

Landmark Arts Centre Ecological Impact Assessment

For the Landmark Arts Centre

June 2020



72 Sonning Gardens Hampton
Middlesex
TW12 3PN
T – 020 8979 7810
M – 07813 329396

E - enquiries@salixecology.co.uk

W – www.salixecology.co.uk

Contents

- Executive summary 3**
- 1 Introduction 4**
- 2 Methods..... 1**
- 3 Results 4**
- 4 Species assessment 12**
- 5 Site evaluation 18**
- 6 Proposed development 20**
- 7 Conclusions 23**
- 8 References 24**
- Appendix 1: Vascular plant lists..... 25**
- Appendix 2: Site Photographs..... 28**
- Appendix 3: Relevant legislation 37**
- Appendix 4: Relevant Local Plan Policy 39**

Executive summary

Salix Ecology was commissioned by the Landmark Arts Centre to carry out an Ecological Impact Assessment of the woodland area at the site.

The survey is required to:

- Identify and describe all potentially significant ecological effects associated with the construction of a new pedestrian pathway.
- Set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects.
- Identify how mitigation measures could be secured.
- Identify appropriate enhancement measures.

The site was predominantly a small area of woodland bounded by a hedgerow to the north and a car park to the south. There were a number of mature London plane and Cedar trees with younger trees and shrubs scattered across the site.

The ground flora was relatively species-poor and dominated by cow parsley and green alkanet. There were a number of non-native invasive species including green alkanet and three-cornered garlic as well as a number of non-native shrubs. Small-flowered cranesbill, a London notable plant species was also recorded.

It is likely that a number of protected species are supported at the site including bats and breeding birds.

Subject to appropriate mitigation, the proposed development will have a negligible effect on features of nature conservation importance.

Recommended measures to enhance the site include the control/eradication of non-native invasive species and a cutting regime to reduce the dominance of cow parsley. An additional option is to diversify the boundary hedgerow by planting a range of native species of known native provenance.

1 Introduction

1.1 Background

1.1.1 Salix Ecology was commissioned by the Landmark Arts Centre to carry out an Ecological Impact Assessment of the woodland area at the site. The report author is Paul Losse BSc MSc MCIEEM.

1.1.2 The survey is required to:

- Identify and describe all potentially significant ecological effects associated with the construction of a new pedestrian pathway.
- Set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects.
- Identify how mitigation measures will/could be secured.
- Identify appropriate enhancement measures.

1.2 Scope of report

1.2.1 This report is based on a desktop study, and field survey using standard Phase 1 survey methodology (JNCC, 2010). This approach is designed to identify broad habitat types at a site, to identify the potential of habitats to support protected species, and to assist in providing an overview of the ecological interest of the site.

1.2.2 The assessment follows guidelines produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). It is generally the most widely used and professionally recognised method for Ecological Impact Assessment.

1.3 Site context and status

1.3.1 The Landmark Arts Centre is located in Ferry Road, Teddington TW11 9NN. The site is bounded by Teddington High Street to the north-west, Kingston Road to the north-east and Udney Hall Gardens to the south. The woodland area surveyed (the site) is to the north of the main building. The centroid O.S. grid reference of the site is TQ1660471286. The site area is 0.14 ha in extent. The location of the site is shown in figure 1 below.

1.3.2 The site comprises an area of mixed woodland bounded by a hedgerow, fence and car parking for the Arts Centre and residents of the flats behind the Arts Centre building.

1.3.3 The site is managed by an independent charity, the Landmark Arts Centre Ltd.



Contains OS data © Crown Copyright [and database right] [2020]

Figure 1: Site Location

2 Methods

2.1 Desktop study

- 2.1.1 Information regarding the recent and historical ecological interest within the site and including a 1km buffer around the site was requested from Greenspace Information for Greater London (GiGL). Ecological information includes records of protected and priority species as well as both statutory and non-statutory sites designated for their nature conservation interest.
- 2.1.2 Consideration was given to Habitats and Species of Principal Importance for the Conservation of Biodiversity in England listed under the Natural Environment and Rural Communities (NERC) Act 2006 and those covered by The London Biodiversity Action Plan (<http://www.gigl.org.uk/londons-biodiversity-action-plan/>) and other priority habitats or species (as defined by CIEEM, 2018) that were confirmed to be, or are potentially, present at the site.

2.2 Habitat survey

- 2.2.1 A Phase 1 habitat survey of the site was carried out on the 13 May 2020. Habitats were described following Phase 1 survey methodology (JNCC 2010). The survey was conducted by Paul Losse MSc MCIEEM.
- 2.2.2 Scientific names are given after the first mention of a vascular plant species; thereafter common names only are used. Nomenclature follows Stace (2019) for vascular plant species.

2.3 Preliminary protected species assessment

- 2.3.1 The potential of the site to provide habitat for protected and other priority species which may be affected by the proposed works was assessed from field observations carried out at the same time as the habitat survey, combined with the results of the desktop study.
- 2.3.2 The site was inspected for indications of the presence of protected species, Species of Principal Importance and otherwise notable species as follows:
- Bats - the presence of trees with cracks or holes (such as woodpecker holes), splits or flaking bark and ivy.
 - Western hedgehog *Erinaceus europaeus* - areas with scattered trees, underlying scrub/planted shrubbery, grass-cuttings and fallen leaves which might allow day time summer resting places and winter hibernaculae;
 - Breeding birds – dense scrub, holes in trees and nests from the previous year; male birds in song holding territories; active nest sites and juvenile birds.

- Reptiles – a mixture of vegetation heights, tangled or thorny areas, mosaics, bare patches with plentiful ecotones and good basking places; potential refugia such as composts heaps and rubble piles.
- Amphibians - the presence suitable habitat, ponds, partially exposed tree roots, rotting vegetation, rubble piles and other potential refugia.

2.3.3 These species were selected for further consideration because potentially suitable habitat is present on site (or nearby in the locality) and/or species records retrieved from data trawl were relatively frequent. The likelihood of occurrence was ranked as follows and relies on the current survey and evaluation of existing data:

- **NEGLIGIBLE:** while presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species or species group. No local returns from a data search, surrounding habitat considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known national range for a species,
- **LOW:** on-site habitat of poor to moderate quality for a given species/species group. Few or no returns from data search, but presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc.
- **MODERATE:** on-site habitat of moderate quality, providing most or all of the known key requirements of given species/species group. Has local returns from the data search, within the national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance, and disturbance.
- **HIGH:** on-site habitat of high quality for given a species/species group. Local records provided by desk-top study. Site within/peripheral to a national or regional stronghold. Good quality surrounding habitat and good connectivity.
- **PRESENT:** presence confirmed from the current survey or by recent, confirmed records.

2.2.3 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species should be recommended or where particular precautions need to be taken to minimise the potential impact on these species.

2.3 **Site evaluation**

2.4.1 The site has been evaluated broadly as recommended by standard guidelines (CIEEM 2018). In particular, the assessment of ecological value was made with

reference to criteria such as the following, placed in geographical context (significance from an international level through to site level):

- Any designated sites or features, such as Sites of Local Importance for Conservation, protected trees or important hedgerows.
- Biodiversity value of the habitats, assessed by considering the distribution and status of habitats and species, including issues such as:
 - habitat diversity and connectivity; and
 - plant communities and/or animal groups that are considered typical of valuable natural or semi-natural vegetation;
 - especially species-rich plant or animal communities; and
 - animal populations that are notably large in a wider context
- Presence of animal or plant species that are threatened or in decline in a national, regional or local context.
- Habitats and species of Principal Importance for Biodiversity under Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006.
- Habitats and species included on local Biodiversity Action Plans.
- Habitats that are a material consideration in the planning process under NPPF (e.g. ancient woodland and limestone pavement) and Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006.
- Presence of protected species.

2.4 Limitations

2.4.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

2.4.2 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected species group. It is only valid at the time the survey was carried out. Additional surveys may be recommended if, on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that other protected species may be present.

3 Results

3.1 Desktop study

3.1.1 The following records and information from within the site and a 1Km radius of the site were extracted from a data-search supplied by Greenspace Information for Greater London (GiGL).

Sites of importance for nature conservation

3.1.2 There is one Site of Special Scientific Interest, one Local Nature Reserve, three sites of Metropolitan Importance and two sites of Local Importance for nature conservation within 1km of the site. These are listed in Table 1 below.

Table 1: Sites within 1km of the Landmark Arts Centre

Site ref	Site Name	Summary description
Statutory sites		
	Bushy Park and Home Park SSSI	This site is of national and local importance being a Site of Special Scientific Interest (SSSI). It is of special interest for its nationally important saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities. These features occur within and are supported by the wider habitat mosaic.
	Ham Lands Local Nature Reserve	Ham Lands is an area of infilled gravel pits, some old water meadows and a narrow belt of woodland. The area has developed into a mosaic of different ecological zones. The site is of considerable value for informal recreation and is well used by local people and children. It is also used by local schools and for educational projects by students and nature groups.
Sites of Metropolitan Importance for Nature Conservation		
MO31	River Thames and tidal tributaries	The River Thames and the tidal sections of creeks and rivers which flow into it comprise a number of valuable habitats not found elsewhere in London. The mud-flats, shingle beach, inter-tidal vegetation, islands and river channel itself support many species from freshwater, estuarine and marine communities which are rare in London.
MO83	Ham Lands	See above

Site ref	Site Name	Summary description
MO84	Bushy Park and Home Park	See above
Sites of Local Importance for Nature Conservation		
KiL10	Royal Park Gate Open Space	This public park is next to the River Thames, close to the boundary with Richmond-upon-Thames, in which Borough it continues as Ham Lands.
RiL15	Churchyard of St Mary with St Alban, Teddington	This attractive churchyard is a pleasant blend of formal and semi-natural landscapes.

Protected and Priority species records

- 3.1.3 The following data were supplied by GiGL. It is important to note that, even where data are held, a lack of records for a defined geographical area does not necessarily mean that there is no ecological interest; the area may be simply under-recorded.
- 3.1.4 The species records listed below are those which may be of relevance to the site and is not a comprehensive list of all species listed in the data search report.
- 3.1.5 There are numerous bird records in the immediate vicinity of the site. A list of relevant bird records from the vicinity of the site is in table 2:

Table 2: Relevant bird records

Scientific name	Common name	Status
<i>Acanthis cabaret</i>	Lesser Redpoll	UKBAP, BRed Sect.41
<i>Anthus pratensis</i>	Meadow Pipit	LSOCC
<i>Apus apus</i>	Swift	LSOCC
<i>Columba oenas</i>	Stock Dove	LSOCC
<i>Cuculus canorus</i>	Cuckoo	UKBAP, LBAP, LSOCC, Bred, Sect.41
<i>Delichon urbicum</i>	House Martin	LSOCC
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	LBAP, LSOCC, BRed
<i>Falco tinnunculus</i>	Kestrel	LSOCC
<i>Hirundo rustica</i>	Swallow	LSOCC

Scientific name	Common name	Status
<i>Linaria cannabina</i>	Linnet	LBAP, LSOCC, BRed
<i>Motacilla cinerea</i>	Grey Wagtail	LSOCC, Bred
<i>Muscicapa striata</i>	Spotted Flycatcher	UKBAP, LBAP, LSOCC, Bred, Sect.41
<i>Passer domesticus</i>	House Sparrow	UKBAP, LBAP, LSOCC, Bred, Sect.41
<i>Prunella modularis</i>	Dunnock	LBAP, LSOCC
<i>Pyrrhula pyrrhula</i>	Bullfinch	LBAP
<i>Pyrrhula pyrrhula</i>	Bullfinch	LBAP
<i>Regulus regulus</i>	Goldcrest	LSOCC
<i>Sturnus vulgaris</i>	Starling	LBAP, LSOCC, BRed
<i>Turdus iliacus</i>	Redwing	Bred, WCA1i
<i>Turdus philomelos</i>	Song Thrush	LBAP, LSOCC, BRed
<i>Turdus pilaris</i>	Fieldfare	Bred, WCA1i
<i>Turdus viscivorus</i>	Mistle Thrush	LSOCC, BRed

3.1.6 Several bat records were returned in the data search. Species recorded in the vicinity of the site are listed in table 3:

Table 3: Bat records

Scientific name	Common name	Status
<i>Eptesicus serotinus</i>	Serotine	LBAP, LSOCC, HabRegs2, WCA5
<i>Myotis daubentonii</i>	Daubenton's Bat	LBAP, LSOCC, HabRegs2, WCA5
<i>Myotis nattereri</i>	Natterer's Bat	UKBAP, LBAP, LSOCC, HabRegs2, WCA5
<i>Nyctalus leisleri</i>	Lesser Noctule	LBAP, LSOCC, HabRegs2, WCA5
<i>Nyctalus noctula</i>	Noctule Bat	UKBAP, LBAP, LSOCC, HabRegs2, WCA5, Sect.41
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	LBAP, LSOCC, HabRegs2, WCA5
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	LBAP, HabRegs2, WCA5
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	UKBAP, LBAP, LSOCC, HabRegs2, WCA5, Sect.41
<i>Plecotus auritus</i>	Brown Long-eared Bat	UKBAP, LBAP, LSOCC, HabRegs2, WCA5,

3.1.7 Other species of mammal are listed in table 4 below:

Table 4: Mammal records (excluding bats)

Scientific name	Common name	Status
<i>Erinaceus europaeus</i>	West European Hedgehog	Sect.41, LBAP, LSOCC
<i>Muscardinus avellanarius</i>	Hazel Dormouse	Sect.41, LBAP, LSOCC, UKBAP, HabRegs
<i>Sorex araneus</i>	Eurasian Common Shrew	LSOCC

3.1.8 The only species of reptile recorded was the slow-worm, a species Protected under schedule 5 of the Wildlife and Countryside Act 1981 (as amended), a species of Principle Importance in England, a London Biodiversity Action Plan species and a Local Species of Conservation Concern.

3.1.9 A large number of notable insect species were recorded within the area of search. These included the stag beetle *Lucanus cervus*, a species of Principle Importance in England, a London Biodiversity Action Plan species, a Local Species of Conservation Concern and a Nationally Notable B insect.

3.1.10 The following plants of note were returned from the data search:

Table 5: Plant records

Scientific name	Common name	Status
<i>Centaurea cyanus</i>	Cornflower	Sect.41, UKBAP
<i>Hyoscyamus niger</i>	Henbane	LSOCC, Redlist GB-VU
<i>Lathyrus aphaca</i>	Yellow Vetchling	Nationally scarce, RL GB-VU
<i>Lepidium latifolium</i>	Dittander	Nationally scarce
<i>Potentilla argentea</i>	Hoary Cinquefoil	RLGB.Lr(NT), LSOCC
<i>Rosa obtusifolia</i>	Round-leaved Dog-rose	LSOCC
<i>Salvia verbenaca</i>	Wild Clary	LSOCC
<i>Viscum album</i>	Mistletoe	LSOCC, LBAP

Abbreviations used:

- Bred: Bird Population Status – red. Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- HabRegs2: The Conservation (Natural Habitats, & c.) Regulations 2010 (Schedule 2) European protected species of animals.
- LBAP: London Biodiversity Action Plan Priority species.
- LSOCC: London Species of Conservation Concern. London Biodiversity Partnership listed some 300 species of conservation interest occurring in London
- Nationally scarce: Occurring in 16-100 hectads in Great Britain.
- RLGB.Lr(NT): IUCN (2001) - Lower risk - near threatened. A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
- RL GB-VU: Vulnerable. A taxon is Vulnerable when it is considered to be facing a high risk of extinction in the wild.
- Sect.41: Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England (section 41). Species “of principal importance for the purpose of conserving biodiversity” covered under section 41 (England) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.
- UKBAP: UK Biodiversity Action Plan priority species. The UK List of Priority Species and Habitats contains 1150 species and 65 habitats that have been listed as priorities for conservation action under the UK Biodiversity Action Plan (UK BAP).
- WCA1i: Wildlife and Countryside Act 1981 (Schedule 1 Part 1). Birds which are protected by special penalties at all times.
- WCA5: Protected under schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Animals which are protected from intentional killing or injuring.

3.2 Phase 1 habitat survey

Overview

- 3.2.1 The site was predominantly a small area of woodland bounded by a hedgerow to the north and a car park to the south. A description of the habitats is below with a habitat map is in figure 2 below. A full species list is in appendix 1 and site photographs in appendix 2.

Mixed Woodland

- 3.2.2 Trees making up the canopy were mature London plane *Platanus x hispanica* and cedar of Lebanon *Cedrus libani*. There was one mature beech *Fagus sylvatica* tree, and younger specimens of sweet chestnut *Castanea sativa* and cherry *Prunus avium*. There were also a number of holm oaks *Quercus ilex* scattered across the site. Shrubs included hawthorn *Crataegus monogyna*, cherry laurel *Prunus laurocerasus* and cherry plum *Prunus cerasifera*.
- 3.2.3 The ground flora was dominated by green alkanet *Pentaglottis sempervirens* and cow parsley *Anthriscus sylvestris* in most areas. Other herbs included frequent common nettle *Urtica dioica*, occasional herb Robert *Geranium robertianum*, occasional white dead nettle *Lamium album* and greater celandine *Chelidonium majus*. The non-native invasive species, three-cornered garlic *Allium triquetrum* was recorded in two locations. The grasses were dominated by wall barley *Hordeum murinum* with occasional soft brome *Bromus hordeaceus* and areas of false oat grass *Arrhenatherum elatius*.

Hedgerows

- 3.2.4 There was a perimeter hedge to the north of garden privet *Ligustrum ovalifolium* and a small hedgerow around the parking bays of predominantly Wilson's honeysuckle *Lonicera nitida*.

3.3 Target notes

- 3.3.1 The following features of interest were target noted. Please see the habitat map, figure 4, for target note location.

Table 6: Target notes

Target note Number	O.S. Grid reference	Type	Notes
1	TQ1662671265	Non-native invasive species	Rhododendron
2	TQ1663071266	Non-native invasive species	Holm oak
3	TQ1660871286	London notable species	Small flowered cranes-bill
4	TQ1662471256	Mature tree	Cedar of Lebanon
5	TQ1661971254	Non-native invasive species	Evergreen oak
6	TQ1661671264	Non-native invasive species	Three - cornered garlic

Target note Number	O.S. Grid reference	Type	Notes
7	TQ1662871263	Mature tree	London plane
8	TQ1662171274	Mature tree	London plane
9	TQ1661171276	Mature tree	Cedar of Lebanon
10	TQ1661271286	Mature tree	London plane
11	TQ1660471294	Mature tree	London plane
12	TQ1659971288	Mature tree	Cedar of Lebanon
13	TQ1659271288	Mature tree	Mature beech
14	TQ1658371279	Standing dead tree	Dead cedar
15	TQ1658071272	Mature tree	Cedar of Lebanon
16	TQ1657171276	Mature tree	American red oak
17	TQ1657571275	Non-native invasive species	Cherry laurel
18	TQ1659771297	Mature tree	Wild cherry
19	TQ1660971293	Non-native invasive species	Group of young evergreen oaks and buddleia
20	TQ1661471283	Non-native invasive species	Evergreen oak
21	TQ1658371277	Non-native invasive species	Stand of Three-Cornered garlic
22	TQ1662371269	Non-native invasive species	Evergreen oak
23	TQ1660271267	Non-native invasive species	Cotoneaster

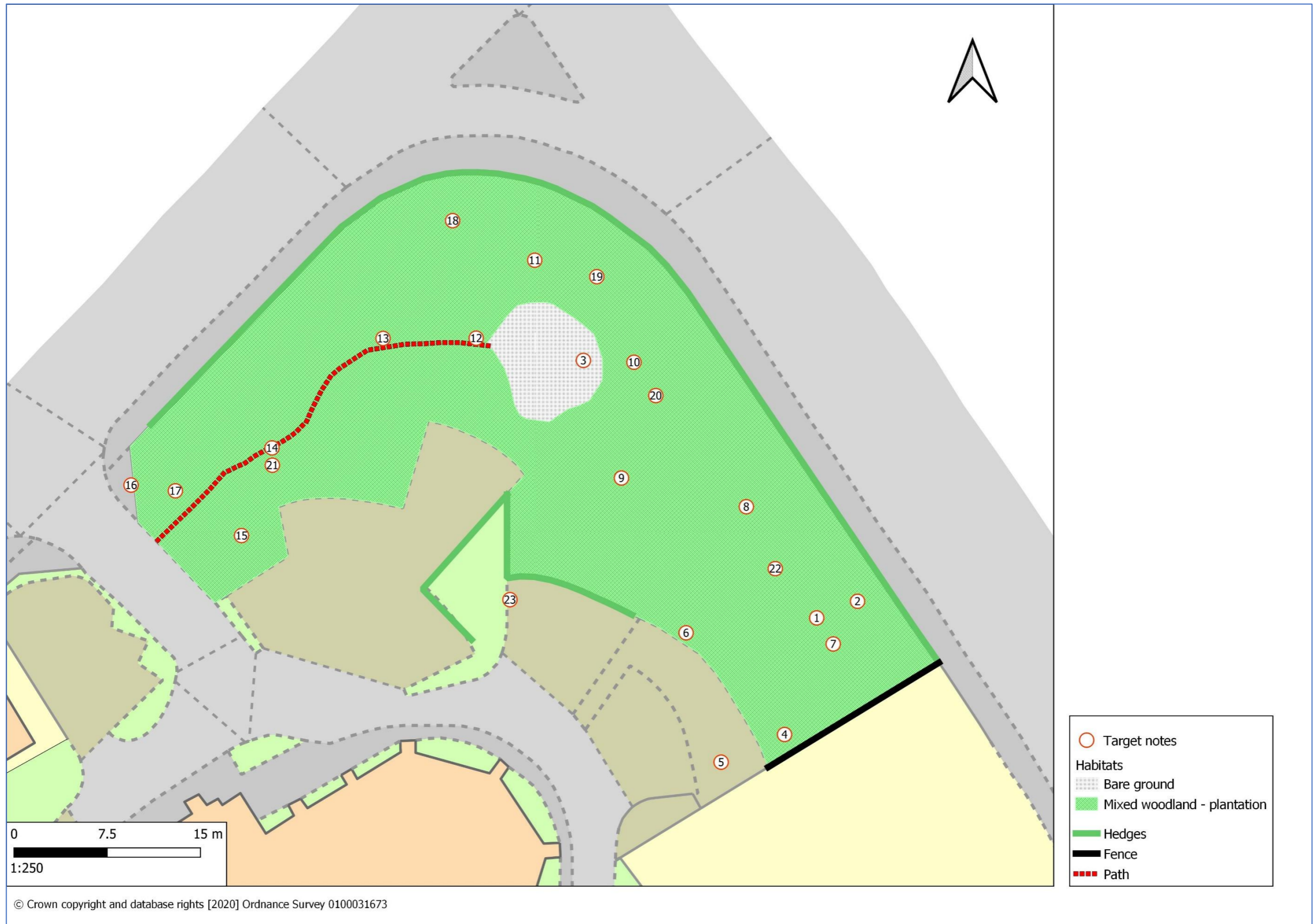


Figure 2: Phase One Habitat Map

4 Species assessment

- 4.1 The habitats at the site were evaluated as to their likelihood to provide sheltering, roosting, nesting and foraging habitat for the following animals
- Bats
 - Hedgehog
 - Breeding birds
 - Reptiles
 - Amphibians
 - Stag beetle
- 4.2 These species were selected for further consideration because the species is present or potentially suitable habitat is present on site (or nearby in the locality) and/or species records retrieved from the GiGL data search were relatively frequent. The results of the field survey, combined with information from the desktop study, are presented in Table 7 below.
- 4.3 Invasive plant species which occur on site and are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and other invasive/potentially invasive species identified by LISI are also listed in table 7.

Table 7: Species assessment

Species	Main legislation/Policy	Areas where presence should be considered	Reasons for consideration	Likelihood of occurrence
Bats	Wildlife and Countryside Act 1981 (as amended). Conservation of Habitats and Species Regulations 2017	Mature trees/buildings	A number of records received from GiGL. Mature trees on site.	Moderate: Some potential roost sites in mature trees and potential foraging habitat on site and at the adjacent Udney Hall Gardens
Western European Hedgehog	Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (as amended)	Across the site	Records received from GiGL. Suitable habitat on site	Moderate: Some suitable habitat on site but the site is relatively isolated with physical barriers to movement to the adjacent Udney Hall Gardens
Breeding birds	Wildlife and Countryside Act 1981 (as amended)	Mature trees and hedgerows	Bird records received from GiGL including several Red Listed species.	HIGH: Opportunities for breeding and foraging
Reptiles	Wildlife and Countryside Act 1981 (as amended)	Areas with a mixture of vegetation heights, tangled or thorny areas, mosaics, bare patches with plentiful ecotones and good basking places	The data search conducted by GiGL failed to identify and records from the site. However, there are suitable habitats on site and good connections to other green spaces.	Low: Some suitable terrestrial habitat for foraging/hibernating but poor connections to other green spaces.

Species	Main legislation/Policy	Areas where presence should be considered	Reasons for consideration	Likelihood of occurrence
Amphibians including great crested newt (GCN)	Wildlife and Countryside Act 1981 (as amended) Conservation of Habitats and Species Regulations 2010 (GCN only)	Vegetation and other suitable refuges Terrestrial habitat	Records of common frog <i>Rana temporaria</i> received from GiGL	Negligible: Some suitable terrestrial habitat for foraging/hibernating but no nearby wetland areas or connections to other green spaces.
Stag Beetle	Wildlife and Countryside Act 1981 (as amended) Schedule 5	Rotting tree stumps of deciduous trees	Records received from GiGL close to the site	Low: Little suitable decay wood habitat on site.
Small-flowered Crane's-bill	London notable species	Whole site	Species recorded on site	Present
Invasive Species				
Butterfly-bush	London Invasive Species Initiative (LISI) Category 3: Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate.	Whole site	Species recorded on site	Present

Species	Main legislation/Policy	Areas where presence should be considered	Reasons for consideration	Likelihood of occurrence
Evergreen oak	London Invasive Species Initiative (LISI) Category 5: Species for which insufficient data or evidence was available from those present to be able to prioritise.	Whole site	Species recorded on site	Present
Rhododendron	Wildlife and Countryside Act 1984 (as amended). Listed on schedule 9 London Invasive Species Initiative (LISI) Category 2: Species of high impact or concern present at specific sites that require attention (control, management, eradication etc).	Whole site	Species recorded on site	Present

Species	Main legislation/Policy	Areas where presence should be considered	Reasons for consideration	Likelihood of occurrence
Three - cornered garlic	<p>Wildlife and Countryside Act 1984 (as amended). Listed on schedule 9</p> <p>London Invasive Species Initiative (LISI) Category 4: Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required.</p>	Whole site	Species recorded on site	Present
Cherry laurel	London Invasive Species Initiative (LISI) Category 3: Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate	Whole site	Species recorded on site	Present

Species	Main legislation/Policy	Areas where presence should be considered	Reasons for consideration	Likelihood of occurrence
Cotoneaster	<p>Wildlife and Countryside Act 1984 (as amended). Listed on schedule 9.</p> <p>London Invasive Species Initiative (LISI) Category 2: Species of high impact or concern present at specific sites that require attention (control, management, eradication etc).</p>	Whole site	Species recorded on site	Present
Green alkanet	London Invasive Species Initiative (LISI) Category 6: Species that were not currently considered to pose a threat or have the potential to cause problems in London.	Whole site	Species recorded on site	Present

5 Site evaluation

5.1 Introduction

- 4.1.1 The value or potential value of an ecological resource or feature on site (i.e. habitats and species) is evaluated following standard guidance on ecological impact assessment published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

5.2 Geographical frame of reference

- 4.2.1 The following geographical frame of reference is used:

- International
- UK
- National (England)
- Regional
- County
- District

5.3 Ecological features

Features of International Value:

- 5.3.1 Primarily these are sites covered by international legislation or conventions, such as those sites designated under the Habitats Regulations which implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive). Examples include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites which are designated for habitats and / or important populations of species.
- 5.3.2 The site does not support any features of international value.
- 5.3.3 Bushy Park and Home Park Site of Special Scientific Interest is approximately 1km to the south.

Features of National value:

- 5.3.4 These include statutory sites such as SSSIs which are designated under the Wildlife and Countryside Act 1981 (as amended).
- 5.3.5 None of the habitats or populations or assemblages of species present, or likely to be present, would necessitate designation at the national level using appropriate criteria e.g.: Guidelines for selection of biological SSSIs (JNCC, 1989 (rev. 1998)). National legislation provides protection to a number of species (in addition to those covered by international legislation) e.g. bats and breeding birds. While such species may be present, the population of any one species is unlikely to be of national importance in terms of diversity, size or rarity. Species likely to be present or which have the potential to use the site including species of bat and the European hedgehog are species of Principal Importance for the purpose of conserving biodiversity. All species

of bat and are protected under the Habitats regulations (2017) and the Wildlife and Countryside act 1981 (as amended).

Features of County (i.e. Greater London) Value

- 5.3.6 The site does not support any of the London regional Biodiversity Action Plan habitats. The site supported one London notable plant, small-flowered cranes-bill *Geranium pusillum*. 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).

Features of District (London Borough of Richmond) Value:

- 5.3.7 The site does not support any London Borough of Richmond Upon Thames Biodiversity Action Plan habitats.
- 5.3.8 The site has high to support the European hedgehog, species of bat and breeding birds such as the house sparrow which are Richmond Biodiversity Action Plan species.

Non-native invasive species

- 5.3.9 There were a number of non-native invasive species recorded on site. Green alkanet *Pentaglottis sempervirens* was particularly dominant and is likely to be having an impact on native flora. In addition, three-cornered garlic *Allium triquetrum* and a species of cotoneaster *Cotoneaster sp* were recorded. These are both species listed on schedule 9 of the Wildlife and Countryside Act 1984 (as amended). Schedule 9 lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats. It is an offence to release these species into the wild. These species should therefore be a priority for control.
- 5.3.10 None of the other non-native invasive species recorded currently pose a high risk to features of nature conservation importance, however removal/control would prevent future problems.

6 Proposed development

6.1 Proposal

The proposal is to install a new pedestrian pathway from the Ferry Road entrance to the main site entrance to ensure that pedestrians do not have to use the vehicular access. A plan of the proposals is in figure 3 below

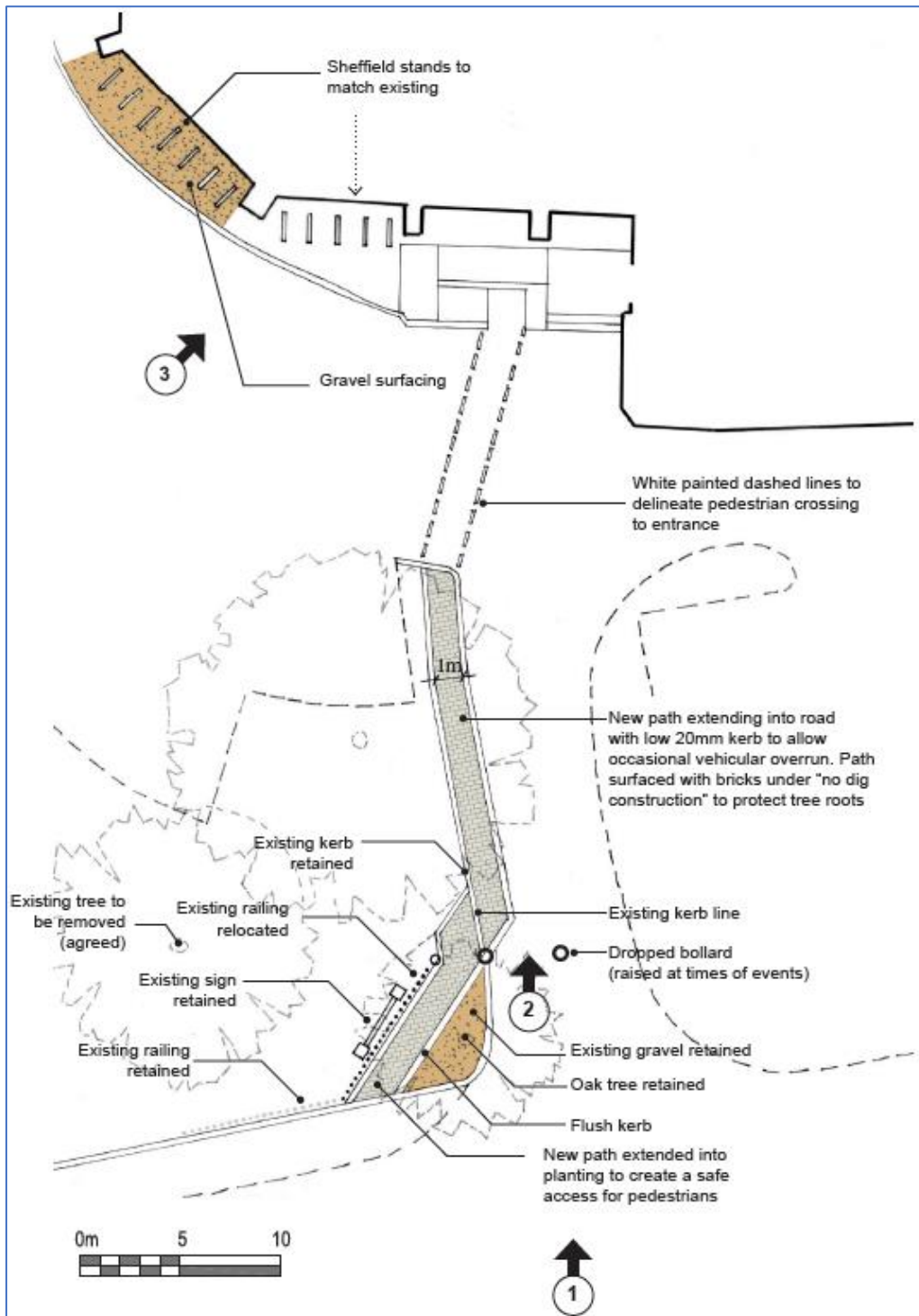


Figure 3: Pedestrian route proposals. After Outerspace plans

6.2 Assessment of effects and mitigation measures

6.2.1 The proposed path is 1m wide and will occupy an area of approximately 7.7m² within the semi-natural area of the site. This equates to approximately 0.6% of the woodland area. The vegetation to be removed is of negligible interest for nature conservation.

6.3 Mitigation

6.3.1 To minimise any impacts of the development, the following measures are recommended:

- Do not store any materials on semi-natural areas
- To prevent soil compaction, vehicles should keep to areas of hardstanding and should not be driven over semi-natural areas
- Vegetation removal should only be carried out outside the bird breeding season i.e. March to August inclusive.

6.4 Compensation

6.4.1 Due to the negligible ecological effects of the scheme, no compensation is deemed necessary.

6.5 Enhancement

6.5.1 The following measures are recommended over and above mitigation outlined above.

6.5.2 The priority is to control the non-native plant, green alkanet. The species has deep tap roots and is likely to be difficult to control by cutting. Digging roots out is likely to be effective, however this would be a very labour-intensive solution and the resultant ground disturbance provides conditions for further spread of the species. It is therefore recommended that a post-emergent herbicide, such as glyphosate, is used by wiping leaves early in the season. The London Borough of Richmond integrated weed management policy (London Borough of Richmond, 2019) allows for chemical methods of weed control if necessary.

6.5.3 Three-cornered leek should also be controlled as a matter of priority. As the cover of this species is less extensive at the site, control is likely to be most effective by digging out bulbs. Note that this species is controlled waste and should be disposed of at a licenced landfill site.

6.5.4 Although other species are less of a threat to the biodiversity of the site, it is recommended that the following are removed to prevent problems in the future:

- Butterfly-bush *Buddleja davidii*
- Evergreen oak *Quercus ilex*
- Rhododendron *Rhododendron ponticum*
- Cherry laurel *Prunus laurocerasus*
- Cotoneaster *Cotoneaster* sp

- 6.5.5 To reduce the abundance of cow parsley, the site should be managed by cutting three or more times per year, preferably with one cut prior to the onset of flowering, at least in the short term, to bring the species under control. The species increases in abundance at higher nitrogen levels where cutting is infrequent (Crofts and Jefferson, 1999). Some areas (10-20% of the site) should be left uncut to leave some flowering plants for pollinating insects.
- 6.5.6 All cuttings should be collected and, ideally composted.
- 6.5.7 The hedgerow running along the southern boundary could be diversified by replacing some of the garden privet with a range of native species. Any proposed hedgerow planting should be with native species of known UK provenance, not cultivated varieties. Recommended species include hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, field maple *Acer campestre*, hornbeam *Carpinus betulus*, guelder rose *Viburnum opulus*, dogwood *Cornus sanguinea*, spindle *Euonymus europaeus* and dog rose *Rosa canina*. Planting should be between November and March, i.e. not during the drier months, in weed free soil, incorporating suitable compost. The base of the hedge should be protected from competing weeds using a hedgeline mulch.
- 6.5.8 To increase its biodiversity value, the aim should be to develop a large dense hedgerow which is lightly trimmed only i.e. once every three years.
- 6.5.9 All mature trees should be retained, however no further tree, shrub or other planting is recommended.
- 6.5.10 Any scrub control, or woodland work should be carried out outside the bird breeding season (March to August inclusive).

7 Conclusions

- 7.1 The site supports a number of notable mature trees such as the London plane's and Cedar of Lebanon which have intrinsic value. They may also support breeding birds and bats.
- 7.2 The ground flora was relatively species-poor and dominated by cow parsley and the non-native green alkanet which is a threat to the native flora of the site. There were also a number of other non-native species which should, ideally, be controlled.
- 7.3 As the site is relatively open, the ecological value of the ground flora on site may be enhanced by the removal of non-native invasive species and introduction of a cutting regime to control the spread of cow parsley and coarse grasses which will tend to dominate the ground flora.
- 7.4 The installation of a pedestrian pathway will have a negligible effect on features of nature conservation interest, subject to suitable mitigation outlined above.

8 References

Burton R. M., 1983. *Flora of the London Area*. LNHS

CIEEM, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester. <https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf> Site accessed 1/6/2020.

Crofts A & Jefferson R G (eds) (1999). *Lowland Grassland Management Handbook*. 2nd Edition, English Nature/The Wildlife Trusts

JNCC, 2010. *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council. Reprinted by Joint Nature Conservation Committee, Peterborough.

London Borough of Richmond Upon Thames (2019) Draft Integrated Weed Management Policy for Parks and Open Spaces.

London Invasive Species Initiative, 2013. Species of Concern. Available from: <http://londonisi.org.uk/lisp/> Site accessed 09-04-2019.

Stace, C.A., 2019. *New Flora of the British Isles* (4th Ed.). C & M Floristics.

Appendix 1: Vascular plant lists

Vascular plant species list

Relative abundance (DAFOR):

D: Dominant; A: Abundant; F: Frequent; O: Occasional; R: Rare

Qualifiers: T - mature tree, Y - young tree, S - seedling or sapling, W - wet area or hollows, D - dry area or high places, C – clumped, G - throw out or escape, P – planted E – edge, F – footpath, ? - identity uncertain, * - see notes

Taxon	Common name	Abundance	Qualifier
<i>Acer pseudoplatanus</i>	Sycamore	O	S, T
<i>Aesculus hippocastanum</i>	Horse-chestnut	R	S
<i>Alliaria petiolata</i>	Garlic Mustard	F	C
<i>Allium triquetrum</i>	Three-cornered garlic	O	C
<i>Anisantha sterilis</i>	Barren Brome	F	
<i>Anthriscus sylvestris</i>	Cow Parsley	A	
<i>Arrhenatherum elatius</i>	False Oat-grass	F	C
<i>Berberis</i>	Barberry	R	
<i>Berberis thunbergii</i>	Thunberg's barberry	R	
<i>Bromus hordeaceus</i>	Soft Brome	O	
<i>Buddleja davidii</i>	Butterfly-bush	R	
<i>Castanea sativa</i>	Sweet Chestnut	O	Y
<i>Cedrus libani</i>	Cedar-of-Lebanon	O	T
<i>Chelidonium majus</i>	Greater Celandine	O	
<i>Chenopodium</i>	Goosefoot	A	
<i>Cotoneaster horizontalis</i>	A cotoneaster	R	
<i>Crataegus monogyna</i>	Hawthorn	R	
<i>Euphorbia characias</i>	Large Mediterranean spurge	R	
<i>Fagus sylvatica</i>	Beech	R	T
<i>Galium aparine</i>	Cleavers	F	
<i>Geranium molle</i>	Dove's-foot Crane's-bill	R	
<i>Geranium pusillum</i>	Small-flowered Crane's-bill	R	
<i>Geranium robertianum</i>	Herb-Robert	O	
<i>Hedera helix</i>	Ivy	F	
<i>Hordeum murinum</i>	Wall Barley	A	
<i>Hyacinthoides x massartiana</i>	Hybrid blue bell	O	
<i>Ilex aquifolium</i>	Holly	R	
<i>Lamium album</i>	White Dead-nettle	F	
<i>Lamium purpureum</i>	Red Dead-nettle	O	
<i>Laurus nobilis</i>	Bay	R	
<i>Ligustrum ovalifolium</i>	Garden Privet	F	
<i>Lonicera nitida</i>	Wilson's honeysuckle	F	
<i>Myosotis sylvatica</i>	Wood forget-me-not	R	
<i>Pentaglottis sempervirens</i>	Green Alkanet	A	
<i>Platanus x hispanica</i>	London Plane	O	T
<i>Prunus avium</i>	Wild Cherry	R	T, Y
<i>Prunus cerasifera</i>	Cherry Plum	O	
<i>Prunus laurocerasus</i>	Cherry Laurel	R	
<i>Quercus ilex</i>	Evergreen Oak	R	Y
<i>Quercus rubra</i>	Red Oak	R	T
<i>Ranunculus repens</i>	Creeping Buttercup	R	
<i>Rhododendron ponticum</i>	Rhododendron	O	
<i>Rubus fruticosus agg.</i>	Bramble	F	
<i>Sambucus nigra</i>	Elder	R	

Taxon	Common name	Abundance	Qualifier
<i>Sisymbrium officinale</i>	Hedge Mustard	R	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	O	
<i>Stellaria media</i>	Common Chickweed	O	
<i>Ulmus glabra</i>	Wych Elm	R	S
<i>Urtica dioica</i>	Common Nettle	F	

Appendix 2: Site Photographs



Photo 1: Ground flora dominated by cow parsley and green alkanet



Photo 2: Mature London plane tree



Photo 3: *Mature Cedar*

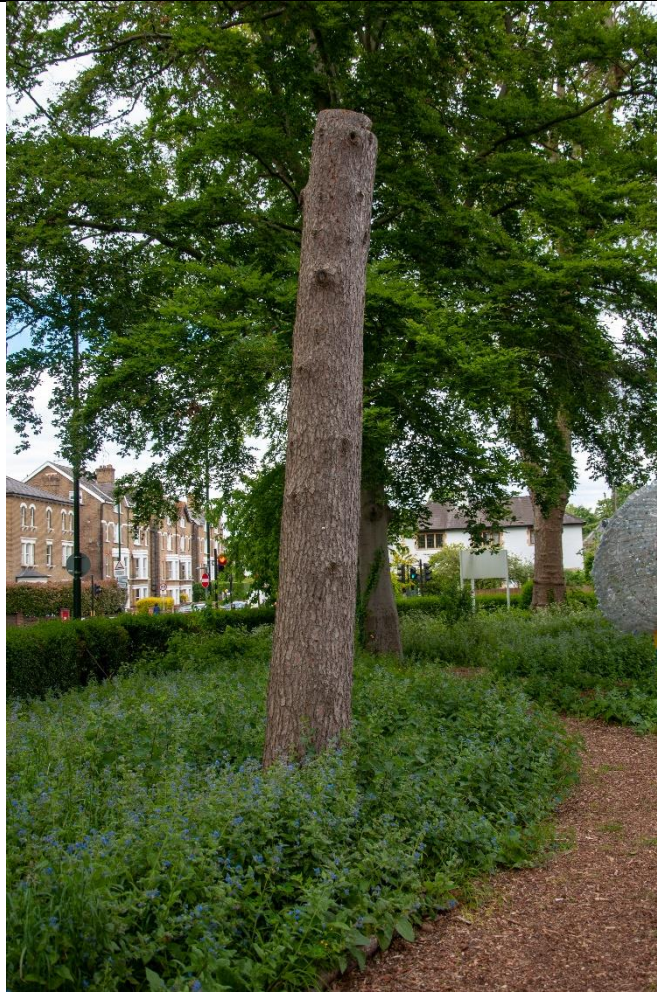


Photo 4: *Standing dead wood*



Photo 5: *Three-cornered garlic. A non-native invasive species*



Photo 6: *Cherry laurel. A non-native invasive species*



Photo 7: *A cotoneaster. A non-native invasive species*



Photo 8: *Holm oak*. A non-native invasive species

Appendix 3: Relevant legislation

Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England

Species “of principal importance for the purpose of conserving biodiversity” covered under section 41 (England) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

Nesting Bird Legislation

In the UK all birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended), and it is thus an offence (with certain exceptions) to:

- intentionally kill, injure or take any wild bird
- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built
- intentionally take or destroy the egg of any wild bird
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954
- use traps or similar items to kill, injure or take wild birds
- have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations (see Schedules)
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Committing an offence under the Wildlife and Countryside Act (in respect of a single bird, nest or egg) can result in a fine of up to £5,000, and/or six months imprisonment.

Birds listed under Schedule 1 of the Wildlife and Countryside Act (as amended) receive special protection. It is an offence to intentionally or recklessly disturb these species at, on or near an 'active' nest.

Bat legislation

Bats are protected under the Wildlife and Countryside Act (as amended) as well as the Conservation (Natural Habitats &c.) Regulations (2010). It is an offence to:

- Deliberately capture, injure or kill a bat
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost

Appendix 4: Relevant Local Plan Policy

Policy LP 15

Biodiversity

A. The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats. Weighted priority in terms of their importance will be afforded to protected species and priority species and habitats including National Nature Reserves, Sites of Special Scientific Interest (SSSI) and Other Sites of Nature Importance as set out in the Biodiversity Strategy for England, and the London and Richmond upon Thames Biodiversity Action Plans. This will be achieved by:

1. protecting biodiversity in, and adjacent to, the borough's designated sites for biodiversity and nature conservation importance (including buffer zones), as well as other existing habitats and features of biodiversity value;
2. supporting enhancements to biodiversity;
3. incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate; major developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible;
4. ensuring new biodiversity features or habitats connect to the wider ecological and green infrastructure networks and complement surrounding habitats;
5. enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise; and
6. maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.

B. Where development would impact on species or a habitat, especially where identified in the relevant Biodiversity Action Plan at London or local level, or the Biodiversity Strategy for England, the potential harm should:

1. firstly be avoided (the applicant has to demonstrate that there is no alternative site with less harmful impacts),
2. secondly be adequately mitigated; or
3. as a last resort, appropriately compensated for.