

Management Plan: Headstone Manor Recreation Ground

Local Wildlife Site

April 2011 – March 2016

London Borough OF Harrow



March 2011

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1. Description

The site is located west of centre of the London Borough of Harrow, 300 m east of George V Avenue (A404), at national grid coordinates TQ 140 896 (see figure 1). Headstone Lane adjoins the site to the north-west and Headstone Lane London Overground Station is located approximately 800 m to the north. There are entrances into the park from Pinner View to the south, and Headstone Lane to the north.

Most of the park is covered in scattered trees and amenity grassland and is of limited biodiversity value. However, the 2003 Habitat Survey by the Greater London Authority identified five compartments of land within the park as parts of the Headstone Manor Recreation Ground Local Wildlife Site (LWS), recognised in Harrow's Unitary Development Plan as of Local Importance for Nature Conservation. In order to update biodiversity data a habitat survey was undertaken in 2010, by Vickers D & Dobson J. It identified an additional area of land of nature conservation value (Compartment 6). A second 'new' area (Compartment 7) was added in March 2011 which appears to have been wooded for more than 100 years.

Overall, seven composite compartments are now recognised (Figure 2). These are described below:

Moat – Compartment 1 (0.41 ha)

- 1) The moat encloses the old Headstone Manor House which is a Grade 1 Listed Building and virtually all the parcel is included within Headstone Manor Moated Site a Scheduled Ancient Monument (Figure 4).

The moat itself is enclosed by often dense belt of scrub with the occasional trees. Species include abundant English elm and bramble and frequent ash, elder and roses. There are there occasional specimens of hazel, hawthorn, wild cherry, plum, blackthorn, pedunculate oak, grey willow and yew present. A few other, mostly non-native, species occur, e.g. common lime and snowberry. Present too are a number of climbers; ivy is abundant and bittersweet frequent. Much less common are honeysuckle and hop.

On the external (landward) side of the belt of trees and scrub a number of tall herbs and grasses have taken root. This includes frequent cow parsley and the occasional specimens of spear thistle, herb Robert, perennial rye-grass and redshank. Perhaps

most notable amongst the less common species is moth mullien which is a non-native plant species uncommon in Greater London.

The moat is relatively species poor. It has a little common duckweed on the water's surface. Canadian waterweed appears to be the only submergent species; this is now listed as an invasive weed under Schedule 9, Part 2 of the W&CA¹. Marginal species is represented by few small clumps and individuals, e.g. great willowherb, yellow iris, gypsywort and trifid bur-marigold.

Handle – Compartment 2 (0.33 ha)

- 2) This is a relatively open wooded area that surrounds one of the arms of the Yeading Brook which are confluent at Headstone Manor Recreation Ground. The northern tip of the parcel is included within Headstone Manor Moated Site a Scheduled Ancient Monument (Figure 4).

Ash is the most frequent tree. There are also the occasional specimens of Lombardy poplar, weeping and crack willows. A few small trees and shrubs are scattered throughout the area including hawthorn, English elm, Norway maple, spotted laurel, holly, apple, cherry laurel, bramble, elder and whitebeam. Ivy is spreading across the ground and reaching up to the branches of some trees.

Stinging nettle and redshank are major constituents of the ground flora. There are also significant areas of grassland present largely comprising creeping bent and perennial rye-grass. Lesser constituents of the ground flora include creeping thistle, yarrow, garlic mustard, cow parsley, cock's-foot, wood avens, Yorkshire fog and rough meadow-grass.

Parts of the stream banks are covered in the non-native winter heliotrope (as well as ivy and a few other herbs). Aside the water's edges are a few marginal species or those of damp places e.g. pendulous sedge, water mint, great willowherb and gypsywort.

The Wood – Compartment 3 (0.80 ha)

- 3) Woodland characterises this compartment - it is shown as such on the 1864 -1894 Ordnance Survey. There are also some large veteran pedunculate oak trees present. It seems highly likely the woodland is of antiquity and possibly ancient (pre-1600) in origin.

¹ Section 14(2) of the Wildlife & Countryside Act 1981 (as Amended) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9

The woodland canopy is dominated by pedunculate oak. Present too are occasional specimens of ash and, crack willow near the Yeading Brook (which crosses the northern part of the compartment).

The shrub layer comprises frequent field maple, hawthorn, bramble, elder, English elm, and occasional hazel, dogwood, young ash, holly, cherry laurel and blackthorn. Midland hawthorn, hawthorn, rowan and laurustinus are rare constituents of the woodland shrub layer.

The ground flora is dominated by ivy some reaching high into trees. Stinging nettle is abundant. Other frequent components such as cow parsley and ground ivy are present. Less common species include wood avens, bulbous buttercup, lords and ladies, cleavers, bittersweet and black bryony.

A number of plants associated with damp and marginal habitats occur in or beside the Yeading Brook to the north of the area e.g. great willowherb, yellow iris, soft rush, gypsywort and common figwort. Patches of the non-native winter heliotrope are also present.

Yeading Brook – Compartment 4 (0.21 ha)

- 4) This arm of the Yeading Brook is flanked by trees and shrubs and as a result is quite shady. Some of the trees (particularly oak) are of relative antiquity and are depicted on the 1864-1894 Ordnance Survey (Figure 3) and predate the establishment of the recreation ground.

Ash is frequent and pedunculate oak a little less common. All age-classes are represented from saplings to mature specimens. Other trees and shrubs include abundant bramble and English elm, frequent hawthorn. Other less common native tree species include mature wild cherry, crack willow and field maple. There are also a number of rather uncommon native shrubs present such as dog rose, elder, hazel, hybrid hawthorn and blackthorn. More exotic trees and shrubs have also found their way to this location e.g. Norway maple, sycamore, horse chestnut, plum and cherry laurel.

The ground flora in the shadiest parts is limited to ivy, which is dominant, and little else. Where more light penetrates this is joined by abundant stinging nettle, occasional hedge woundwort and bittersweet as well as the odd specimen of herb Robert. At the stream

banks and in wetter areas, marginal plants occur (species depending on light-levels) such as pendulous sedge, great willowherb, gypsywort and trifid bur-marigold.

Path Side (East) - Compartment 5 (0.37 ha)

- 5) This compartment is characterised by an arm of the Yeading Brook flowing between lines of scattered trees with amenity grassland beneath. Some scrub and tall herbs are also present. The southern tip of the parcel is included within Headstone Manor Moated Site a Scheduled Ancient Monument (Figure 4).

Mature and younger oak are frequent as is Leyland cypress to the north. Other species include the occasional silver birch, nootka cypress, apple (ornamental) and ash. There are also the odd specimens of silver maple, hornbeam, Scot's pine, London plane, red oak, crack willow, wellingtonia and rowan. Shrubs e.g. variegated holly, bramble, elder, English elm, hawthorn and hybrid hawthorn occur with the smaller, usually unplanted specimens (often with a covering of ivy) at the compartment's edges particularly next to the Yeading Brook. It is in these generally unkempt places that a number of tall herbs are located including garlic mustard, cow parsley, stinging nettle, spear thistle, broad-leaved dock, bittersweet and hedge mustard. A handful of moisture loving plants are found on the lower parts of the bank such as columbine, male fern and hart's-tongue fern. The water of the brook itself seems devoid of plant life (with the exception algae).

Amenity grassland areas are dominated by perennial rye-grass. Some of the frequently associated forbs are present including daisy, dandelion, white clover and great plantain.

Path Side (West) - Compartment 6 (0.43 ha)

- 6) Principally, this compartment comprises (mostly mature) scattered trees situated over amenity grassland. In the past this has not been included with the Local Wildlife Site but as there is little difference between this and 5 (above) it seems logical to include it. The extreme southern tip of the parcel is included within Headstone Manor Moated Site a Scheduled Ancient Monument (Figure 4).

Mature white willow is frequent. Other species include the occasional horse-chestnut, birch, apple (Japanese ornamental), Scot's pine and London plane. Young trees such as holly, Holm oak, pedunculate oak and common lime are present. Shrubs e.g. bramble, English elm, hawthorn, hybrid hawthorn and blackthorn occur with the smaller, usually unplanted specimens at the compartment's edges with the field to the west. It is in these generally unkempt places that a number of tall herbs are located including stinging nettle, spear thistle, broad-leaved dock, bittersweet and nipplewort.

Amenity grassland areas are dominated by perennial rye-grass. Some of the frequently associated forbs are present including daisy, dandelion and white clover.

Old Parkland - Compartment 7 (0.49 ha)

- 7) The origins of the piece of land are a mystery: it appears on the 1864 -1894 Ordnance Survey (Figure 3). Additionally, it contains a number of old oaks of obvious antiquity the ages of which can be estimated in excess of 200 years. These appear to be maiden oaks (no signs of previous coppicing or pollarding).

Interplanted amongst the oaks are a number of wellingtonia – these are significantly younger and have their origins in the 20th century. Also present are some mature hawthorn which have developed into small trees. Young ash is also present. The odd specimen of holly and elder occur next to larger trees where they are less likely to be cut down.

The ground flora has been subject to rigorous management and appears to be frequently cut. At the time of visit a variety of spring bulbs were prominent including spring crocus, daffodil, snowdrop, Spanish bluebell and (native) bluebell. There is a possibility that the latter species is a relict of earlier times. Joining the bulb flora is a number of dicotyledonous plants associated with shady places. Of note is abundant cow parsley, with occasional lesser celandine and lords and ladies. Ivy has been relegated to one shrub near the road.

In lighter parts of the site amenity grassland is present together with daisy and dandelion – this bears witness to the frequent cutting of any ground flora.

The main public use of this land appears to be dog exercise. Additionally A well trodden path crosses the area adjacent to the south-west boundary.

2. Important features on site

A number of locally important features which are crucial to the management of this site have been identified:

Ancient woodland

- a) Ancient woodland is land that has had a continuous woodland cover since at least 1600 AD. Before this, planting of new woodland was uncommon, so a wood present in 1600 is likely to have developed naturally. In some cases there could be a link with the *wildwood*; the primeval forests which once covered most of Britain after the Ice-age. Once destroyed ancient woodlands cannot be recreated.

Ancient woodland (not converted to plantation) is a rare habitat nationally, regionally and locally: it accounts for only 1.57% (205,000 ha) of the surface area of England, about 1.6% (2,500 ha) of the surface of Greater London and only about 0.4% (20 ha) of the surface area of LB Harrow with most of this occurring in Herriot's, Pear and Weald Woods. Woodland is a London and Harrow LBAP² habitat.

Secondary woodland

- b) The secondary woodland of the site with its array of native and more exotic trees and shrubs is of local significance in Harrow and supports a variety of birds and invertebrates. Woodland (including secondary) is a London and Harrow LBAP habitat.

Old and Veteran trees

- c) Some of the large trees in compartments 3 and 7 are 200+ years in age and are depicted on the 1864-1894 OS map (Figure 3) and quite obviously already well established.

Veteran trees and trees in general are referred to in the UK BAP under 'Parkland; and as Veteran Trees' in the 'Woodland' category of the London and Harrow LBAPs. The inclusion of veteran trees at all levels of the BAP process reflects the importance of this habitat.

Dead wood

- d) Dead wood of all types, but particularly standing is a valuable habitat and asset for a variety of fauna. For example, woodpeckers, nuthatch and treecreeper are often dependent on this resource for foraging and nesting. Additionally, a variety of insects are associated with dead wood and many species of fungi are completely dependent upon it.

² LBAP = Local Biodiversity Action Plan

Dead wood is a Harrow LBAP habitat. This habitat is often lost, particularly in urban areas, when sites are tidied up.

Ivy-clad trees

- e) Ivy is a valuable resource during the autumn and winter months providing a late source of nectar for insects and foraging and shelter for birds at a time of year when deciduous trees are dormant. It is a common misconception that a covering of ivy somehow harms the trunks and branches of trees consequently it is sometimes cut-back or otherwise removed by well-meaning people.

Standing and Running water

- f) Many rivers and streams within Harrow are undergrounded (piped) and there are no large water courses in the borough although tributaries of the Rivers, Brent, Crane and Colne rise in the area and are counted by the Environment Agency (EA) as major rivers. Additionally, many Harrow watercourses flow through concrete channels and as a result are of limited biodiversity value. Only about 0.25% of the borough's surface area is attributed to 'running water' and similarly 0.5% to 'standing water'. Running and standing water are Harrow LBAP habitats.

Birds

- g) A variety of birds are known from the site including a number of London/UK BAP Priority Species and Species of Conservation Concern e.g. song thrush, dunnock, and starling. Additionally, at the Moat (Compartment 1) these species are joined by the kingfisher, which is also a W&CA³, Schedule 1, Part 1 species. The variety of trees and shrubs present prove attractive to small birds, providing places to forage and to nest. The Moat provides habitat for a number of common waterfowl such as mallard and moorhen.

Headstone Manor Moated Site

- h) This is a Scheduled Ancient Monument⁴ is an archaeological feature that the Secretary of State has deemed of national importance – its extent is shown in Figure 4.

³ W&CA = Wildlife and Countryside Act 1981 (& amendments)

⁴ "Scheduling" is one of the ways we protect our archaeological heritage for future generations and is restricted to the most important sites and monuments and is part of the Ancient Monuments and Archaeological Areas Act 1979. Scheduling does not affect freehold title or other interests in the land and although the local Land Charge Registrar records scheduling decisions, it does not create any new right of public access. The scheduling of a monument means that permission, Scheduled Monument Consent, is required for works to the monument. All activities that will change the site above or below ground need consent.

3. Aims and Objectives

Management should:

- reflect species and habitat targets set in the UK and local BAPs
- maintain and enhance the general qualities of existing habitats whilst re-establishing others, appropriate to the site
- promote appreciation of site's biodiversity by the public

This should be achieved via:-

- 1) Maintenance of woodland, particularly the understorey (i.e. shrub to ground layers) to:
 - Introduce structural and habitat diversity to selected areas of woodland
 - Maintain/increase floral (and with it faunal) diversity of woodland
- 2) Maintaining health of old/veteran trees
- 3) Ensuring an adequate quantity of dead wood microhabitats, both standing and fallen
- 4) Encourage stag beetles to use ancient woodland area.
- 5) Maintaining ivy-clad trees and banks wherever it is safe to do so
- 6) Maintaining/improving standing and running water habitats associated with the Yeading Brook and Moat
- 7) The control/eradication of invasive species (listed under Schedule 9 of the W&CA).
- 8) Deterring littering on site and removal of rubbish as and when required
- 9) Improving safety standards and interpretation, to encourage educational use and the biological recording on the site

- 10) Establish type and distribution of bat populations using the site - pipistrelle bats were recorded here during the 1980s⁵ - and encourage greater numbers to use the site (if appropriate)
- 11) Establish type and distribution of bird populations using the site – and encourage (where appropriate) BAP species which are breeding or have the potential to breed
- 12) Protect and enhance the significance of Headstone Manor Moated Site, a nationally important scheduled ancient monument.

⁵ London Ecology Unit, 1989. Nature Conservation in Harrow – Ecology Handbook 13

4. Management Prescription

Recommended Action

Compartment 1

- a) Canadian waterweed must be controlled prior to any cutting-back of the Moat's flanking trees and shrubs (paragraph 'b' below). If it is not, the plant will spread rapidly as light-levels increase. Currently, the amounts of waterweed present are manageable. Mechanical control is recommended here e.g. raking out during spring and summer and composting off site. The Centre for Ecology and Hydrology (CEH) has produced an information sheet on this⁶. To help prevent the re-establishment of the waterweed and provide an alternative habitat for aquatic life, native rigid hornwort (*Ceratophyllum demersum*) should be introduced during the spring of the following year (assuming further mechanical control of the waterweed is not required).

- b) This part of the site is a Scheduled Ancient Monument therefore any work undertaken is subject to approval by English Heritage. It is recommended that shrubs and small trees enclosing the Moat are cut-back and generally tidied up. A line of sight should be possible over to the old manor house. Larger trees can remain *in situ* and the canopy lifted where applicable alternatively younger trees within the current vegetation can be selected and excluded from hedge cutting and allowed to fill this niche; the overall aim should be to produce a dense hedge with a line of trees. This is excellent habitat for both birds and bats. Hedge cutting should take place January to February once every two years on a rotational basis.

- c) As Canadian waterweed is listed under Schedule 9 of the Wildlife and Countryside Act 1981 (and amendments) care must be taken to avoid spreading the plant into other ponds and watercourses. Netting or similar should be placed over water outlets if any work is preceding which might dislodge the plant.

Compartment 3

- d) It is proposed that this wood is developed into a limited access nature reserve possibly in conjunction with the Harrow Nature Conservation Forum. This would facilitate site management and use both as a site of nature conservation value and educational resource for adults.

⁶ Newman, J.R. and Duenas, M.A. (2010) Information Sheet 7: *Elodea canadensis* (Canadian Waterweed). CEH

- e) Cherry laurel should be cut-back to stumps to help diversify ground flora and prevent the plant from spreading. Timber so removed should be stacked in habitat piles together with any natural debris. If necessary the excess brushings should be chipped and used for any footpath work. To prevent regrowth, treatment of cherry laurel stumps with glyphosate herbicide should be considered. However, the Environment Agency's permission must be obtained prior to any work being undertaken - there is a form that needs to be filled in: *Agreement to use herbicides in or near water*⁷
- f) Create small clearings, each of 10-15 m² area, in the woodland shrub layer by coppicing shrubs and young trees between November and February (inclusive). The total area should be no greater than 40 m² (this is about 1/200 the area of the woodland!). Timber so removed should be stacked in habitat piles together with any natural debris. This should help to produce a more diverse structure within the woodland which will benefit birds and ground flora.
- g) Smaller logs should be used to construct loggeries for stag beetles⁸ particularly at the woodland edges (2x in 5 years).

Compartment 4

- h) There should be limited opening up/thinning of the trees and shrubs flanking the southern (allotment) side of the Yeading Brook equivalent to 10 m in every 100 m 3x over 5 years.

Compartment 7

- i) Five small spinneys of thorny shrubs should be established within this compartment. Species should comprise hawthorn (50%), blackthorn (30%), dog rose (15%), and holly (5%). Planting should be quite dense if whips are used e.g. 3 plants/m². Thus, a circular planting bed of five metres diameter would consist of approximately 60 whips.
- j) The present cutting regime for ground flora should be relaxed to allow natural regeneration. However, a three metres wide buffer zone of cut vegetation should remain at the site's perimeter and aside the path to the south-west.

Compartments 2, 3, 5, 6 and 7

- k) Generally, woodland and trees will be maintained via non-intervention over the period of the management plan except in the case of health and safety concerns.

⁷ Form AqHerb01: Agreement to use herbicides in or near water. <http://publications.environment-agency.gov.uk/pdf/GEHO0110BRZI-e-e.pdf>

⁸ English Nature/London Wildlife Trust. Stag Beetle: An advice note for its conservation in London. <http://www.wildlondon.org.uk/LinkClick.aspx?fileticket=5mFAexmixeM%3D&tabid=176&mid=1207&language=en-GB>

- l) Replanting of trees and shrubs can be undertaken as and when the need arises as old trees die and require replacement. Only native replacement trees appropriate to the locality should be planted. Permission from English Heritage must be sought if within or adjacent to Headstone Manor Moated Site, Scheduled Ancient Monument.
- m) Dead wood should remain on site within wooded areas. Standing dead wood (e.g. monoliths) must be considered were safe to retain. Smaller logs should be chipped and taken off site whilst larger trunks and branches can remain *in situ* providing they do not compromise access or health and safety of site users.
- n) Old and veteran trees currently do not require any surgery work. They appear in reasonable condition befitting their age. To ensure continuing health, the trees will need checking on a regular basis (yearly) to make sure that this situation is unchanged.
- o) Ivy should not be cut-back or cleared from banks or trees unless it is likely to cause instability during windy conditions which may lead to tree fall.
- p) In the light of biodiversity surveys (paragraph 't' below) opportunities to supplement bird nesting and bat roosting for BAP /local species may become apparent. Bird and bat boxes should be placed in suitable locations as indicated:

Birds:

- The height above ground is not critical to most species of bird, so long as the box is clear of inquisitive humans and prowling cats.
- It is best to mount a box facing somewhere between south-east and north, to avoid strong direct sunlight and the heaviest rain. The box should be tilted slightly forwards so that the roof may deflect the rain from the entrance.
- Ensure a direct flight-path to the entrance. Squirrels and woodpeckers are a serious threat if using wooden nestboxes; fix a metal plate around the entrance, so that it can not be enlarged.
- Nails or wire may be used to secure boxes. Maintenance is easier if the box is wired and can thus be taken down easily for cleaning/repair.
- The number of nestboxes which can be used depends on the species you are catering for and how territorial it is. The RSPB Bird Guide⁹ gives an indication of how territorial a species is. It is recommended here that the type of nestboxes used corresponds to species list in the London and UK BAPs

⁹ RSPB, Bird Guide. <http://www.rspb.org.uk/wildlife/birdguide/>

Bats:

- Boxes need to be mounted high enough on trees to prevent unscheduled disturbance, vandalism and theft (3-5 m)
- They should be located so as to provide clear approach that is free of overhanging vegetation, but also dark (away from any direct street lighting for example)
- They should be mounted in clusters of two or three, facing various directions (one of which should point due south)
- Bats use boxes externally painted or stained black more frequently than untreated boxes
- Further information of the placement of bat boxes can be obtained from the Bat Conservation Trust (BCT)¹⁰

The use Schwegler woodcrete bird and bat boxes are recommended here

Compartments 1, 2, 3, 4, 5, 6 and 7

- q) Litter should be cleared as and when required. This will make the site appear cared for and less likely to be vandalised or littered.
- r) A 'Nip and Tuck' patrol by Council staff should be conducted on a weekly basis to pick up essential repairs and potential public safety issues
- s) Interpretive signage explaining management, wildlife and other features of interest should be sited at strategic locations aside paths (subject to funding and English Heritage approval).
- t) Local wildlife experts and groups should be encouraged to undertake regular biological survey and monitoring. This could be promoted at Greener Harrow and Harrow Heritage Trust meetings. Bats, reptiles, amphibians and breeding birds are of particular interest. Identification of some invertebrate groups can be particularly difficult; however, some invertebrates which are more readily identifiable (e.g. butterflies) can be recorded. Groups to be involved could include Harrow Natural History Society, Herts. & Middlesex Bat Group, members of the Harrow Nature Conservation Forum and local RSPB. Records should be passed on to Greenspace Information for Greater London (GiGL). Results of the monitoring and surveys should be used to inform future management of biodiversity. Below is a survey calendar suggesting times of year when surveying could take place.

¹⁰ BCT, <http://www.bats.org.uk/>

Table 1: Survey calendar:

	Plants	Bats	Reptiles	Amphibians	Birds
Jan					
Feb					
Mar					
Apr					
May					
Jun					
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					

Five-Year Management Plan: Schedule and Summary of Projects						
Compartment(s)	Project	Priority	Notes	Year(s)	Timing	Para.
1	Control of Canadian waterweed	2	Must be undertaken prior to vegetation works around moat	\$	Spring-summer	4a
	Vegetation works around moat	3	Needs English Heritage Approval	\$	Feb-Mar	4b
	Prevention of Canadian waterweed entering other water-bodies	1	W&CA Schedule 9 invasive plant	1 to 5	as required	4c
3	Develop wood as controlled access nature reserve	2	Possibly in conjunction with HNCF or other interested group	1 to 2	as required	4d
	Cut-back cherry laurel	2	This species is highly invasive	1 to 5	Nov-Feb	4e
	Treatment of cherry laurel stumps with herbicide	2	EA approval required		Mar-Sep	4e
	Create small clearings in wood	2	10-15m ² each - up to 40m ² total	1 to 5	Nov-Feb	4f
	Construct loggeries from suitable dead wood off cuts	2	Stag beetles are a UK and London BAP species	1 to 5	Autumn-winter	4g
4	Limited opening up/thinning of vegetation flanking S-side of area	2	10% removal recommended	1 to 5	Nov-Feb	4h
7	Create 'spinneys' in Parkland	3	Only thorny, native species to be used	2 to 5	Nov-Feb	4i
	Cutting of ground flora limited to site perimeter and footpath to SW	1		1 to 5	as required	4j

2, 3, 5, 6 & 7	Woodland managed by non-intervention except H&S	1		1 to 5	as required	4k
	Planting of replacement trees	3	Native species only. EH approval if near to or within SAM	1 to 5	as required in Nov-Feb	4l
	Retention of deadwood: monoliths, habitats piles & loggeries (compartment 3 only)	1	For stag beetles & other inverts, birds & fungi	1 to 5	ongoing	4m
	Regular inspection of old and veteran trees by tree surgeon	1	Tree surgery if needed	1 to 5	yearly	4n
	Retention of ivy except on H&S grounds (where a tree is becoming unstable in the wind)	1	Ivy is a late source of food & cover for insects & birds	1 to 5	ongoing	4o
	Erection of bird nesting boxes	2	To cater for UK & local BAP species	After bird survey is carried out (see 4x)	Autumn-winter	4p
	Erection of bat roosting boxes	2	To cater for local species	After bat survey is carried out (see 4x)	Autumn-winter	
1, 2, 3, 4, 5, 6, 7	Litter clearance	2		1 to 5	as required	4q
	Site Patrol	1	To pick up potential H&S issues	1 to 5	weekly	4r
	Interpretation	3	Highlighting the sites varied wildlife and history	\$	as required	4s
	Biological Survey	1	Involve local wildlife experts & groups	1 to 5	see Table 2 for suggested survey calendar	4t

Priority:
1=High
2=Medium
3=Low

\$=Will require
external
funding

a/r=as required
EH=English Heritage
SAM=Scheduled Ancient Monument
BAP=Biodiversity Action Plan
HNCF=Harrow Nature Conservation Forum

Maps and plans

Figure 1: Location

Figure 2: Management Compartments

Figure 3: Historic 1864-1894

Figure 4: Scheduled Ancient Monument

Figure 1: Headstone Manor LWS - Location



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Figure 2: Headstone Manor LWS - Management Compartments



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Figure 3: Headstone Manor LWS - Historic 1864-1894



Figure 4: Headstone Manor Moated Site - Scheduled Ancient Monument



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Appendices

Appendix 1: Vascular Plant List (Surveyed 2009)

Appendix 2: Management plan projects: labour and funding

Appendix 1: Vascular Plant List (Surveyed 2009)

Scientific Name	Common Name	Moat 1		Handle 2		Wood 3		Yeading Brook 4		Pathside E 5		Pathside W 6		Old Parkland 7	
		DAFOR	Qual.	DAFOR	Qual.	DAFOR	Qual.	DAFOR	Qual.	DAFOR	Qual.	DAFOR	Qual.	DAFOR	Qual.
VASCULAR PLANTS															
<i>Acer campestre</i>	Field Maple	R				F	YST	R	T						
<i>Acer platanoides</i>	Norway Maple			R	S			O	S						
<i>Acer psuedoplatanus</i>	Sycamore							O	SYT						
<i>Acer saccharinum</i>	Silver Maple									R	T				
<i>Achillea millefolium</i>	Yarrow			O											
<i>Aegropodium podagraria</i>	Ground Elder									O					
<i>Aesculus hippocastanum</i>	Horse-chestnut							O				O	SYT		
<i>Aethusa cynapium</i>	Fool's-parsley											O			
<i>Agrostis stolonifera</i>	Creeping Bent			R	A										
<i>Alliaria petiolata</i>	Garlic Mustard			R	O	O									
<i>Anisantha sterilis</i>	Barren Brome									O					
<i>Anthriscus sylvestris</i>	Cow Parsley	F		O		F		F						F	A
<i>Aquilegia vulgaris</i>	Columbine			R						R	W				
<i>Armoracia rusticana</i>	Horseradish			R											
<i>Arrhenatherum elatius</i>	False-oat Grass					R									O
<i>Artemisia vulgaris</i>	Mugwort									O					
<i>Arum maculatum</i>	Lords and Ladies					R						R			O
<i>Aster sp.</i>	Michaelmas Daisy			R	O			R							
<i>Aucuba japonica</i>	Spotted Laurel			R											
<i>Ballota nigra</i>	Black Horehound									O					O
<i>Bellis perennis</i>	Daisy									O			A		F
<i>Betula pendula</i>	Silver Birch									O	YT	R	R	W	
<i>Betula sp.</i>	Birch											O		Y	
<i>Bidens tripartita</i>	Trifid Bur-marigold			R	W			R							
<i>Brachypodium sylvaticum</i>	False-brome									R					
<i>Callitropsis nootkatensis</i>	Nootka Cypress										O	T			

<i>Calystegia sepium</i>	Hedge Bindweed		O															
<i>Calystegia sp.</i>	Bindweed				O													
<i>Calystegia silvatica</i>	Large Bindweed				O	C												
<i>Carex pendula</i>	Pendulous Sedge				R						O							
<i>Carpinus betulus</i>	Hornbeam																R	T
<i>Chamerion angustifolia</i>	Rosebay Willowherb																	
<i>Chelidonium majus</i>	Greater Celandine																R	
<i>Chenopodium album</i>	Fat Hen					O	C											
<i>Chenopodium ficifolium</i>	Figleaf Goosefoot																	
<i>Cirsium arvense</i>	Creeping thistle			R		F	C										O	
<i>Cirsium vulgare</i>	Spear Thistle			O			C											O
<i>Conyza sumatrensis</i>	Guernsey Fleabane					O		C										
<i>Cornus sp.</i>	Dogwood										O						R	
<i>Corylus avellana</i>	Hazel										O							
<i>Crataegulus laevigata</i>	Midland Hawthorn										R							
<i>Crataegus monogyna</i>	Hawthorn			O		O					F						O	T
<i>Crataegus x macrocarpa</i>	Hybrid Hawthorn					R					R						R	
<i>Crataegus sp.</i>	Hawthorn										R							
<i>Crocus vernus</i>	Spring Crocus																	O
<i>Cymbalaria muralis</i>	Ivy-leaved Toadflax			O														
<i>Cyperus sp.</i>	Cyperus																R	T
<i>Dactylis glomerata</i>	Cock's-foot					O												O
<i>Dipsacus fullonum</i>	Teasel																	
<i>Dryopteris filix-mas</i>	Male Fern																O	W
<i>Elodea canadensis</i>	Canadian Waterweed			F				W										
<i>Epilobium ciliatum</i>	American Willowherb					R												
<i>Epilobium hirsutum</i>	Great Willowherb			O		R					O							
<i>Epilobium montanum</i>	Broad-leaved Willowherb										R							
<i>Epilobium parviflorum</i>	Hoary Willowherb			R														
<i>Fraxinus excelsior</i>	Ash			F		S					F						YT	T
<i>Fuchsia sp.</i>	Fuchsia			R														O
<i>Galanthus nivalis</i>	Snowdrop																	F
<i>Galium aparine</i>	Cleavers										R							
<i>Geranium molle</i>	Dove's-foot Crane's-bill																O	

<i>Geranium robertianum</i>	Herb Robert																									
<i>Geum urbanum</i>	Wood Avens/Herb Bennet		R			O																				
<i>Glechoma hederacea</i>	Ground Ivy						F																			
<i>Hedera helix</i>	Ivy		A			F				D			F													O
<i>Holcus lanatus</i>	Yorkshire Fog					O																				
<i>Hordeum murinum</i>	Wall Barley													O												
<i>Humulus lupulus</i>	Hop		R																							
<i>Hyacinthoides hispanica</i>	Spanish/garden Bluebell																									O
<i>Hyacinthoides non-scripta</i>	Bluebell																									F
<i>Ilex aquifolium</i>	Holly		R			R	S		O																	O
<i>Ilex sp.</i>	Variagated Holly																									
<i>Iris psuadacorus</i>	Yellow Iris		O						O	W																
<i>Iris sp.</i>	Iris					R																				
<i>Juncus effusus</i>	Soft Rush								R	W																
<i>Lactuca serriola</i>	Prickly Lettuce					R																				
<i>Lamium purpureum</i>	Red Dead-nettle													R												
<i>Lapsana communis</i>	Nipplewort					R			R																	R
<i>Lathyrus pratensis</i>	Meadow Vetchling																									
<i>Lemna minor</i>	Common Duckweed		O			R	W																			
<i>Linaria purpurea</i>	Purple Toadflax								R																	
<i>Lolium perenne</i>	Perennial Rye-grass		O			F																		D	C	D
<i>Lonicera periclymenum</i>	Honeysuckle		O																							
<i>Lycopus europaeus</i>	Gypsywort		O			R	W		R	W																
<i>Malus sp.</i>	Apple					R	T																			O
<i>Matricaria recutita</i>	Scented Mayweed					O	C																			
<i>Medicago lupulina</i>	Black Medick					R																				
<i>Mentha aquatica</i>	Water Mint					O																				
<i>Narcissus sp.</i>	Daffodil																									O
<i>Pentaglottis sempervirens</i>	Green Alkanet																									O
<i>Persicaria maculosa</i>	Redshank		O			A			F	R	W													O		
<i>Petasites fragrans</i>	Winter Heliotrope					R			O																	
<i>Phyllitis scolopendrium</i>	Hart's-tongue													R												
<i>Picris echioides</i>	Bristly Oxtongue					R			R																	
<i>Pinus sylvestris</i>	Scots Pine													R												PT

<i>Plantago lanceolata</i>	Ribwort Plantain	R																	
<i>Plantago major</i>	Great Plantain										O								
<i>Platanus x hispanica</i>	London Plane										R	T						O	Y
<i>Poa annua</i>	Annual Meadow-grass					R												F	
<i>Poa trivialis</i>	Rough Meadow-grass					O													
<i>Polygonum aviculare</i>	Knotgrass	R				O												F	
<i>Populus nigra 'italica'</i>	Lombardy Poplar	R	T			R													
<i>Populus sp.</i>	Poplat																	O	ER
<i>Primula sp.</i>	Primrose									R									
<i>Prunus avium</i>	Wild Cherry/Gean	O			S	R							T			YT			
<i>Prunus domestica</i>	Plum	O															O		
<i>Prunus laurocerasus</i>	Cherry Laurel					R				O							R		
<i>Prunus spinosa</i>	Blackthorn	O								O								RY	
<i>Pyracantha sp.</i>	Firethorn	R																	
<i>Quercus ilex</i>	Holm Oak																	R	
<i>Quercus robur</i>	Pedunculate Oak	O			ST			D		SYT						O			
<i>Quercus rubra</i>	Red Oak																	F	T
<i>Quercus sp.</i>	Oak																R		
<i>Ranunculus repens</i>	Creeping Buttercup					F												R	Y
<i>Ranunculus bulbosus</i>	Bulbous Buttercup							O											
<i>Ranunculus ficaria</i>	Lesser Celandine																		F
<i>Rosa canina</i>	Dog Rose	R															O		
<i>Rosa spp.</i>	Roses	F																R	
<i>Rubus fruticosus</i> agg.	Bramble	A				O		F									A	E	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock					O		O									O		
<i>Rubus sp.</i>	Dock							R											
<i>Rumex sanguineus</i>	Wood Dock	R				R													
<i>Salix alba</i>	White Willow																	F	T
<i>Salix cinerea</i>	Grey Willow	O																	
<i>Salix fragilis</i>	Crack Willow	R				O	YT	O		YTW	O					YT	R		T
<i>Salix x sepulcralis</i>	Weeping Willow					O													
<i>Sambucus nigra</i>	Elder	F				R											F		O
<i>Scrophularia nodosa</i>	Common Figwort							R											
<i>Senecio jacobaea</i>	Common Ragwort	R																	

<i>Senecio vulgaris</i>	Groundsel							R											
<i>Silene dioica</i>	Red Campion								O										
<i>Sisymbrium officinale</i>	Hedge Mustard					R		R	R									R	
<i>Sequoiadendron giganteum</i>	Wellingtonia											R							T
<i>Solanum dulcamara</i>	Bittersweet											R							R
<i>Sonchus asper</i>	Spiney Sow-thistle											R							R
<i>Sonchus oleraceus</i>	Smooth Sow-thistle																		R
<i>Sorbus aria</i> agg.	Whitebeam					R													O
<i>Sorbus aucuparia</i>	Rowan							R											T
<i>Stachys sylvatica</i>	Hedge Woundwort								O										
<i>Stellaria media</i>	Chickweed					R													
<i>Symphoricarpus albus</i>	Snowberry																		
<i>Tamus communis</i>	Black Bryony				O			R											
<i>Taraxacum</i> sp.	Dandelion							R											F
<i>Taxus baccata</i>	Yew				O												R		
<i>Tilia x vulgaris</i>	Common Lime				R		Y												
<i>Trifolium repens</i>	White Clover									F									C
<i>Ulmus procera</i>	English Elm				A		S	O											F
<i>Urtica dioica</i>	Stinging Nettle							A											A
<i>Verbascum blattaria</i>	Moth Mullien				R														A
<i>Veronica filiformis</i>	Slender Speedwell																		
<i>Veronica persica</i>	Common Speedwell																		O
<i>Viburnum tinus</i>	Laurustinus																		
<i>x Cupressocyparis leylandii</i>	Leyland Cypress																		F
<i>Veronica persica</i>	Common Speedwell																		F
<i>Viburnum tinus</i>	Laurustinus																		
<i>x Cupressocyparis leylandii</i>	Leyland Cypress																		F
																			TC
																			TC

FAUNA																				
Mammals																				
	Brown Rat				X		X													
	Grey Squirrel				X		X													X
Birds																				
	Blackbird																			
	Blue Tit																			X

Appendix 2: Management plan projects: labour and funding

Compartment(s)	Project	Period	Notes	Delivery Agent	Cost (£)	Funding
1	Control of Canadian waterweed	Spring-summer	Must be undertaken prior to vegetation works around moat	Specialist contractor	5,000 5,000	\$
	Vegetation works around moat	Feb-Mar	Needs English Heritage Approval	Specialist contractor	15,000 15,000	\$
	Prevention of Canadian waterweed entering other water-bodies	as required	W&CA Schedule 9 invasive plant	Specialist contractor	1,000 2,000	LBH
3	Develop wood as controlled access nature reserve	as required	Possibly in conjunction with HNCF or other interested group	HNCF?	500 2,500	LBH
	Cut-back cherry laurel	One off	This species is highly invasive	BTCV	700 700	LBH
	Treatment of cherry laurel stumps with herbicide	Mar-Sep	EA approval required	PRM	400 400	LBH
	Create small clearings in wood	Yearly	10-15m ² each - up to 40m ² total	BTCV	350 1,750	LBH
	Construct loggeries from suitable dead wood off cuts	As required	Stag beetles are a UK and London BAP species	BTCV	350 1,750	LBH
4	Limited opening up/thinning of vegetation flanking S-side of area	Yearly	10% removal recommended	BTCV	700 2,100	LBH

7	Create 'spinneys' in Parkland	One off	Only thorny, native species to be used	BTCV	600 600	LBH
	Cutting of ground flora limited to site perimeter and footpath to SW	as required		PRM	XXXX	LBH
2, 3, 5, 6 & 7	Woodland managed by non-intervention except H&S	as required		PRM	960 4,800	LBH
	Planting of replacement trees	as required in Nov-Feb	Native species only	BTCV Volunteers	600 600	LBH
	Retention of deadwood: monoliths, habitats piles & loggeries (compartment 3 only)	ongoing	For stag beetles & other inverts, birds & fungi	PRM, BTCV & Volunteers	Cost included in other woodland tasks	LBH
	Regular inspection of old and veteran trees by tree surgeon	yearly	Tree surgery if needed	PRM	300 1,500	LBH
	Retention of ivy except on H&S grounds (where a tree is becoming unstable in the wind)	ongoing	Ivy is a late source of food & cover for insects & birds	PRM, BTCV & Volunteers	Cost included in other woodland tasks	LBH
	Erection of bird nesting boxes	One off	To cater for UK & local BAP species 12x boxes	PRM	830 830	LBH
	Erection of bat roosting boxes	One off	To cater for local species 9x boxes	PRM	710 710	LBH
1, 2, 3, 4, 5, 6, 7	Litter clearance	As required		PRM	XXXX	LBH

	Nip and Tuck' patrols and Minor Repairs	Weekly (1 hour/week)	Regular patrols to identify potential problems and maintain a reassuring presence for the public	PRM	1152 5,760	LBH
		Monthly (1 hour/month up to 6 hours/year)	Minor repairs	PRM (playground/handyman team)	300 1,500	LBH
	Interpretation	One off	3 x signs	Biodiversity Officer Contractor	1,500 1,500	\$
	Biological Survey	One off input from Biodiversity Officer	Promotion at Greener Harrow/HHT/HNCF meetings	Biodiversity Officer/GH/HHT/HNCF/HNHS/H&MBG/RSPB	200 200	LBH

Total (£) over 5 Management Plan period

xxxxx

£xxxxx (black type) = one off or cost/year

Cost included in other woodland tasks= e.g. included in woodland/tree maintenance £4,800 contingency fund or BTCV tree works (coppicing & planting)

XXXX = To be filled in by PRM

£xxxxx over the five years period of the Management Plan including £4,800 contingency for tree work and £5,000 and £15,000 and £1,500 subject to gaining external funding (\$)

PRM=Public Realm Maintenance

BTCV=British Trust for Conservation Volunteers

GH=Greener Harrow

HHT=Harrow Heritage Trust

HNCF=Harrow Nature Conservation Forum

LBH=London Borough of Harrow

HNHS=Harrow Natural History Society

H&MBG=Herts. and Middlesex Bat Group

RSPB=Royal Society for the Protection of Birds

NB Some LBH funding might be possible under the Medium Term Financial Strategy as Green Grid/Heritage projects