



Millfields Recreation Ground

Management Plan 2010-15



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1 Introduction

London Wildlife Trust was commissioned by the London Borough of Hackney to produce a five year management plan of Millfields Recreation Ground on Chatsworth Road, Clapton Park, E5. This was part of the Hackney SINC's commission with a view to assess the potential for contributing to Biodiversity Action Plan and NI 197 targets, as well as to review future management options. This report was jointly compiled by Tony Wileman of London Wildlife Trust and Alan Scott of Complete Ecology Ltd.

An Extended Phase I habitat survey was undertaken by the London Wildlife Trust prior to the production of this plan to provide background information and aspects of the survey have been incorporated into this plan.

This Plan is in two sections. The first section summarises the extended phase I survey and details the proposed management principles and recommendations that would increase the biodiversity value of the site while maintaining the sites recreational value. The appendices comprise the annual work plan and the habitat and compartment map.

2 Description

2.1 General Information

2.1.1 Name

Millfields Recreation Ground aka Millfields Park.

2.1.2 Location

The site straddles the Lea Bridge Road, to the immediate west of the River Lee Navigation in Lea Bridge in the London Borough of Hackney. The site comprises of three distinct sections; North Millfields Recreation Ground to the north of Lea Bridge Road, and South Millfields Recreation Ground which is sub-divided into east and west.

2.1.3 Area

The site is approximately 22.4 hectares.

2.1.4 Grid reference

TQ 353 864.

2.1.5 Land tenure

The London Borough of Hackney holds the freehold.

2.1.6 Public rights of way

There are no public rights of way through the site but it is open to the public at all time.

2.1.7 Planning authority

London Borough of Hackney.

2.1.8 Status

Millfields Recreation Ground has been designated as being a Site of Borough Grade II Importance for Nature Conservation (SINC) – Site HcBII04.

2.1.9 Topography

The site is generally flat although there is a slight incline towards the extreme western end of the North Millfields Recreation Ground.

2.1.10 Hydrology and soils

No hydrology survey has been undertaken on site. The site is assumed to have good drainage into the River Lee Navigation. Soil information is unknown.

2.1.11 Access and usage

There are a number of access points around the site all of which have open access to the public at all times. The site is extensively used by members of the public for a variety of recreational purposes.

2.1.12 Boundaries

The site boundaries are varied but predominantly consist of a metal railing fence. Around the power station to the east, the boundary consisted at the time of the visit of a large wooden hording fence while development work is taking place there.

2.2 General Description¹

This large recreation ground in the Lea Valley is split into two by Lea Bridge Road. It demonstrates some good examples of habitat improvements. Substantial areas have been planted with native trees and shrubs, forming scrub and young woodland. These provide valuable habitat for birds. Other areas are managed as meadows, providing habitat for wild flowers and grassland invertebrates.

This is a popular site for active and passive recreation, and many people cross it on their way to and from the River Lea Navigation.

2.3 Biological Description

2.3.1 Habitat survey methodology

A Habitat Survey (phase I extended) was carried out on 7th May and 16th June 2010 by Tony Wileman, assisted by other staff. The survey followed standard Phase I habitat survey methodology (JNCC, 1993), as modified for Greater London by the former London Ecology Unit (LEU, 1994) and later adopted by the Greater London Authority. The site was divided into nine habitat types. Photographs of the site were taken on 17th April 2010, and are found in Appendix 3.

Characteristic, rare and interesting species and plant assemblages were evaluated for conservation designations and assessed as to whether they were notable for the Greater London area. Notable is defined as species which were recorded from 15% or fewer of the 400 two-kilometre recording squares (tetrads) in Greater London in the *Flora of the London Area* (Burton 1983).

Complex taxa, such as *Taraxacum* (dandelions) and *Rubus* (brambles) are treated as aggregates as there is little value in distinguishing these for determining habitat types, especially in London.

Casual recording of fauna was attempted throughout the duration of the Habitat Survey, together with bird records gathered during a morning survey in July (Appendix 2).

2.3.2 Limitations of the survey

2.3.2.1 Seasonal plants

The timing of the two survey visits was considered highly appropriate to characterise the habitats present on site and locate and identify most of the plant species present. It is possible some autumn flowering species were overlooked.

2.3.2.2 Access

The entire site was accessed and surveyed. All species found were identifiable on site so no off-site identification of species was required.

2.3.3 Plant nomenclature and rarity

The *New Flora of the British Isles* (Stace, 1997) was consulted for plant nomenclature, the standard text. English names have been used in preference to Latin (only quoted in the first instance) in order to facilitate readability of the report.

Any uncommon vascular plant species were identified in the London context using the *Flora of the London Area* (Burton 1983). For national rarity The Atlas of British Flora (Preston,

¹ From *London Wildweb*

Pearman & Dines, 2002) was referred to (where a taxon appearing in 150 or less 10 x 10km squares was considered rare).

2.3.4 Habitat rarity

The London Biodiversity Action Plan was consulted on regional habitat rarity, while the UK Biodiversity Action Plan was consulted on national habitat rarity. The Hackney Biodiversity Partnership is at the time of writing compiling their Local Biodiversity Action Plan and associated habitats and species. The proposed habitats are: Parks and Greenspaces, Built Environment, Homes and Housing, Woodland, Wetlands and Waterways, and School Grounds and Community Areas.

2.3.5 Habitat descriptions

The Habitat and Compartment map (Appendix 2) shows the habitat types and their distribution across the site. A full list of plant species recorded at the site during the Phase I survey; along with an assessment of their abundance using the DAFOR scale appears in Appendix 1.

2.3.5.1 Secondary woodland

The secondary woodland habitat can be found at the eastern end of the site and is comprised of an area under planted trees that has been allowed to naturally develop a woodland type ground flora (Sub-compartment 9a). The trees consist of predominantly sycamore (*Acer pseudoplatanus*), field maple (*A. campestre*), ash (*Fraxinus excelsior*), white, grey and hybrid black poplars (*Populus alba*, *P. x canescens* and *P. x canadensis*), aspen (*P. tremula*), wild cherry (*Prunus avium*) and common lime (*Tilia x vulgaris*) with shrubs of hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), spindle (*Euonymus europaeus*), holly (*Ilex aquilinum*), wild privet (*Ligustrum vulgare*), wild plum (*Prunus domestica*) and elder (*Sambucus nigra*).

Ground flora is predominantly composed of cow parsley (*Anthriscus sylvestris*), mixed with a selection of typical secondary woodland herbs such as garlic mustard (*Alliaria petiolata*), lesser burdock (*Arctium minus*), black horehound (*Ballota nigra*), hedge bindweed (*Calystegia sepium*), cleavers (*Galium aparine*), wood avens (*Geum urbanum*), bramble (*Rubus fruticosus* agg) and common nettle (*Urtica dioica*).

2.3.5.2 Plantation

The plantations (Sub-compartments 1a, 1c, 1d & 9c) are similar to the secondary woodland except that they are predominantly planted trees over grasslands. Trees are of a mixed variety that include many of those mentioned in the woodland but also Norway maple (*Acer platanoides*), horse-chestnut (*Aesculus hippocastanum*), Italian alder (*Alnus cordata*), silver birch (*Betula pendula*), hornbeam (*Carpinus betulus*), sweet chestnut (*Castanea sativa*), walnut (*Juglans regia*), London plane (*Platanus x hispanica*), ornamental cherry species (*Prunus* sp.), pedunculate oak (*Quercus robur*) and wych elm (*Ulmus glabra*).

Shrubs tend to be scarce but there are some hawthorn and hazel.

Ground flora under these trees is that of grasses with perennial rye-grass (*Lolium perenne*) and rough meadow grass (*Poa trivialis*) providing the majority of the cover. Common chickweed (*Stellaria media*) is frequent amongst these grasses. Other species include shepherd's-purse (*Capsella bursa-pastoris*), wood avens, greater plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*), curled dock (*Rumex crispus*), smooth sow-thistle (*Sonchus oleraceus*), dandelion species (*Taraxacum officinale* agg.) and wall speedwell (*Veronica arvensis*). Other grasses in small amounts include cock's-foot (*Dactylis glomerata*), common couch (*Elytrigia repens*), red fescue (*Festuca rubra*), wall barley

(*Hordeum murinum*), and annual and smooth meadow-grasses (*Poa annua* and *P. pratensis*).

In addition to these plantations there are a number of ornamental trees scattered around the site that include red and silver maples (*Acer rubrum* and *A. saccharinum*), red horse-chestnut (*Aesculus x carnea*), paper birch (*Betula papyrifera*), Indian bean tree (*Catalpa bignonioides*), chestnut-leaved and red oaks (*Quercus castaneifolia* and *Q. rubra*), and hybrid elm (*Ulmus lobel*).

2.3.5.3 Amenity grassland

Amenity grassland makes up by far the most abundant habitat on Millfields Recreation Ground and is dominated by perennial rye-grass with abundant white clover (*Trifolium repens*) and frequent annual meadow-grass and yarrow (*Achillea millefolium*). Other species tend to be scarce although daisy (*Bellis perennis*) red fescue, dove's-foot crane's-bill (*Geranium molle*), greater plantain, creeping buttercup, and dandelion species can be found occasionally.

Around the edges of paths and along fencelines and similar areas several other species can be found these include barren brome (*Anisantha sterilis*) and wall barley (*Hordeum murinum*) plus the forbs² Canadian and Guernsey fleabane (*Conyza canadensis* and *C. sumatrensis*), beaked hawk's-beard (*Crepis vesicaria*), small-flowered crane's-bill (*Geranium pusillum*), common mallow (*Malva sylvestris*) and smooth sow-thistle.

At the extreme eastern end of the site situated between the two areas of woodland there is an area of amenity grassland that has a more relaxed mowing regime and is slowly developing into semi-improved neutral grassland (Sub-compartment 9b). As a result of this relaxed mowing a number of other grassland species thrive here. These include abundant to frequent grasses of false oat-grass (*Arrhenatherum elatius*), common couch, smaller cat's-tail (*Phleum bertolonii*) and smooth meadow-grass with lesser amounts of common and creeping bent (*Agrostis capillaris* and *A. stolonifera*), cock's-foot, red fescue and rough meadow-grass. Forbs in this area include some common knapweed (*Centaurea nigra*), cut-leaved crane's-bill (*Geranium dissectum*), common cat's-ear (*Hypochaeris radicata*), ribwort plantain (*Plantago lanceolata*), creeping cinquefoil (*Potentilla reptans*) and red clover (*Trifolium pratense*).

2.3.5.4 Roughland

The small area of roughland in the west of the site (Sub-compartment 1b) is on a slight east-facing slope and it was wet during the spring visit and still somewhat damp during the summer visit. This is caused by a small stream of water running off from the housing estate to the west but it is unknown whether this is a natural spring or coming from a damaged water main. Either way it has allowed species that prefer damper habitats to thrive here, most notably great willowherb (*Epilobium hirsutum*), which has a large stand and shrubs of goat and grey willow (*Salix caprea* and *S. cinerea*). Grasses are allowed to grow tall here and consist of mostly common couch, perennial rye-grass and smooth meadow-grass.

2.3.5.5 Treelines

The treelines are almost exclusively composed of mature London plane and many are very large with broad trunks. Besides the London plane there are a scattering of other large trees of sycamore, common lime and wych elm.

² Herbaceous species that are not grasses, rushes or sedges.

2.3.5.6 Non-native hedge

This single small hedgerow is located along the edge of the site and borders a garden to a building alongside the River Lee navigation. It is almost entirely composed of garden privet (*Ligustrum ovalifolium*).

2.3.5.7 Community orchard

The Millfields community orchard was planted in February 2010 over the developing semi-improved grassland in the east of the site (Sub-compartment 9b) and consist of 8 varieties of apple (*Malus domestica cultivars*), one apricot (*Prunus armeniaca cultivar*), 3 cherries (*P. cerasus cultivars.*), three damsons and a plum (*P. domestica cultivars*), one nectarine and one peach (*P. persica cultivars*) and a black mulberry (*Morus nigra cultivar*)

2.3.5.8 Bare artificial habitat

The bare artificial habitat consists of mostly paths and hard surface sports pitches and the children paddling pool. Most of the surfaces are maintained in good condition and are free of vegetation. In places however some ruderals can be found in cracks and gaps. These include plants such as shepherd's-purse, Guernsey fleabane, American willowherb (*Epilobium ciliatum*), perennial rye-grass, greater plantain, annual meadow-grass, knotgrass, smooth sow-thistle, common chickweed and dandelion. In addition, an unidentified sedge (*Carex sp.*) grows around the children's paddling pool.

2.3.6 Fauna

As part of the survey incidental vertebrate and invertebrates were recorded and are listed in Appendix 2. No assessment was made as to whether these were breeding on site except where found as part of the survey.

3 Evaluation

3.1 Site and Habitat Evaluation

3.1.1 Millfields Recreation Ground

The site comprises the *Millfields Recreation Ground* Site of Borough Grade II Importance for Nature Conservation – Site HcBII04. It adjoins, through the River Lee Navigation, a Site of Metropolitan Importance, M071; *The Lee Valley*. This survey appears to confirm the status of the site because of its large number of mature trees and areas of woodland, plantation and scrub.

3.1.2 Biodiversity action plans

The entire site can be considered to fit into the proposed habitat designations 'Parks and Greenspaces' habitat for the Hackney (local) Biodiversity Action Plan and the 'Parks and Urban Greenspaces' local habitat for the London (regional) Biodiversity Action Plan. It is considered good practice that any development having an impact on these habitats is adequately mitigated for.

3.1.3 Secondary woodland plantations and tree-lines

These three habitats provide support nearly all the tree species on site and are very important for breeding and roosting birds and a host of invertebrates. They will also support bats and provide them with foraging corridors. The secondary woodlands are of most importance since they provide the most diversity while the plantations will improve with age should they be allowed to develop a more diverse ground flora.

Ideally, the London plane trees should be replaced as and when they die or are removed with more native species or species that have generally higher invertebrate associations. A mix of oaks, ash, elms, maples, birches poplars and willow species would significantly improve the biodiversity of the site. The avenues of London planes could be retained along Lea Bridge Road as they make good landscape features. This change in tree species would need to be in accordance with the Site Masterplan.

Having a mix of tree species also makes good sense since should disease or parasite that affects London plane become prevalent on site then many of the trees could suffer or die as a result.

3.1.4 Grasslands

The grassland areas are generally of poor quality and have a generally low diversity of plant species present. However, the area to the east of the site that has a more relaxed mowing regime has a distinctly more diverse flora and it is suggested that similar areas are created throughout the site. The area between and around the six scrub patches in North Millfields and wider stretches under the tree-lines would be ideal locations to relax mowing and allow more diverse grasslands to develop.

3.1.5 Scrub and roughland

These habitats like the secondary woodland provide good breeding and roosting areas birds and support invertebrates. These habitats should be maintained appropriately through careful management to prevent them developing into woodland unless other areas are allowed to become scrub. The roughland area, due to its wet nature, could be developed into a pond with shallow marshy edges and some willow carr should the water's origin be a 'natural' spring.

3.2 Plant Species Evaluation

The plant species found are very typical of an urban park and recreation ground with areas that have clearly been retained and enhanced for wildlife. Collectively they contribute to an important habitat within the Borough for invertebrates and birds in particular.

Small-flowered crane's-bill is considered to be a London notable species. These are those species that occur in less than 15% of the 400 tetrads as indicated in the *Flora of the London Area* (Burton 1983). However, this particular species has been recorded much more in recent years and is probably no longer a London notable.

No UK or London (regional) Biodiversity Action Plan vascular plant species were recorded during the survey.

No plant species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) were identified during this survey; it is considered unlikely that any are present on site. These plants have high levels of protection; it is a criminal offence to pick, uproot or otherwise damage any species listed on Schedule 8.

3.3 Animal Species Evaluation

The site holds locally important populations of common birds such as the goldfinch (*Carduelis carduelis*) and blackbird (*Turdus merula*). The site and the surrounding area also supports a population of starling (*Sturnus vulgaris*) and mistle thrush (*Turdus viscivorus*), two species that have had significant declines in recent years. The starling population probably breeds in the local neighbouring housing and consisted of c. 30 individuals mainly juveniles while a pair of mistle thrushes were found with at least one juvenile.

Starling is on the UK Red data list as a species that has had more than a 50% decline in breeding population in the last 25 years. Mistle thrush is listed as an UK Amber List species having a greater than 25% but less than 50% decline in breeding population in the last 25 years (Eaton *et al.* 2009).

The other animal species found suggest that the site offers good food plants for feeding invertebrates such as damselflies and bees plus other nectar feeding species. These invertebrates in turn attract a variety of birds, which also find cover in the trees, shrubs and scrub to breed and/or roost and hide from predators.

No animal species fully protected under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) was identified during the survey. It is probable that bats are present on site due to the presence of mature trees. All bat species are protected by law and a bat survey should be undertaken if any works on the mature trees is undertaken on site.

Starling is a UK and a London (regional) Biodiversity Action plan animal species.

4 Management Principles

4.1 *Survey and Monitoring*

It is important 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 site and to visitors. Management tasks should be recorded and an annual report of work produced.

It is therefore necessary to know what species and habitats are already on the site. The vegetation of the site has been surveyed for this plan but there is very little information on the other fauna of the site. Ideally vegetation/habitat surveys and broad-based invertebrate surveys should be carried out every 5 years and regular bird monitoring should be carried out on an ongoing basis if suitable volunteers can be found. Reptile and amphibian and mammal (especially bat) surveys are also required.

All surveying should conform to standardised techniques, from which accurate and relevant data can be drawn. Monitoring, likewise, should conform to standardised methodology. The London Ecology Unit/Greater London Authority bird monitoring transect and butterfly transects should also be considered. Ideally biological data recorded on site should be made available to Greenspace Information for Greater London (GIGL). Records of unusual sightings, especially birds and invertebrates, should also be relayed quickly to the appropriate London Natural History Society recorders.

4.2 *Dead Wood*

Dead wood is an important resource for many invertebrates, fungi and other wildlife. Where timber is cut it should normally be left on site in piles in appropriate places. Any standing dead trees should be retained where safety considerations allow.

4.3 *Introductions, translocations and planting*

Any planting should normally be of locally native species, preferably of local provenance.

There should be a presumption against the introduction of animals into the site. If any introductions are considered in order to meet management objectives, reference should be made to policies of relevant organisations, e.g. the London Wildlife Trust's *Tree Planting and New Woodland Policy*.

4.4 *Fires*

There should be a general presumption against burning any material on the site.

4.5 *Herbicides*

There should be a presumption against the use herbicides. By their very nature all herbicides are damaging to the environment to a greater or lesser extent, and can be a danger to the public. Consequently their use should be restricted to only necessary tasks and only if other management methods are inappropriate or have failed. It may sometimes be necessary to treat the stumps of species scheduled for removal from the site where these

have grown too large and where it would be a waste of resources to keep on cutting the plants back every year.

Similarly herbicides may be the only way to combat some invasive non-native species such as Japanese knotweed. If chemicals are used it should only be by appropriately qualified persons.

5 Management Recommendations

5.1 *Habitat Management Proposals*

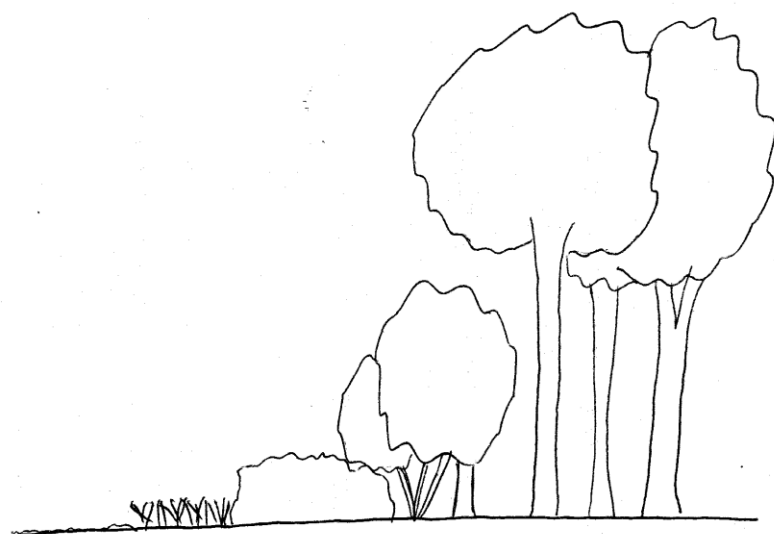
The habitat and compartment maps can be found in Appendix 1. The annual work plans for the five years incorporating all the proposed works and estimated costs can be found in Appendix 2.

5.1.1 Secondary woodland

This habitat occurs around the perimeter of the eastern most area of the site (Compartment 9).

The safety of visitors, paths and adjacent property is paramount. The site should be inspected annually by a suitable qualified arboriculturalist and any dangerous trees should be made safe as soon as possible. When this is done due regard should be made to the policy on dead wood (see above) and where possible dead timber should be left standing. Consequently trees should be made safe by removing limbs and branches, if possible, rather than felling the entire tree. Arisings should be retained on site as dead wood habitat. However, standing dead wood can be a safety hazard and this must always take precedence. Consequently any trees which are in a demonstrably unsafe condition must be made safe especially where they are near boundaries or footpaths. Any hollow tree discovered on the site should be retained if possible. If work is required they should be inspected by a suitably qualified bat worker to ensure bat roosts are not present.

The aim in the woodland areas should be to create and maintain a mosaic of different habitats with a transition from woodland through scrub to open grassland (see diagram below). Transition areas like this maximise the habitats in a small area thereby increasing the number of species which can be supported. They support rich invertebrate communities and are favoured foraging and nesting habitats for many bird species. For example many birds like to forage in the open areas but require the dense shrubs as cover to hide from predators and the woodland for nesting sites. Some insects such as butterflies require different plants at different stages of their life; the adults could be reliant on nectar from plants which grow in the open sunny areas but the larvae may require food plants which occur in the woodland.



Short mown Long grass Brambles/ Low shrubs Woodland
Grass/path tall herbs

Some coppicing (cutting down shrubs and allowing them to re-grow from the stumps) on the borders of the woodland is therefore recommended to maintain the gradual transition from woodland to grassland. The brash should be piled in the adjacent woodland as habitat piles. The woodland edge should be sinuous rather than straight - this will maximise the length of the edge zone and create a series 'scallops' with a sheltered microclimate. To create this, bays should be cut back in to the woodland to a distance of 3 to 4m in the autumn/winter. Approximately 25% of the woodland edge should be cut back each year to create a 4-year rotation. This should take place in the winter (October-February) to avoid breeding birds etc.

5.1.2 Plantations

The plantation areas should be managed to allow them to develop into open woodland. The grassland between the trees should be left un-cut to allow it to develop as a woodland flora. In addition further planting could take place to join up and create further areas of open woodland plantations or native hedges, especially where there are unattractive fences and walls which would then be screened (e.g. around the power station).

5.1.3 Grasslands

The grassland on the site is of quite low interest due to regular mowing. However, some areas in the eastern area of the site (Compartment 8) the mowing regime has been relaxed and more species have established in the sward. It is strongly recommended that this management is extended to cover a larger area of compartment 8 and other sections of the site namely compartments 2, 3 and 4.

The management recommended for these areas is to cut once in early spring (end of February to March) and then leave the sward un-mown until late summer/autumn (October to December) to allow the seeds the chance to set. It should be cut at a height of approx. 10 to 15cm. Cuttings should be left *in situ* for two days to allow invertebrates to leave the area before they are raked off and removed to keep the fertility of the soil low. In high fertility soils the sward tends to be taken over by fast growing species such as nettles and amenity grasses. In lower fertility soils everything grows slowly and therefore more species thrive leading to a more diverse sward. However, not all of the area should be cut each year. Some areas should be left uncut over the winter to leave seed heads as food for birds and to

provide cover for reptiles and invertebrates etc. The detailed recommendations are given for the individual compartments below.

Other areas of grasslands are to be maintained as amenity grasslands and no management changes are proposed.

5.1.4 Tree-lines

The tree-lines are predominantly composed of large London plane trees. These are a very important visual/landscape feature of the site but do have a quite low wildlife value. They also cast very heavy shade which makes it difficult to establish other planting (hedges etc) underneath. No tree felling or other management is recommended, however if any of the trees die or have to be felled for other reasons they could be replaced with other species, preferably native ones, to diversify the species range and increase the wildlife value of the site. However, this needs to be in accordance with the site masterplan.

5.2 Species Management Proposals

5.2.1 Bird and bat boxes

Bird boxes can be an important resource for many woodland birds. They come in a variety of different sizes and shapes to suit different species but basically they all aim to create the equivalent of a cavity or platform in a tree or rocks etc. They are an important alternative if dead trees have to be felled and provide lasting nesting sites which are relatively safe from common domestic predators such as cats, close to feeding areas. They also give essential winter protection for roosting birds. It is recommended that a range of boxes be installed on trees in all three areas. A mixture of hole fronted boxes (liked by tits, nuthatch and sparrows) and open fronted (preferred by robin, blackbird and wren) should be installed. A tawny owl and/or kestrel box could also be erected to encourage these birds to use the site.

Once installed the boxes should ideally be cleaned out to remove the old nests, dead birds, etc. in the autumn to reduce parasites but this is not essential as some birds clean out old material before nesting.

Bat boxes are similar in design to bird boxes but only have a narrow slit to allow the animals to enter. They can be important for roosting bats and are a good way to encourage bats to utilise the site. Once a box is used as roost it must not be disturbed as the animals are legally protected from disturbance.

It is suggested that a mixture of different styles of bat and bird boxes are installed on trees in the woodland areas and in the tree-lines. More details of design and positioning are given in Appendix 4.

5.2.2 Stag beetles

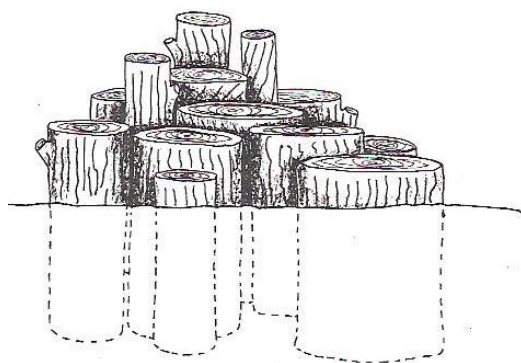
The stag beetle *Lucanus cervus* is a globally threatened species, protected under the Wildlife and Countryside Act 1981 (as amended), and listed as a priority species for the UK and London Biodiversity Action Plans. London is one of the most important areas in the UK for this species, the populations of which have declined in the last 40 years. It is believed that the destruction of its key habitat (dead wood) through the 'tidying-up' of woodlands and parks is the prime reason for its decline, although in urban areas the impacts of traffic, human feet, cats and other predators are also significant (London Wildlife Trust, 2000).

The stag beetle requires dead wood to complete its lifecycle. The eggs are laid underground by logs, or stumps of dead trees, and the larva (or grub) will spend up to seven years inside dead and decaying wood slowly growing in size. A wide range of woods are used, especially

oak, but also ash, elm, sycamore, lime, hornbeam, apple, cherry and even some garden tree varieties. An exception, however, is coniferous species such as fir, pine and cypress, which they usually avoid. The larvae do not eat the wood of live trees and shrubs, and are thus not a pest. Instead they are an important decay agent, helping to return the minerals of dead plant material to the soil. Adults emerge from the soil beneath logs or stumps from mid-May until late July. Males emerge earlier and appear to be more active as they search for females to mate and can often be seen flying on summer evenings an hour or two before dusk. As adults they are short-lived and generally die after mating, although occasionally some may over-winter in places such as compost heaps.

To encourage this species it is therefore important to have suitable dead wood. The practice of leaving dead stumps standing will help with this (see section on dead wood). Also it is suggested that some stag beetle 'loggeries' are created in the woodland areas as shown in the diagram below.

Stag beetle loggery (London Wildlife Trust, 2000)



Loggery

Large logs (10-50cm diameter) of hardwood (e.g. oak, beech, sycamore, ash) with bark still attached sunk c60cm into the ground, in partially shaded areas.

5.3 General Management Proposals

5.3.1 Surveys and Monitoring

Very few faunal records exist for the site. It would be very desirable to carry out monitoring of birds, bat and invertebrates if resources allow and suitable experienced volunteers can be found.

All work on the site should be recorded and monitored and sent to Greenspace Information for Greater London (GiGL), The Biological Recording Centre for Greater London.

The vegetation should be re-surveyed in the summer of 2015 and the management plan reviewed in 2016.

5.3.2 Safety

All boundary and other structures need to be inspected annually and any necessary remedial action taken immediately. Inspections must also be carried out of all trees to ensure they are in a safe condition, i.e. not about to fall over or shed dead branches onto the

paths, roads and/or areas heavily used by the public. Appropriate action should be taken but in recognition that standing dead wood is an essential feature of the woodland ecosystem.

5.4 Compartment Management Proposals

5.4.1 Compartment 1

Description

This compartment is composed of three separate areas of plantation which have been labelled as sub-compartments 1a, 1b and 1c.

The sub-compartment 1a is growing on a south and east facing slope which is quite steep in places. The plantation has an open canopy with some scattered large trees and smaller bushes. The grassland in this area had not been mown at the time of the visits and was more species diverse than in other plantation areas.

The two other plantations exist in the grassland of compartment 2 (Sub-compartments 1c & 1d). They are both even aged with semi-mature trees and a few shrubs. The vegetation under these is rather sparse but bluebells and other bulbs have been planted here.

Management Proposals

The plantation on the embankment (1a) links closely to the wet roughland area of sub-compartment 2a (see below) and the management will depend on the decision made regarding the pond creation. If the pond/wetland feature is created the embankment should be incorporated into the landscape design. I.e. some of the trees may need to be removed to allow light to reach the pond and prevent too much leaf fall from entering the pond. However if the area is managed as a roughland it is recommended that the embankment is retained largely as it is. No further tree planting is recommended and the canopy is quite open so no coppicing is required at present. If the canopy starts to close over in the future some coppicing could be carried out to retain open areas. Native wildflower bulbs such as native bluebell (*Hyacinthoides non-scripta*) and other woodland species could be planted through this area. This would make the area more attractive, especially in the spring. This would be a good project for local volunteers or school children.

The two plantation areas towards the middle of the field (1c and 1d) could both be improved significantly for wildlife by creating a more diverse age structure and species mix. To this end some selective coppicing of the existing trees (particularly hazel) should be carried out to open up the canopy and then a wider range of native shrubs and some trees could be planted in to the areas.

5.4.2 Compartment 2

Description

This compartment has been subdivided into 3 sub-compartments to incorporate the management proposals. These are 2a, 2b, and 2c. Most of this compartment is currently composed of short mown amenity grassland. Other habitats present are a line of mature London plane trees along the path separating the area from Compartment 3 and an area of roughland within sub-compartment 2c.

Sub-compartment 2c was wet during the spring visit and still somewhat damp during the summer visits. This is caused by a small stream of water running off from the housing estate to the west but it is unknown whether this is a natural spring or coming from a damaged water main. Either way it has allowed species that prefer damper habitats to thrive here,

most notably great willowherb, which has a large stand and shrubs of goat and grey willow. Grasses are allowed to grow tall here and consist of mostly common couch, perennial rye-grass and smooth meadow-grass.

Management Proposals

The main issue in this area is with the future management of the area of damp roughland (2d). To decide this it will be necessary to ascertain the source of the water. If it is a leaking water main it will presumably be repaired in the future and the area will dry out. If this is the case it is recommended that the area be retained as an area of roughland/tall herb with scattered scrub and managed as the grassland in sub-compartment 2a.

If the source of the water is a natural spring the area is likely to remain wet in the long-term. Management could simply be the same as above, with annual cutting and raking maintaining a wet roughland/tall herb habitat. However, a more ambitious project would be to create a pond and wetland area. The ground level could be lowered and resulting hollow lined with bentonite clay or a similar material. This would create a pond and areas to be planted with wetland vegetation such as reed mace (*Typha angustifolia*), sedges, rushes and other aquatic and marginal plants. This would be a considerable improvement to the site in wildlife terms; attracting birds, bats, amphibians and many invertebrates to the site. Incorporation of paths, boardwalks and, if appropriate, a pond dipping platform, would also increase the amenity value of the site.

The other two compartments are proposed to have a relaxed rotational mowing regime with just single cuts made in early spring (end of February to March) and then again in late summer/autumn (October to December). It should be cut at a height of approx. 10 to 15cm and the cuttings raked off to keep the fertility of the soil low. The rotation should be that the sub-compartments should be cut in alternating years.

This compartment has also been identified as a potential site for a new playground area. In order to minimise the loss of wildlife habitat it is recommended that this be situated to the east in compartment 3 where there is a large open area of amenity grassland at present. This would also move it away from neighbouring houses, which may also be advantageous.

5.4.3 Compartment 3

Description

This area is quite heavily used by visitors for football, etc., and so it is necessary to retain most of it as open amenity grassland (sub-compartment 3a). However it is proposed that a strip of woodland/scrub be planted along the southern boundary by the Lea Bridge Road to be sub-divided into two management sub-compartments 3b and 3b). This could both screen the road, making the park more pleasant, and increase the wildlife value of the site. The planting should be a mixture of native trees and shrubs. The northern side of the plantation should not be straight but should have a sinuous line with bays back into the trees. This maximised the woodland edge habitat and makes a more natural looking edge to the woodland. Once established the management should consist of maintain the graded woodland edge structure by selectively coppicing approximately 25% of the boundary back each year in the winter (October to March) to create bays and thus creating a 4-year rotational cutting programme. In addition a strip of grassland along the boundary should be managed on a two year cutting rotation as per compartment 2a and 2b and as that discussed in section 5.1.3 above.

A new footpath could be constructed to the north of the new plantation to create an alternative to the Lea Bridge Road way for pedestrians. This should probably be surfaced with a self-binding gravel (e.g. Coxwell Gravel or similar) to create a surface suitable for wheelchairs. This path would connect with the tarmac path through Compartment 3.

5.4.4 Compartment 4

Description

The main habitat is again amenity grassland (sub-compartment 4a). Towards the eastern side there is an area of recently planted young trees and shrubs in clumps (Sub-compartment 4b). Some of these are standing alone and the grass has been mown right up to the trees. However around some the mowing has stopped further back and taller grassland is present near the trees and some have areas of scrub around them. Mature lines of London plane run along all the boundaries of the compartment. To the east just outside the line of trees the land slopes up to a path which runs along the bank of the Lea Navigation. British Waterways were in the process of restoring the bank of the navigation at the time of the visits. Unfortunately this appears to mainly consist of metal piling but hopefully some marginal landscaping can take place in and along the canal to improve it visually and for wildlife. A small neglected ornamental bed can be found in the south east corner on the canal bank.

Management Proposals

There is a proposal in the master plan to split this area into 2 sections separated by a low bank with an area to the west for football etc and to the east for more passive recreation (picnicking etc). The area to the east corresponds with the area of scattered trees (4b). At present the isolated trees have little wildlife value; however those which have associated long grass and/or scrub are much better. It is therefore suggested that the mowing regime is relaxed in places between the trees to link them with areas of long grass areas as per explained in section 5.1.3 above. One metre wide paths could be mown through the area which would allow access and create an attractive area for visitors to use.

Further east on the banks of the canal (4e) there is potential for further landscaping to take place. This will depend on the work carried out on the canal bank itself. However it would appear to be an area which would be more suited to more formal/ornamental planting. It is therefore suggested that a design is drawn up to create formal planting areas but incorporating a mix of native species which will attract wildlife such as berry bearing shrubs, nectar plants etc.

Along the southern stretches of this compartment between the current path and road a further area of relaxed mowing could be created and management on a 2-year rotation (sub-compartments 4c and 4d)

5.4.5 Compartment 5

Description

This compartment is entirely flat amenity grassland with a cricket pitch and tree-lines around the boundaries.

Management Proposals

No wildlife improvements are suggested for this area although the areas under the tree-lines could be placed under a relaxed mowing regime (section 5.1.3).

5.4.6 Compartment 6

Description

This is a flat area of amenity grassland with tree-lines around the periphery and along path edges. To the east it is bordered by the temporary hoarding of the power-station behind which appears to be a strip of grassland with some trees and scrub. Access was not

possible to this area but it is understood that some of it will be returned to the park once the work on the power station is completed.

Management Proposals

No wildlife improvements are suggested for this area. However it would be advantageous to screen the boundary with the power station. To this end it is suggested that area 9b is extended by planting a mix of native trees and shrubs. This could possibly happen before the hoarding is taken down (so that the screen is already established when the hoarding eventually goes) but may not be possible due to health and safety considerations within the power station site and may be problematic as a footpath runs through this area.

5.4.7 Compartment 7

Description

This area consists of a small patch of amenity grassland surrounded by areas of scrub. It is one of the most diverse areas of scrub/woodland on the entire site.

Management Proposals

This would be an ideal area to create a small nature garden with meadow areas, minibeast habitats and possibly a pond or other wetland feature. However it has been identified as the site for the development of a community facility. This development will involve the relocation of the tarmac sports areas to the south and west and the loss of the current vegetation.

The habitat creation proposals outlined for the other compartments will help to mitigate for this loss. It is also recommended that the plan for landscaping of the area is drawn up in consultation with an ecologist so that suitable plants are chosen to attract wildlife to the area (e.g. berry bearing shrubs, nectar plants, appropriate native species, etc.) Other wildlife feature such as bird boxes, bat bricks, a green roof, green walls etc could be incorporated into any buildings and landscaping.

5.4.8 Compartment 8

Description

This is the eastern most area of the site. It is an area of amenity grassland bordered to by a strip of woodland, plantation and scrub along the canal and to the south by a strip of woodland and plantation (compartment 9) besides the power station hoarding. The mowing regime has been relaxed in the eastern section of the grassland so that it has developed a more rich species mix (Sub-compartment 8a). This area has also been planted with fruit trees to create a community orchard.

A very overgrown path leads west along the canal linking the site to Hackney Marshes and other sites along the River Lea.

Management Proposals

It is recommended that the mowing regime should be relaxed over the whole grassland to create a wildflower meadow. Management should consist of leaving it un-cut until late summer/autumn (September to October) and then mown and removing the cuttings. A path should be mown through the grassland to allow access to the trees during the growing season.

5.4.9 Compartment 9

Description

This compartment is composed of areas of woodland and mature scrub (sub compartment 9a and plantation (sub-compartment 9b) that border the Power station and canal.

Management Proposals

The woodland and scrub along the canal bank requires little management. However it would be beneficial to do some coppicing along the boundary with the grassland to create a graded woodland grassland transition. Therefore approximately 25% of the boundary should be coppiced back 3 or 4 metres every year in the winter months. The brash should be piled in the woodland. Also it would improve the area for visitors if the access to the canal bank was better. Consequently it is recommended that two new access paths be cut through the woodland to the canal bank.

It is also recommended that the boundary with the power station to the south is further screen with woodland. A mixture of native shrubs and trees should be planted along the boundary and in the existing plantation.

To improve access and links to other sites it is recommended that the path along the canal to the east is restored. It is overgrown but restoration should be relatively simple involving scraping vegetation from the tarmac surface. A path should be create through the compartment linking the canal path to the tarmac path to the west of the compartment and hence to the rest of Millfields. This should probably have a hoggin or similar self-binding gravel surface.

6 Biodiversity Targets for Hackney

6.1 National Indicator Targets

As part of the Government's Natural Environment Public Service Agreement (PSA) an indicator on Local Sites (LS) was developed as the preferred option as a proxy for a local authority biodiversity indicator (Defra, 2008). This local authority biodiversity indicator is known as the Improved Local Biodiversity indicator or NI 197.

The NI 197 is measured by obtaining the:

'Proportion of Local Sites where positive conservation management has been or is being implemented' (Defra, 2008).

Where local sites in London are defined as Sites of Importance for Nature Conservation (SINCs).

To show that positive conservation management is being undertaken on a Local Site, there must be documented evidence of management that contributes to maintaining or enhancing the features of interest for which a site has been selected and designated. The nature of the management activity appropriate to interest features of a site will commonly be defined within one, or more of the following:

- site management plan
- management schemes - agri-environment or conservation management agreement or scheme
- relevant Biodiversity Action Plan (including habitat action plan, species action plan or local biodiversity action plan). Where a site is designated primarily for its geological features, the recommended management activity may be defined within a site specific management plan or, more broadly, within a Local Geodiversity Action Plan
- management guidance and advice
- for Local Geological Sites the monitoring process and guidance (available at www.ukrigs.org.uk) provides a basis for judging whether appropriate management is being undertaken (Defra, 2008).

In the year 2010/2011 the London Borough of Hackney has a NI 197 target of 60%

The production of this report allows Millfields Recreation Ground to be included as a Local Site that achieves positive conservation management by delivering a site management plan, providing information on Local and Regional Biodiversity Action Plan targets and providing management guidance and advice.

6.2 Biodiversity Action Plan Targets

The London Borough of Hackney is currently compiling their Local Biodiversity Action Plan which is due to have a draft document produced in December 2010 with a final submission date of March 2011. Through consultation LB Hackney has recognised that it currently has the following amounts of BAP habitat present:

- 14.2ha lowland deciduous mixed woodland
- 0.78km hedgerow
- 0.52ha lowland meadows
- 0.08ha lowland dry acid grassland

- 1.86ha reedbeds
- 9.49km rivers
- 0.27ha ponds

and the following BAP species present:

Plants	Invertebrates	Herpetiles	Birds	Mammals
Native black poplar	Stag beetle	Grass snake	House sparrow	10 species of bat
Wall bedstraw		Common toad	Common starling	Hedgehog
Creeping marshwort			Spotted flycatcher	Water vole
			Song thrush	
			Black redstart	
			Dunnock	
			Sand martin	
			Skylark	
			European turtle dove	
			Herring gull	
			Northern lapwing	

The proposed works will create approximately 2.5 hectares of semi-improved neutral grasslands that with good management could become lowland meadow BAP habitat which could provide ideal foraging habitat for song thrush and attract enough invertebrates to provide food for bats, hedgehog and other birds.

The proposed woodland work of coppicing and the creation of more natural edges would help to provide more favourable habitat to support house sparrow, starling, spotted flycatcher, dunnock as well as bats and hedgehogs and careful woodland management of dead wood and the presence of loggeries would benefit stag beetles.

The creation of a pond should it be feasible would increase the pond BAP habitat by approximately 33% to 0.36 ha.

7 Estimated Management Costs

The following costs are estimated and based on the current London Conservation Services contractual costs, similar to those of other landscape management contract costs. Some works, such as annual tree inspection and general mowing and maintenance, have not been included in the following costs as they are intrinsically work currently undertaken on site and would have no additional costs to current management practices. In addition, small maintenance costs such as bird/bat box and stag beetle loggery maintenance are also omitted as they can be undertaken by volunteers for little cost.

It should be noted that due to the relaxed mowing regimes in compartments 2 and 8 as well as other small areas such as sub-compartment 4b and under trees etc then savings will be made from existing mowing regimes where these area are cut more regularly throughout the summer months

Financial Year 2010/11

Works	Time, staff and material resources	Estimated cost excl VAT (£)
Planting of native wildflower bulbs such as bluebells	1 day with 1 staff and volunteers and tools and plants	250.00
Selective coppicing work	2 days with 2 staff with selection of tools plus volunteers	700.00
Mowing and removal of arisings	1 day with 2 staff with mower/trimmers to cut 1 day with team of 3-5 staff/volunteers to rake and remove cuttings.	350.00 350.00
Creation of ornamental beds (can be deferred to following years)	7 days with team of 3 staff plus volunteers and materials for building beds	3000.00
Erection of bird/bat boxes	1 day with 1 staff and volunteers plus box materials	250.00
Creation of stag beetle loggeries	1 day with 1 staff and volunteers plus materials	250.00
Total estimated costs		5150.00

Financial Year 2011/12

Works	Time, staff and material resources	Estimated cost excl VAT (£)
Proposed tree works (if pond is created)	2 days with 2 staff with chainsaws plus volunteers with selection of tools	800.00
Selective coppicing work	2 days with 2 staff with selection of tools plus volunteers	700.00
Mowing and removal of arisings	1 day with 2 staff with mower/trimmers to cut 1 day with team of 3-5 staff/volunteers to rake and remove cuttings.	350.00 350.00
Pond creation	1 day with Contractor team with mini digger 2 days with 2 staff and volunteers with planting materials	
Tree and shrub planting	2 days with 2 staff and volunteers with trees and shrubs	800.00
Bird survey (optional)	4 day visits by 1 staff plus 2 days for report.	1500.00
Total estimated costs		4500.00

Financial Year 2012/13

Works	Time, staff and material resources	Estimated cost excl VAT (£)
Selective coppicing work	2 days with 2 staff with selection of tools plus volunteers	700.00
Mowing and removal of arisings	1 day with 2 staff with mower/strimmers to cut	350.00
	1 day with team of 3-5 staff/volunteers to rake and remove cuttings.	350.00
Bat survey (optional)	1 day and 1 dusk visit by 2 staff	900.00
Review management plan	1 day site visit and 1 day desktop study by 1 staff	500.00
Total estimated costs		2800.00

Financial Year 2013/14

Works	Time, staff and material resources	Estimated cost excl VAT (£)
Selective coppicing work	2 days with 2 staff with selection of tools plus volunteers	700.00
Mowing and removal of arisings	1 day with 2 staff with mower/strimmers to cut	350.00
	1 day with team of 3-5 staff/volunteers to rake and remove cuttings.	350.00
Invertebrate survey (optional)	3 days fieldwork and 3 days desk work for 1 staff	1500.00
Total estimated costs		2900.00

Financial Year 2014/15

Works	Time, staff and material resources	Estimated cost excl VAT (£)
Selective coppicing work	2 days with 2 staff with selection of tools plus volunteers	700.00
Mowing and removal of arisings	1 day with 2 staff with mower/strimmers to cut	350.00
	1 day with team of 3-5 staff/volunteers to rake and remove cuttings.	350.00
Extended Phase I habitat survey and review and production of new management plan	½ day field survey and 2 day report by 1 staff	625.00
	1 day site visit and 3 day desktop by 1 staff	1000.00
Total estimated costs		3025.00

It is estimated that to undertake the proposed management work without any surveys (final five year survey excepted) and optional work such as the pond then the annual maintenance cost of the proposed works would be approximately **£1400 - £2000 thereafter**.

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Appendix 1 Annual Work plans

Annual Work Plan Financial Year 2010/11

Tasks	Compartments where tasks are to be undertaken			
	April-June	July-September	October-December	January-March
Plant native wildflower bulbs such as bluebells			1a	
Selective coppicing of young trees and shrubs (hazel etc) to improve age structure and remove cuttings			1b, 1c, 4b	
Mow grass (one cut) to a minimum height of 10cm and remove arisings			2a, 2c, 4b, 4d, 8	2b, 4c, 5 (under trees), 6 under trees (March only)
Mow as normal			3a, 4a, 5, 6 (if required)	3a, 4a, 5, 6 (if required)
Create and plant up ornamental beds (can be deferred to following years)				4e
Mow 1 metre wide paths through area and along path edges			2a (path edges), 2b (path edges), 4b, 8 (if required)	2a (path edges), 2b (path edges), 4b, 8 (if required)
Coppice boundary to create woodland/grassland transition area			9a	
Tree inspection by arboriculturalist for dangerous trees and tree work if necessary			All of site	All of site
Erect and maintain bird/bat boxes				Throughout site
Create and maintain stag beetle loggeries as required				9a, 9b

Annual Work Plan Financial Year 2011/12

Tasks	Compartments where tasks are to be undertaken			
	April-June	July-September	October-December	January-March
Proposed tree works (if pond is created)			1a	
Selective coppicing (only if canopy closes over)			1a (£350)	
Create pond (optional)			2c	2c
Mow grass (one cut) to a minimum height of 10cm and remove arisings			2b, 4c, 5 (under trees), 6 under trees	2a, 2c (if not pond), 4b, 4d, 8 (March only)
Mow as normal	3a, 4a, 5, 6	3a, 4a, 5, 6	3a, 4a, 5, 6 (if required)	3a, 4a, 5, 6 (if required)
Plant with native trees and scrub creating a naturalised woodland edge habitat			3b, 3c, 6 (as screen for power station), 8 (as screen for power station)	3b, 3c, 6 (as screen for power station), 8 (as screen for power station)
Create and plant up ornamental beds (can be deferred to following years)	4e			
Mow 1 metre wide paths through area and along path edges	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8 (if required)	2a (path edges), 2b (path edges), 4b, 8 (if required)
Coppice boundary to create woodland/grassland transition area			9b (£350)	
Tree inspection by arboriculturalist for dangerous trees and tree work if necessary			All of site	All of site
Erect and maintain bird/bat boxes				Throughout site
Create and maintain stag beetle loggeries as required				9a, 9b
Bird survey(4 visits, 1 each quarter) (optional but recommended)	All of site	All of site	All of site	All of site

Annual Work Plan Financial Year 2012/13 incorporating costs

Tasks	Compartments where tasks are to be undertaken			
	April-June	July-September	October-December	January-March
Selective coppicing of young trees and shrubs (hazel etc) to improve age structure			1b, 1c, 4b (£350)	
Selective coppicing (only if canopy closes over)			1a (£350)	
Mow grass (one cut) to a minimum height of 10cm and remove arisings			2a, 2c (if not pond), 4b, 4d, 8	2b, 4c, 5 (under trees), 6 under trees (March only)
Mow as normal	3a, 4a, 5, 6	3a, 4a, 5, 6	3a, 4a, 5, 6 (if required)	3a, 4a, 5, 6 (if required)
Mow 1 metre wide paths through area and along path edges	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8 (if required)	2a (path edges), 2b (path edges), 4b, 8 (if required)
Coppice boundary to create woodland/grassland transition area			9a	
Tree inspection by arboriculturalist for dangerous trees and tree work if necessary			All of site	All of site
Erect and maintain bird/bat boxes				Throughout site
Create and maintain stag beetle loggeries as required				9a, 9b
Bat survey (optional but recommended)		All of site		
Review management plan		All of site		

Annual Work Plan Financial Year 2013/14 incorporating costs

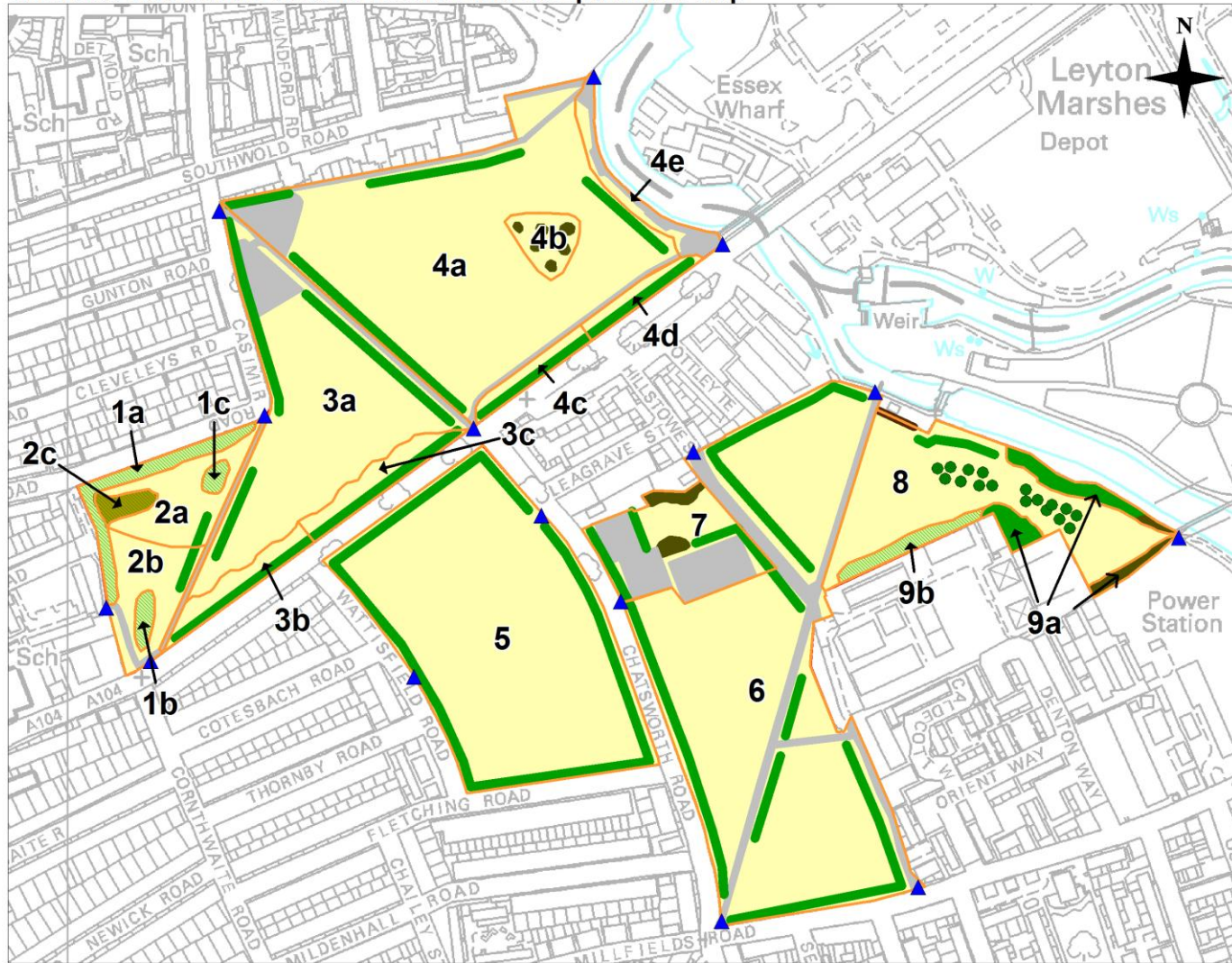
Tasks	Compartments where tasks are to be undertaken			
	April-June	July-September	October-December	January-March
Selective coppicing (only if canopy closes over)			1a	
Mow grass (one cut) to a minimum height of 10cm and remove arisings			2b, 4c, 5 (under trees), 6 under trees	2a, 2c (if not pond), 4b, 4d, 8 (March only)
Mow as normal	3a, 4a, 5, 6	3a, 4a, 5, 6	3a, 4a, 5, 6 (if required)	3a, 4a, 5, 6 (if required)
Selective coppicing of shrubs and trees			25% of 3b, 6 (screen only) and 8 (screen only)	
Mow 1 metre wide paths through area and along path edges	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8 (if required)	2a (path edges), 2b (path edges), 4b, 8 (if required)
Coppice boundary to create woodland/grassland transition area			9b	
Tree inspection by arboriculturalist for dangerous trees and tree work if necessary			All of site	All of site
Erect and maintain bird/bat boxes				Throughout site
Create and maintain stag beetle loggeries as required				9a, 9b
Invertebrate survey (optional but recommended)	All of site	All of site		

Annual Work Plan Financial Year 2014/15 incorporating costs

Tasks	Compartments where tasks are to be undertaken			
	April-June	July-September	October-December	January-March
Selective coppicing (only if canopy closes over)			1a	
Mow grass (one cut) to a minimum height of 10cm and remove arisings			2a, 2c (if not pond), 4b, 8	2b, 4c, 5 (under trees), 6 under trees (March only)
Mow as normal	3a, 4a, 5, 6	3a, 4a, 5, 6	3a, 4a, 5, 6 (if required)	3a, 4a, 5, 6 (if required)
Selective coppicing of shrubs and trees			25% of 3c	
Mow 1 metre wide paths through area and along path edges	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8	2a (path edges), 2b (path edges), 4b, 8 (if required)	2a (path edges), 2b (path edges), 4b, 8 (if required)
Coppice boundary to create woodland/grassland transition area			9a	
Tree inspection by arboriculturalist for dangerous trees and tree work if necessary			All of site	All of site
Erect and maintain bird/bat boxes				Throughout site
Create and maintain stag beetle loggeries as required				9a, 9b
Extended Phase I habitat survey and review management plan		All of site		


Appendix 2 Habitat and Compartment Map

Millfields Recreation Ground Habitat and Compartment Map



Legend

- Secondary woodland
- Plantations
- Community orchard trees
- Amenity grassland
- Scrub
- Roughland
- Treelines
- Non-native hedgerow
- Bare artificial habitat
- Entrance points
- Compartment boundaries



Produced by the London Wildlife Trust

Scale: 1 4000

Based upon the Ordnance Survey 1:10 000 map with the permission of The Controller of Her Majesty's Stationery Office. © Crown Copyright. All rights reserved.
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Appendix 3 Site photographs

Area of woodland along river Lee
Navigation bank (sub-compartment 9a)



Millfields Community Orchard and area of
grassland with relaxed mowing regime
(compartment 8)



Millfields South with scattered ornamental
trees (compartment 6)



Millfields North looking northwest towards children paddling pool and play area (sub-compartment 4a)



One of the six scrub patches in Millfields North (sub-compartment 4b)



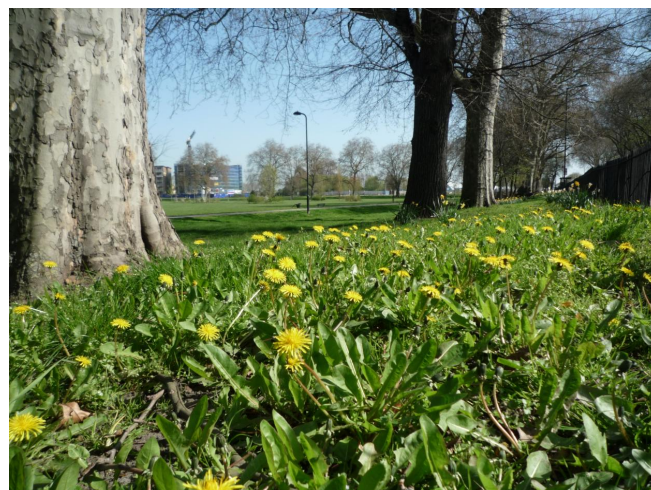
Millfields North looking north-east along footpath from extreme south west of site (sub-compartment 2a)



Millfields North looking north-west towards roughland and plantation habitats in west of site (compartment 1 and 2 viewed from sub compartment 3a)



Dandelions along raised bank under treeline of London plane trees (compartment 3)



Mixed species treeline in Millfields North (sub-compartment 4a with sub-compartment 4e to right)

