculatum</i> | O | Woodland |
| | | Lemnaceae | <i>Lemna minor</i> | O | Ponds |
| | | Juncaceae | <i>Juncus inflexus</i> | O | Ponds |
| | Cyperaceae | <i>Carex divulsa</i> | O | Grassland/Beverley Brook | |
| | Poaceae | <i>Carex hirta</i> | O | Grassland | |
| | | <i>Carex flacca</i> | LA | Grassland | |
| | | <i>Festuca rubra</i> | F | Grassland | |
| | | <i>Festuca pratensis</i> | F | Grassland | |
| | | <i>Festuca arundinacea</i> | O | Grassland | |
| | | <i>Lolium perenne</i> | A | Grassland | |
| | | <i>Cynosurus cristatus</i> | F | Grassland | |
| | | <i>Poa annua</i> | O | Paths/grassland/woodland | |
| | | <i>Poa trivialis</i> | C | Woodland/grassland | |
| | | <i>Poa pratensis</i> | C | Grassland | |
| | | <i>Dactylis glomerata</i> | F | Grassland | |
| | | <i>Glyceria fluitans</i> | O | Beverley Brook | |
| | | <i>Arrhenatherum elatius</i> | C | Grassland/tall herb/woodland edge | |
| | | <i>Holcus lanatus</i> | F | Grassland | |
| | | <i>Holcus mollis</i> | O | Woodland | |
| | | <i>Anthoxanthum odoratum</i> | O | Grassland | |
| | | <i>Agrostis capillaris</i> | F | Grassland | |
| | | <i>Agrostis stolonifera</i> | F | Grassland | |
| | | <i>Alopecurus pratensis</i> | F | Grassland | |
| | | <i>Alopecurus geniculatus</i> | O | Grassland/ponds | |

| CLASS/ORDER | FAMILY | SPECIES | ABUNDANCE | REMARKS |
|-------------|---------------|-----------------------------------|-----------|------------------------------|
| | | <i>Brachypodium sylvaticum</i> | F | Woodland |
| | | <i>Bromus hordeaceus</i> | C | Grassland |
| | | <i>Bromus lepidus</i> | R | Grassland |
| | | <i>Anisantha sterilis</i> | F | Woodland/tall herb |
| | | <i>Hordeum secalinum</i> | F | Grassland |
| | | <i>Hordeum murinum</i> | F | Woodland/tall herb/grassland |
| | Typhaceae | <i>Typha latifolia</i> | O | Ponds |
| | Liliaceae | <i>Hyacinthoides hispanica</i> | O | Woodland |
| | | <i>Alliaria petiolata</i> | R | Woodland |
| | Iridaceae | <i>Iris pseudacorus</i> | O | Ponds |
| | | <i>Crocasmia x crocosmiiflora</i> | R | Woodland |
| | Dioscoriaceae | <i>Tamus communis</i> | O | Woodland |

Nomenclature follows Stace, C. (1997) *New Flora of the British Isles* (2nd ed.).

Abundance estimated *within the site* using the ACFOR scale as follows: A = Abundant; C = Common; F = Frequent; O = Occasional; R = Rare; LA, LF etc = Locally Abundant, Frequent etc (i.e. within a discrete area of the site).



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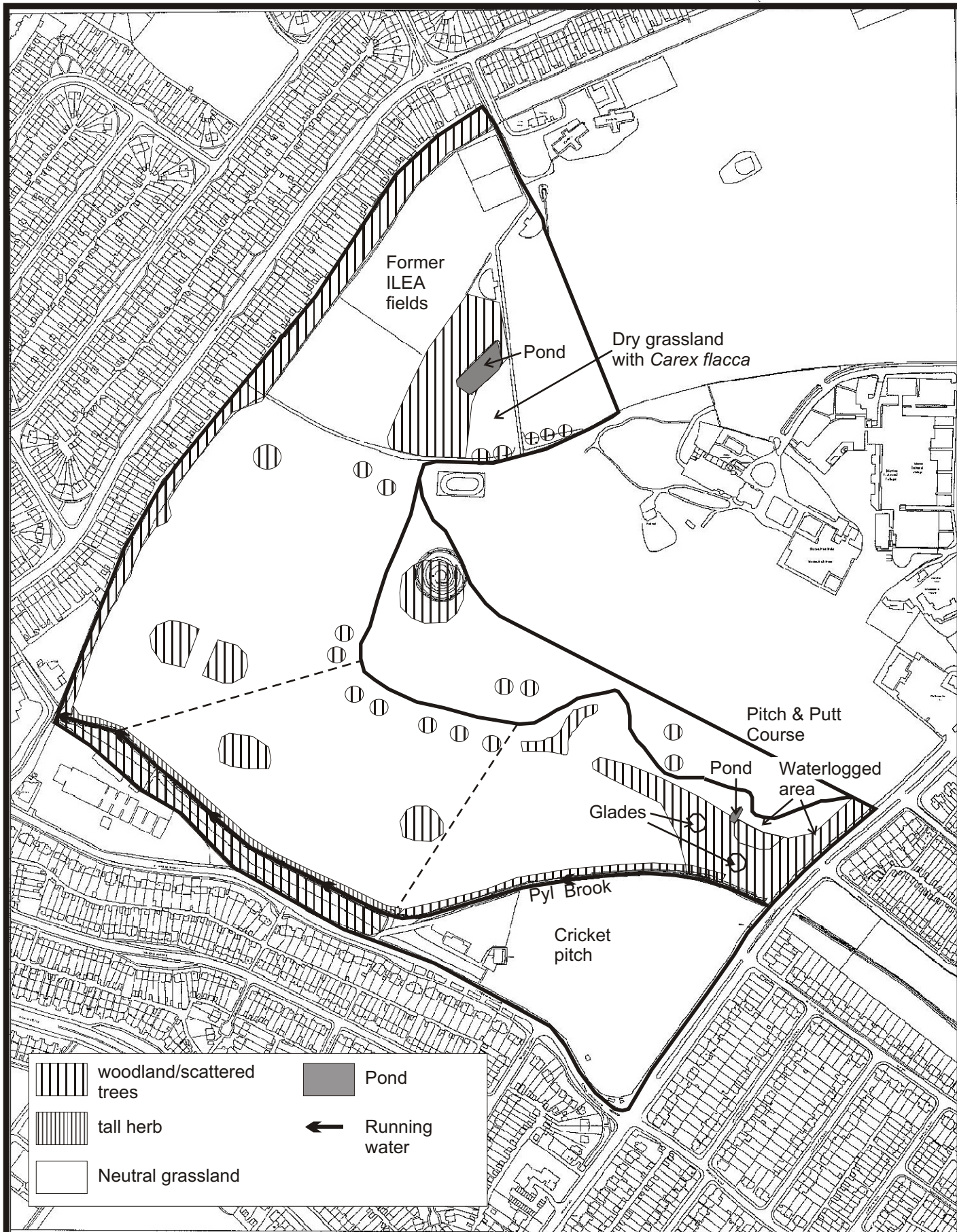
Map 2: Compartments



Landscape & Ecology

Scale = 1: 5000

Date Printed: 14/06/00



| | | | |
|---|--------------------------|---|---------------|
|  | woodland/scattered trees |  | Pond |
|  | tall herb |  | Running water |
|  | Neutral grassland | | |

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Map 3: Habitat Plan

Scale = 1: 5000

Date Printed: 14/06/00



