

TFL_PSF_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE NORTH EALING CAR PARK, NORTH EALING STATION, W5 3AF

Ecological Assessment

FEBRUARY 2019

North Ealing Car Park, North Ealing Station W5 3AF

Ecological Assessment

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1 INTRODUCTION

1.1 Background

Arcadis Consulting (UK) Limited (Arcadis) was commissioned by Transport for London (TfL) to undertake a technical assessment to support the feasibility for potential development at Land at North Ealing Car Park, Ealing, W5 3AF hereafter referred to as “the Site”.

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the Small Sites Initiative is to provide robust and pragmatic advice that sensibly de-risks each of the sites such that unreasonable “abnormal” development costs are not incurred by developers.

The objective of this report is to identify potential ecological development constraints due to current ecological conditions on site as based on the findings of a desk study and ecological constraints survey. The report outlines the ecological constraints associated with the Site with regard to biodiversity legislation and policy and provides advice on mitigation and enhancement opportunities, including requirement for any further assessment or licensing, if necessary.

1.2 Site Location & Setting

The Site is located north of Queen’s Drive in the London Borough of Ealing. The Site is centred at grid reference TQ 18857 81321, around the postcode of W5 3AF.

The Site is approximately 0.16ha in area. The site largely comprised hardstanding, with a narrow strip (approximately 1m) of bare ground/ short ephemeral vegetation on the perimeter.

The immediate surrounding area to the north/ west is residential and is characterised by semi-detached/ terraced housing. An underground railway line is located immediately to the east of site, with further residential properties beyond. To the immediate south-west of the Site is a train station with a supermarket and school beyond.

The Site boundary for assessment is presented in Figure 2, presented at the end of this report.

2 METHODOLOGY

2.1 Desk Study

Desk-based ecological information was collated from multiple sources.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website¹ and other Natural England and Forestry Commission datasets were used to search for any statutory or non-statutory designated sites of nature conservation importance within a specific radius of the Site boundary, as follows:

- Special Protection Areas (SPAs) or Ramsar Sites designated for their bird and wetland habitat interests (5km radius);
- Special Areas of Conservation (SACs) (5km radius);
- Sites of Special Scientific Interest (SSSIs) and all other statutory designated sites (2km radius);
- National Nature Reserves (NNR) (2km radius);
- Local Nature Reserves (LNR) (2km radius);
- Woodlands registered on the Ancient Woodland Inventory (AWI) (2km radius); and
- Tree Protection Orders (TPO) (100m radius).

Records of protected or otherwise notable species of conservation concern (that the Site has the potential to support) located 1km of the Site boundary were obtained from the following sources:

- Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006 Species of Principle Importance in England²;
- National Biodiversity Network Atlas³ only records within licences OGL and CC-BY were used within this report; and
- London Biodiversity Action Plan⁴.

Waterbodies located within 250m of the Site identified from Ordnance Survey mapping were assessed through aerial imagery with regards to their connectivity to the Site and their potential suitability for supporting a population of breeding great crested newts (*Triturus cristatus*).

2.2 Field Survey

This survey was conducted by Charlotte Long (Consultant, GradCIEEM) and assisted by Kailey O'Brien (graduate Ecologist, pending CIEEM) in February 2019. Habitats were classified according to their JNCC Phase 1 habitat categories (JNCC 2010)⁵ and are presented on Figure 2. Plants names in this report follow Stace (2010)⁶.

2.3 Limitations and Expectations

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This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time. Consequently, there is a potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be responsible.

¹ MAGIC (2002). MAGIC Map Search. [online] Available at <http://magic.defra.gov.uk> [Accessed February 2019]

² NERC Act (2006) Section 41 Species <http://www.nhm.ac.uk/our-science/data/uk-species/checklists/NHMSYS0020515439/index.html>

³ National Biodiversity Network <https://nbn.org.uk/> [Accessed February 2019]

⁴ London BAP (Reviewed 2007) <http://www.gigl.org.uk/london-bap-priority-species/> [Accessed February 2019]

⁵ Joint Nature Conservation Committee (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit*

⁶ Stace, C. (2010). *New Flora of the British Isles Third Edition*. Cambridge University Press

The survey was undertaken in February, at a time when the majority of floral species would not be in flower and as such may be more difficult to identify. However, it is acknowledged that the survey does not intend to provide an exhaustive species list.

3 SURVEY RESULTS

3.1 Reporting Outline

The results of the desk study and ecological constraints survey are described below, with Sites or features of particular nature conservation interest detailed as appropriate.

Supporting information to be read in conjunction with the results and subsequent discussion are as follows:

- Figure 1: North Ealing Car Park designated sites, presented at the end of this report;
- Figure 2: North Ealing Car Park extended Phase 1 Habitat survey drawing with Target Notes, presented at the end of this report;
- Table 1: Ecological Constraints and Mitigation Summary Table in Section 6 of this report; and
- Table 2: Site photographs, presented at the end of this report.

Only information potentially relevant to the development of the Site is included within the report other information is appended as follows:

- Appendix A: Desk Study Results;
- Appendix B: Bat Habitat Suitability Assessment and London Bat Population Status; and
- Appendix C: Selected Legislation, Nature Conservation Status and Policy.

3.2 Desk Study Results

Only desk study results that are potentially relevant to the Site are presented within the report. Detailed status and protections conferred by the relevant designations below are presented in Appendix A, with site locations on Figure 1. It is considered unlikely that there will significant impacts to designated sites; however, once the details of the development are known the potential impacts/constraints will be reassessed. The relevant Site information is summarised below.

- There were no designated sites within or directly adjacent to the Site. The closest designated site was Fox-Wood located 0.9km to the north-west of the Site. It is considered unlikely that there will be significant direct impacts to designated sites; however, assessment of any indirect impacts will depend on the details of the proposed development; The trees immediately adjacent to the south-eastern boundary of the Site are covered by a Tree Protection Order;
- There was one bird record; common swift (*Apus apus*) present within 1km of the Site;
- There were no relevant records of protected or notable bats, amphibians, reptiles or of badger (*Meles meles*); and
- There were records of Japanese Knotweed (*Fallopia japonica*) within 1km of the Site.

3.3 Site Overview

The Site was publicly accessible and predominantly hard standing. There was a border, approximately 1m wide, that comprised bare ground with small areas of Green Alkanet (*Pentaglottis sempervirens*). The north-western boundary of the Site comprised artificial turf. Residential gardens adjacent to the north-western boundary contained trees mainly conifers. A single Butterfly-bush (*Buddleja davidii*) was identified adjacent to the western site boundary.

3.4 Habitats

Phase 1 habitat categories and descriptions of these habitats are presented below, and the locations of these habitats are presented in Figure 2. Photographs are presented in Table 2- Site Photographs.

- **Hardstanding:** The Site comprised predominantly hardstanding.
- **Introduced shrubs:** Introduced (non-native) shrubs were present adjacent to site.
- **Bare ground:** Bare ground was present around the perimeter of Site.

- **Ephemeral:** The Site had two patches of ephemeral habitat located on the northern and southern boundaries. Green Alkanet, Dandelion (*Taraxacum* sp.), Ribwort plantain (*Plantago lanceolata*), Toadflax species (*Linaria* sp.) and Ivy-leaved speedwell (*Veronica hederifolia*) were present in these areas.

3.5 Protected and Notable Species

The Site doesn't offer any potential to support protected or notable species. Habitat adjacent to site has the potential to support the following:

- **Nesting Birds:** There was potential for nesting birds to be utilising the trees adjacent to the Site, including species listed on the London BAP and Priority Species S41 such as house sparrow (*Passer domesticus*) and dunnock (*Prunella Modularis*);
- **Other mammals:** The Site is likely to be used by mammals, fox (*Vulpes vulpes*) and hedgehog (*Erinaceus europaeus*) as a commuting route.

The Site offered no suitable habitat for badgers, reptiles or amphibians. There are no ponds within 250m of the Site, therefore the presence of great crested newts is highly unlikely.

3.6 Invasive Species

On Site, no invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the survey. However, Green Alkanet a non-native invasive species listed on London Invasive Species Initiative (LISI) (see Target Note 1 in Figure 2) was recorded on Site and Butterfly-bush another species listed on the LISI, was identified adjacent to Site.

4 POTENTIAL ECOLOGICAL CONSTRAINTS

The potential ecological constraints and associated further works including mitigation is briefly presented below, further detail is presented in Table A in Section 6.

4.1 Habitats / Invasive Species

The habitats on Site were assessed as having no value as green infrastructure value with no potential to support protected or notable floral species.

There will be some ecological benefit from the removal of non-native invasive species listed on LISI, present within and adjacent to the Site, in this case Butterfly-bush and Green Alkanet. There is no legal obligation to control the LISI species or to remove them as controlled waste, but it is good practice to remove them and to avoid their spread.

An ecologist and arboriculturist should contribute to the evolution of any development and landscaping design for the Sites to advise upon the provision of appropriate green infrastructure.

4.2 Protected and Notable Species

The following notable or protected species have the potential to be impacted by the works:

- **Nesting birds:** it is likely that nesting birds may utilise habitats directly adjacent to the Site;
- **Other mammals:** Habitat adjacent to the Site is likely to be used by common species of mammals, likely to be fox and hedgehog (the latter a London BAP and Priority Species S41), as a commuting route.

5 LEGISLATION AND KEY POLICY REQUIREMENTS

Potentially relevant Legislation and Policy are presented in Appendix C and further detail with regards to surveys and mitigation required are presented in Table A.

5.1 Relevant Legislation

There are no habitats within the Site with the potential to support protected or notable species.

5.2 Relevant Policy

Elements of national and London policies and plans have the potential to be applicable to any development of the Site, these relate to:

- Creation and enhancement of biodiversity where possible;
- Material consideration of S41 species; and
- Two plants listed on LISI, Butterfly-bush and Green Alkanet that were present on/adjacent to the Site. While there is no legal requirement to remove or control this species it would be appropriate and beneficial to remove the stand as part of any future development.

An ecology report addressing the required design and construction mitigation for any proposed development will be required in support of planning.

5.3 Potential for Enhancement Within a Development

In addition to the recommended further works, enhancements should be considered within any development.

The area has biodiversity and ecosystem service value including, noise and air quality attenuation, water volume and quality attenuation, and carbon sequestration. Maximising the biodiversity and ecosystem service potential of the landscape to remain or be included within the soft estate of any development is recommended.

Building integrated vegetation would also be recommended such as the consideration of a biodiversity roof, incorporation of integral bird and bat boxes, micro SuDS, the implementation of permeable fencing to benefit small mammals such as hedgehog which is a priority species currently in decline, sensitive

lighting strategy, tree replacement and new tree planting where feasible. Off-site compensation should also be considered with the objective to achieve net gain.

6 SUMMARY OF ECOLOGICAL CONSTRAINTS AND MITIGATION REQUIRED

Table A Ecological Constraints and Mitigation Summary Table

Key Issues	Legislation/Policy	Assumption	Further Survey / input?	Seasonal Timing	Mitigation Required	Seasonal Timing	Programme Delay Risk	Survey/ Mitigation Cost Estimate*	Risk Rating
Green Infrastructure/ Trees									
Trees were present adjacent to the Site and may be impacted by development:	Tree Preservation Orders are present adjacent to the Site.	Trees and shrubs could be damaged due to development	Yes: BS 3857 2012 Tree survey	Removal of trees affected by bird nesting season (see above).	Tree Preservation Order application form will need to be submitted before removal of any trees under TPO. Protection of trees to be retained and adjacent trees and replacement of trees and green infrastructure implemented via an Arboricultural Method Statement and Landscape Strategy	N/A	None	Survey: £1,900 Mitigation: £1,000 demarcation and bespoke Arboricultural Method Statement Design and replacement of green infrastructure not costed	Low
Non-native invasive species									
Butterfly-bush.	London Invasive Species Index LISI	Development could cause these species to spread	No	N/A	It would be good practice to remove this species during subsequent development and to implement mitigation to ensure they are not spread	N/A	N/A	N/A Can be undertaken with vegetation clearance for development.	Low
Green Alkanet.	London Invasive Species Index LISI	Development could cause these species to spread	No	N/A	It would be good practice to remove this species during subsequent development and to implement mitigation to ensure they are not spread	N/A	N/A	N/A Can be undertaken with vegetation clearance for development.	Low

* Cost estimates only, actual costs would depend on the design and programme of any subsequent development and do not include costs for reports in support of planning application or any associated protected species licencing

7 CONCLUSIONS

There are no significant ecological constraints with regard to the development of this Site.

No statutory or non-statutory designated sites (including ancient woodlands or woodlands listed on the Ancient Woodland Inventory (AWI)) were identified within close proximity of the Site.

Constraints are listed below:

- The Site was covered by hardstanding of negligible nature conservation value.
- The trees adjacent to the Site had potential for nesting birds, including species listed on London BAP and Priority Species S41 such as house sparrow
- The Site is likely to be used by common species of mammals, likely to be fox and hedgehog (London BAP and Priority Species S41), as a commuting/foraging route.
- There will be some ecological benefit from the removal of non-native and invasive species on LISI, which is likely to occur when the Site is cleared for any construction. There is no legal obligation to control the LISI species (Butterfly-bush and Green Alkanet) recorded on Site or to remove it as controlled waste but it is good practice to remove them and to avoid their spread.
- There are also opportunities for enhancements for London BAP species. Bird boxes for sparrows would be a valuable enhancement, along with bat roosting boxes. Implementation permeable fencing would be of benefit to small mammals, such as hedgehog, which is a priority species currently in decline.
- Soft landscaping designs should be evolved in liaison with an ecologist and arboriculturist. In addition, rain gardens, biodiversity roofs and other green infrastructure should be considered within any development.

SITE PHOTOGRAPHS

Table B: Land at North Ealing Car Park Site Photographs

Land at North Ealing Car Park Site photographs	
	
Photograph1: Photograph of car park taken from the south-west.	Photograph 2: Approximately 1m border of bare ground with sparse green Alkanet.

Land at North Ealing Car Park Site photographs



Photograph 3: Artificial grass along north-western boundary.


FIGURE 1: DESIGNATED SITES MAP



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01	27/02/19	Initial Issue	NG	AB	MG
REV	Date	Description	Drawn	Check	Approved

LEGEND

- × Site Centre Point
 2km buffer
 5km buffer
 Local Nature Reserve (Within 2km)

Client



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Suitability Description:

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Drawn	G.Natarajan	Date 27FEB19	Signed <i>[Signature]</i>
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Approved	M.Girvan	Date 27FEB19	Signed <i>[Signature]</i>
Scale:	1:50000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	1002478

PROJECT:

TFL - SMALL SITES PROJECT
DUE DILIGENCE

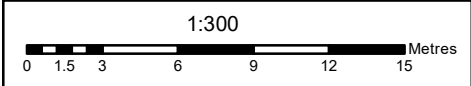
en	TITLE:
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Figure 1: North Ealing Car Park
Designated Sites



Drawing Number:	Issue
10024781-ABC-11-XY-RP-YY-0001-03	01

FIGURE 2: PHASE 1 HABITAT MAP



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REV	Date	Description	Drawn	Check	Approv
01	11/03/19	Initial Issue	YG	AB	MG

Legend		Client	
Site Boundary	Target Note	Ephemeral/short perennial	Bare Ground
Scattered Broadleaved Trees	Scattered Coniferous Trees	Introduced Shrub	Hardstanding
TN1 - Artificial grass with log pile		Fence	

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Suitability Description: PRELIMINARY/CONFIDENTIAL			
Designed	C.Long	Date 11MAR19	Signed
Drawn	G.Natarajan	Date 11MAR19	Signed
Checked	K.O'Brien	Date 11MAR19	Signed
Approved	M.Girvan	Date 11MAR19	Signed
Scale:	1:300	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	10024781

PROJECT:

**TFL - SMALL SITES PROJECT
DUE DILIGENCE**

TITLE:

**Figure 2: North Ealing
Car Park – Extended Phase 1
Habitat Survey Plan**

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10024781-ARC-11-XX-RP-YY-0002-03

Issue

01

Appendix A: Desk Study Review

Statutory Designated Sites

The desk study found no Natura 2000 sites (SPAs or SACs) or Ramsar sites within 5km of the site.

The desk study found one Statutory Designated Site within 2km of the Site as listed below.

Table A: 1 *Statutory Designated Sites*

Site Name	Designation	Size (ha)	Distance (km)	Direction	Description
Local Nature Reserves					
Fox Wood	LNR	2.25	0.9	North-west	One of the few remaining woodland areas in Ealing, particularly special because of ancient woodland species at the northern end of the site

Non-Statutory Designated Sites

At time of reporting, no response regarding non-statutory designated sites of nature conservation importance was received from Ealing Council.

Woodlands registered on the Ancient Woodland Inventory (AWI)

There are no ancient woodlands within 2km of the Site.

Overview of Protected, Notable and Invasive Species in London

This section of this report outlines the status of protected and notable species in London. The status of these species on the Site is fully discussed in section 3. Relevant conservation status and legislation is presented in Appendix D and E.

Non-native invasive species in Greater London

London is an extremely urbanised area and is a major international port for both people and goods, this in addition to its climate and major levels of construction has encouraged the spread of a number of non-native invasive species that are becoming pests. Therefore, in addition to those species listed on Schedule 9 of the Wildlife and Countryside Act (WCA 1981, as amended) there is a London Species Initiative (LSI) managed by the London Biodiversity Partnership, which lists non-native invasive species that should be controlled in London. Species potentially relevant to the Site include those presented in A2.

Table A:2: Potential Schedule 9 (WCA 1981, as amended) or LSI species

Common Name	English Name	Status
Japanese Knotweed	<i>Fallopia japonica</i>	Schedule 9 and LSI
Cotoneaster (numerous)	<i>Cotoneaster</i> spp.	Schedule 9 and LSI
Rhododendron	<i>Rhododendron ponticum</i>	Schedule 9 and LSI
Indian (or Himalayan balsam)	<i>Impatiens glandulifera</i>	Schedule 9 and LSI
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Schedule 9
Montbretia	<i>Crocsmia x crocosmiiflora</i>	LSI
Cherry Laurel	<i>Prunus laurocerasus</i>	LSI
False Acacia	<i>Robinia pseudoacacia</i>	LSI
Green Alkanet	<i>Pentaglottis sempervirens</i>	LSI
Butterfly-bush	<i>Buddleia davidii</i>	LSI
Snowberry	<i>Symphoricarpos albus</i>	LSI
Tree of Heaven	<i>Ailanthus altissima</i>	LSI
Holm Oak	<i>Quercus ilex</i>	LSI
Passion Flower	<i>Passiflora caerulea</i>	LSI
Spanish Bluebell	<i>Hyacinthoides hispanica</i> & <i>H. x massartiana</i>	LSI

Bats in Greater London

From previous Arcadis work in London and from data from the London Bat Group the most likely bats species to be present are common and soprano pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*) which are by far the more frequent, followed by Daubenton's (*Myotis daubentoni* in the vicinity of open water) noctule (*Nyctalus noctula*) and brown long-eared (*Plecotus auritus*). These are all London BAP species and S41 species with the exception of Daubenton's and common pipistrelle. Full details of the conservation status of these species and the results from the London Bat Group Species Action Plan Audit are presented in Appendix B Table B1.

In general, every borough will have bats present, as even in the inner boroughs there are usually some areas of suitable habitat that can provide feeding habitat for small numbers of common and light tolerant bat species such as soprano and common pipistrelles. In general, the outer boroughs with larger areas of more suitable habitat should be expected to have higher numbers of bats and a greater diversity of species.

Birds in Greater London

There are a number of bird species that although relatively common are in decline and have been highlighted S41 or London Priority BAP species and/or birds of conservation concern that have the potential to be present (Table A3).

Table A3: Birds of conservation concern associated with London

Common Name	English Name	Status	Typical London habitats
Dunnock	<i>Prunella modularis</i>	S41:L:	Associated with dense scrub and trees in private gardens and pocket parks
House sparrow	<i>Passer domesticus</i>	S41:L:R	Associated with dense scrub and trees in private gardens and pocket parks traditionally a species associated with nesting in buildings
Song thrush	<i>Turdus philomelos</i>	S41:L:R	Associated with dense scrub and trees in private gardens and pocket parks
Starling	<i>Sturnus vulgaris</i>	S41:L:R	Built environment
Tree sparrow	<i>Passer montanus</i>	S41:L:R	Associated with dense scrub and trees in private gardens and pocket parks

Section 41 = S41: London BAP = L: R = Birds of Conservation Concern Red List

Reptiles in Greater London

Records from SARG (Surrey Amphibian and Reptile Group) and the London Biodiversity Action Plan show that the presence of European Protected Species of reptile in the London area is generally very unlikely.

Badger in Greater London

Badger is a London BAP species and can be found using private gardens, woodlands and parklands across London.

Amphibians including Great Crested Newts (GCN) in Greater London

GCN are S41 and London BAP species, that while uncommon are found breeding in ponds associated with private gardens, from data available from Froglife (2012), 71 Sites across Greater London were surveyed where historical GCN records were identified, of none of these sites were located within the London Borough of Ealing⁷. Of the other amphibians that are London BAP species common frog (*Rana*

⁷ Capital Great Crested Newts Revisited (2012). Project report – Public Web Edition

temporaria), palmate newt (*Triturus helveticus*) and common toad (*Bufo bufo*), common toad is also a S41 species

Other Potentially Relevant S41 and London BAP species

There are a number of other species that have the potential to be relevant to the Site:

- Hedgehog (*Erinaceus europaeus*)

Table A:4: Designated sites descriptions

Designation	Description
Special Areas of Conservation (SAC) Special Protected Areas (SPAs)	Sites designated under European law and are the most important sites for wildlife in the UK, along with Special Protected Areas (SPAs). SACs are designated under the European Habitats Directive (Council Directive 92/43/EEC). Both the Habitats and Birds Directives provide for the creation of a network of protected areas across the EU, to be known as 'Natura 2000'. The designations aim to conserve important or threatened species and habitats and provide them with increased protection and management
National Nature Reserve (NNR)	Statutory reserves established for the nation under the Wildlife and Countryside Act, 1981. NNRs may be owned by a relevant national body, e.g. Natural England, or by established agreement; a few are owned and managed by non-statutory bodies. NNRs cover a selection of the most important sites for nature conservation in the UK.
Sites of Special Scientific Interest (SSSI)	Are areas notified under the Wildlife and Countryside Act 1981 by Natural England as being of special interest for nature conservation. SSSI notification forms the statutory bedrock for site protection. Biological SSSIs form a national network of wildlife sites, with each site being of national significance for its nature conservation value. Consultation and some form of agreement with the national statutory conservation agency is mandatory before any listed, potentially damaging development or change in land use can be carried out
Local nature reserves (LNR)	These are land owned, leased or managed by Local Authorities and designated under the National Parks and Access to the Countryside Act. These are sites of some nature conservation value managed for educational objectives. In some cases it is managed by a non-statutory body (e.g. the London Wildlife Trust). Local Authorities have the power to pass bylaws controlling (e.g.) access, special protection measures.
Sites of Metropolitan Importance for Nature Conservation (SMINCs)	These are sites that contain the best examples of London's habitats. These sites are of strategic significance and are therefore of the highest priority against damage or loss
Sites of Borough Importance for Nature Conservation (SBINCs) Grades I and II	Sites of Borough Importance for Nature Conservation (SBINCs) Grades I and II are important in the context of the borough. The nature conservation quality of these sites varies and so these sites are graded as I or II in relation to their nature conservation potential.
Sites of Local Importance for Nature Conservation (SINCs)	These are sites of particular importance to people nearby (such as residents and schools). Local sites are particularly important in areas otherwise deficient in nearby wildlife sites.

Appendix B: Bat Habitat Suitability and London Population Status

Table B: 1 BCT (2016) – Habitat Suitability Criteria

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically.</p> <p>However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

Table B: 2 Bat species status in London from the London Bat Species Action Plan Audit

Common Name	Latin Name	UK Status	London Status	Notes
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	Endangered BAP Priority	Extinct	Last Greater London record from Oxleas Wood in 1953.
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	Endangered BAP Priority	Extinct	Last Greater London record from Abbey Wood (Woolwich) in 1952-3.
Whiskered bat	<i>Myotis mystacinus</i>	Vulnerable	Rare	Due to difficulty in separation, these are considered together. Occur rarely and in low numbers in outer London Boroughs such as Hillingdon, Richmond, Bexley and Bromley. One current known (winter) roost only.
Brandt's bat	<i>Myotis brandtii</i>	Vulnerable	Rare	
Natterer's bat	<i>Myotis nattereri</i>	Vulnerable	Scarce	Still relatively few records in Greater London. Most central locations are Highgate Wood and Hampstead Heath, otherwise Richmond and Hounslow and occasionally other outer London Boroughs. 8 current known roosts (mostly winter).
Daubenton's bat	<i>Myotis daubentoni</i>	Not Threatened	Locally frequent but declining	Relatively widespread and strongly associated with ponds, lakes & rivers. Occasional summer roosts have been found in trees on Wimbledon Common and in Ruislip Woods. Contrary to the national trend, this species is apparently declining in London and its sensitivity to increasing ambient light levels is a possible reason. 4 current known winter roosts.
Serotine	<i>Eptesicus serotinus</i>	Vulnerable	Rare; has declined	Serotines are found in outer London Boroughs, especially Bromley, Havering, Sutton and Richmond. 2 current known summer roosts, in Bromley and Teddington.
Noctule	<i>Nyctalus noctula</i>	Vulnerable; declining BAP Priority	Widespread but declining	The status of this large, wide-ranging bat is difficult to assess, but the past two decades have seen a rapid decline in the species and this mirrors the national trend. An exclusively tree-roosting bat; current known roosts number <10 London-wide.
Leisler's bat	<i>Nyctalus leisleri</i>	Vulnerable	Scarce	Leisler's bat has been recorded infrequently in London area, yet sightings have doubled in the last three years. New foraging sites for the species include the Barnes area, Wandsworth Common and Brent Reservoir. 3 current known roosts (Haringey, Bromley and Bexley).

Ecological Assessment

Common Name	Latin Name	UK Status	London Status	Notes
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Not Threatened	Common	A widespread species, the common pipistrelle is believed to occur in all London boroughs. Roosts are still discovered relatively infrequently, however.
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	BAP Priority	Common	Also widespread and probably London's commonest bat. Apparently more associated with wetland habitats than its close relative, <i>P. pipistrellus</i> . Known roosts currently number 15-25?, but many more pass undetected.
Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>	Rare	Rare	Only recently confirmed as a UK breeding species. Detector records from an increasing list of sites include Lesnes Abbey Woods, Chislehurst Ponds and the Wetland Centre at Barnes. 1 known current roost site in bat boxes in Hounslow.
Brown long-eared bat	<i>Plecotus auritus</i>	Declining BAP Priority	Scarce	Brown long-eared bats are fairly secretive and may be under-recorded in Greater London, although reasons for the national decline are also likely to affect London's population. Roosts have been found in Bexley, Bromley, Hillingdon, Wandsworth, Kensington & Chelsea, Barnet, and Richmond.

NB: This audit is based on data from the London Bat Project collected in the mid-1980s, as well as that collected since by the London Bat Group and is therefore not systematic. This audit is the best possible understanding of the status of bats in London that can currently be realised by the London Bat Group.

Appendix C: Selected Legislation, Nature Conservation Status and Policy

Legislation

Table C: 1 Legislation Summary

Receptor	Legislation
Nesting Birds	<p>The legislation relevant to the potential ecological constraints on site associated with nesting birds.</p> <p>All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). Section 1 of the Act makes it an offence to:</p> <ul style="list-style-type: none"> intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; or intentionally take or destroy an egg of any wild bird. <p>It is also an offence to:</p> <ul style="list-style-type: none"> intentionally disturb any wild bird included in Schedule 1 of the Act while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. Species listed on Schedule 1 include the black redstart, barn owl (<i>Tyto alba</i>), Cetti's warbler (<i>Cettia cetti</i>) and kingfisher (<i>Alcedo atthis</i>). <p>There is no potential for Schedule 1 birds to be nesting on Site, the legislation regarding common nesting birds will be complied with due to the precautionary mitigation previously stated.</p>
Badgers	<p>Badgers are protected from inhumane killing or injury under Badgers Act (1992)⁸, this also protects their setts from damage and prohibits blocking access to their setts.</p>
Bats	<p>The legislation relevant to the constraint identified associated with bats.</p> <p>Bats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended)..</p> <p>Bats are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are subject to the provisions of Section 9 of the Act, which make it an offence to:</p> <ul style="list-style-type: none"> intentionally or recklessly disturb a wild animal listed on Schedule 5 whilst it is occupying a structure or place which it uses for shelter or protection; intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a wild animal listed on Schedule 5; sell, offer or expose for sale, or to possess or transport for sale alive or dead wild animal listed on Schedule 5 or any part of or anything derived from a wild animal listed on Schedule 5. <p>Bats are also listed on Schedule 2 (European protected species of animals) of the Conservation of Habitats and Species Regulations 2010 (as amended) and are subject to the provisions of Regulation 41 which makes it an offence to:</p> <ul style="list-style-type: none"> deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animals of any such species (where disturbance is likely to impair their ability to survive, breed or reproduce, rear or nurture their young; or to hibernate or migrate; or to affect significantly the local distribution or abundance of the species);

⁸ Protection of Badgers Act 1992 (as amended)

Receptor	Legislation
	<ul style="list-style-type: none"> • damage or destroy a breeding Site or resting place of such an animal; or • be in possession of, control, transport, sell or exchange, or offer for sale or exchange any live or dead animal of such a species or any part of a wild animal or anything derived from an animal or any part of an animal of such a species.
Great Crested Newts	<p>Great crested newts are a European Protected Species (EPS), listed on Annex II and IV of the EEC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora, receiving protection under The Conservation of Habitats and Species Regulations 2010. This species is also afforded full protection under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981). Under such legislation it is an offence to:</p> <ul style="list-style-type: none"> • Intentionally or recklessly kill, injure or take a great crested newt; • Possess or control any live or dead specimen or anything derived from a great crested newt; • Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt; and • Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.
Reptiles	<p>The relevant legislation relevant to the constraint identified associated with reptiles All native British reptile species are protected under the Wildlife and Countryside Act 1981 (as amended). Reptiles are listed under Schedule 5 of the Act. The four more widespread species including common lizard, slow worm, adder and grass snake are subject to some of the provisions of Section 9 of the Act, which make it an offence to: *</p> <ul style="list-style-type: none"> • intentionally kill or injure a reptile; or * sell, offer or expose for sale, or • to possess or transport for sale alive or dead reptile or any part of, or anything derived from, a reptile.
Other Mammals	<p>Other mammals not protected by their own legislation are protected by the Mammal Act (1996). The Act makes provision for the protection of wild mammals from certain cruel acts.</p> <p>An offence is committed if any person mutilates, kicks, beats, nails, or otherwise impales, stabs, burns, stones, crushes, drowns, drags, or asphyxiates any wild mammal with intent to inflict unnecessary suffering.</p>
Non Native Invasive Species	<p>Numerous species are listed on Schedule 9 (of the Wildlife and Countryside Act 1981, as amended) whereby it is an offence to grow or to cause this species to grow in the wild. A species on Schedule 9 that commonly occurs in London is Japanese Knotweed (<i>Fallopia japonica</i>) which is also covered by the Environmental Protection Act (EPA) 1990 which designates this as a controlled waste.</p>

Nature Conservation Status

• Birds of Conservation Concern (BOCC) (2015)

The UK's leading bird conservation organisations worked together to produce The Population Status of Birds in the UK: Birds of Conservation Concern Four (BoCC).

Commonly referred to as the UK Red List for birds, this is the fourth review of the status of birds in the UK, Channel Islands and Isle of Man, and updates the last assessment in 2009. Using standardised criteria, 244 species with breeding, passage or wintering populations in the UK were assessed by experts from a range of bird NGOs and assigned to the Red, Amber or Green lists of conservation concern.

Table C: 2 Bird Population Status Criteria for Birds of Conservation Concern in the UK

Criteria	Status
Red list criteria	<p>Globally threatened</p> <p>Historical population decline in UK during 1800–1995</p> <p>Rapid (> or =50%) decline in UK breeding population over last 25 years</p> <p>Rapid (> or =50%) contraction of UK breeding range over last 25 years</p>
Amber list criteria	<p>Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years</p> <p>Moderate (25-49%) decline in UK breeding population over last 25 years</p> <p>Moderate (25-49%) contraction of UK breeding range over last 25 years</p> <p>Moderate (25-49%) decline in UK non-breeding population over last 25 years</p> <p>Species with unfavourable conservation status in Europe, termed Species of European Conservation Concern (SPEC)</p> <p>Five-year mean of 1–300 breeding pairs in UK</p> <p>> or =50% of UK breeding population in 10 or fewer sites, but not rare breeders</p> <p>> or =50% of UK non-breeding population in 10 or fewer sites</p> <p>> or =20% of European breeding population in UK</p> <p>> or =20% of northwest European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in UK</p>
Green list	No identified threat to the population's status

Relevant Policy

National

The Site survey, assessment and recommended mitigation ensure compliance with the following policies, any additional enhancement measures would further comply with these policies:

- **The National Planning Policy Framework (NPPF 2012)**⁹ sets out how the planning system should protect and enhance nature conservation interests. Section 11 is concerned with conserving and enhancing the natural environment Opportunities to enhance biodiversity are also encouraged.
- **The Natural Environment and Rural Communities (NERC) Act 2006**¹⁰ places a duty upon public bodies to consider S41 lists flora, fauna and habitats (previously UK BAP habitats and species) as a material consideration in planning and to consider enhancement of biodiversity.
- **Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services**¹¹ includes a list of Habitats of Principal Importance in England (HPIEs) and Species of Principal Importance in England (SPIEs). These were previously included as Priority Habitats and Priority Species in the UK BAP.

London

- **London Invasive Species Initiative (LISI)**¹²: Managed by the London Biodiversity Partnership, LISI lists non-native invasive species that should be controlled in London. Species relevant to the Scheme include Japanese Knotweed and Butterfly-bush.
- **London Biodiversity Action Plan (BAP)**¹³: Managed by the London Biodiversity Partnership (2006), the London BAP sets out priority habitats and species for the city. London BAP habitats relevant to the Scheme include reed beds, standing water and wasteland.
- **The London Plan (2011) Strategic Policy 7.19 Biodiversity and Access to Nature and Policy 7.21 Trees and woodlands) (updated with the Minor Alterations to the London Plan 2016)**¹⁴: Regional planning policy for London is presented in the London Plan: Spatial Development Strategy for Greater London. It contains various policies with regard to nature conservation in London, which include commitments to protect, enhance, create, promote, expand and manage the extent and quality of green infrastructure and biodiversity and to increase access to nature, the following elements of SP 7 are as follows:
 - **Strategic Policy 7.19 Biodiversity and Access to Nature and Policy:**
 - A) The Mayor will work with all relevant partners to ensure a proactive approach to the protection, enhancement, creation, promotion and management of biodiversity in support of the Mayor's Biodiversity Strategy.
 - B) Any proposals promoted or brought forward by the London Plan will not adversely affect the integrity of any European site of nature conservation importance.
 - C) Development Proposals should:
 - a) wherever possible, make a positive contribution to the protection, enhancement, creation and management of biodiversity
 - b) prioritise assisting in achieving targets in biodiversity action plans (BAPs), set out in Table 7.3, and/or improving access to nature in areas deficient in accessible wildlife sites
 - c) not adversely affect the integrity of European sites and be resisted where they have significant adverse impact on European or nationally designated sites or on the population or conservation status of a protected species or a priority species or habitat identified in a UK, London or appropriate regional BAP or borough BAP.
 - D) On Sites of Importance for Nature Conservation development proposals should:
 - a) give the highest protection to sites with existing or proposed international designations¹ (SACs, SPAs, Ramsar sites) and national designations² (SSSIs, NNRs) in line with the relevant EU and UK guidance and regulations

⁹ Anon (2012) The National Planning Policy Framework HMSO, London

¹⁰ Anon (2006) The Natural Environment and Rural Communities Act HMSO, London

¹¹ Department for Environment, Food and Rural Affairs (2011) *Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services*

¹² London Invasive Species Plan (2012). Legislative and Information Exchange Framework. [online] Available at <http://www.londonisi.org.uk/tackling-inns/lisp/>. [Available June 2016]

¹³ City of London (2009). *London Biodiversity Action Plan 2010 – 2015*

¹⁴ Greater London Authority (2011) *The London Plan Strategic Policy 7.19 Biodiversity and Access to Nature and Policy 7.21 Trees and woodlands) (updated with the Minor Alterations to the London Plan 2016)*

- b) give strong protection to sites of metropolitan importance for nature conservation (SMIs). These are sites jointly identified by the Mayor and boroughs as having strategic nature conservation importance
 - c) give sites of borough and local importance for nature conservation the level of protection commensurate with their importance.
- E) When considering proposals that would affect directly, indirectly or cumulatively a site of recognised nature conservation interest, the following hierarchy will apply:
 - 1 avoid adverse impact to the biodiversity interest
 - 2 minimize impact and seek mitigation
 - 3 only in exceptional cases where the benefits of the proposal clearly outweigh the biodiversity impacts, seek appropriate compensation.
- F) In their LDFs, Boroughs should:
 - a use the procedures in the Mayor's Biodiversity Strategy to identify and secure the appropriate management of sites of borough and local importance for nature conservation in consultation with the London Wildlife Sites Board.
 - b identify areas deficient in accessible wildlife sites and seek opportunities to address them
 - c include policies and proposals for the protection of protected/priority species and habitats and the enhancement of their populations and their extent via appropriate BAP targets
 - d ensure sites of European or National Nature Conservation Importance are clearly identified
 - e identify and protect and enhance corridors of movement, such as green corridors, that are of strategic importance in enabling species to colonise, re-colonise and move between sites.
- **Strategic Policy 7.21 Trees and Woodlands:**
 - A) Trees and woodlands should be protected, maintained and enhanced, following the guidance of the London Tree and Woodland Framework (or any successor strategy). In collaboration with the Forestry Commission the Mayor has produced supplementary guidance on Tree Strategies to guide each borough's production of a Tree Strategy covering the audit, protection, planting and management of trees and woodland. This should be linked to a green infrastructure strategy.
 - B) Existing trees of value should be retained and any loss as the result of development should be replaced following the principle of 'right place, right tree. Wherever appropriate, the planting of additional trees should be included in new developments, particularly large-canopied species.
 - C) Boroughs should follow the advice of paragraph 118 of the NPPF to protect 'veteran' trees and ancient woodland where these are not already part of a protected site.
 - D) Boroughs should develop appropriate policies to implement their borough tree strategy.
- **The London Plan (2011) , Housing Supplementary Planning Guidance (March 2016)¹⁵:** With regards to housing, recently a dedicated supplementary planning guidance has been produced, the relevant elements of which are presented below
 - Standard 40 and Policy 7.19 "Biodiversity and access to nature promotes a proactive approach to the protection, promotion and management of biodiversity across the capital" and that "Proposals for development should give full consideration to their direct and indirect effects on ecology. Ecological improvements can be achieved as part of Sustainable Urban Drainage Systems and incorporated into green or brown roofs, green walls and soft landscaping."
 - Policies 7.19 and 7.21 "supporting biodiversity, protecting London's trees, 'green corridors and networks'".

¹⁵ Greater London Authority (2016) *London Plan 2016 Implementation Housing Supplementary Planning Guidance adopted in March 2016*

- Development proposals should also enhance provision of green infrastructure in the public realm, helping to mitigate and adapt to climate change (Policy 5.10 Urban Greening), extend tree cover (Policy 7.21), improve biodiversity (Policy 7.19).
- Public, communal and private open spaces should be protected and enhanced, and where possible new open spaces should be created. This is supported by Policy 2.18 Green Infrastructure, Policy 7.18 Protecting open space, Policy 7.19 Biodiversity and Policy 7.21 Trees and Woodlands.
- **The Mayor's Biodiversity Strategy (2002)¹⁶:** Connecting with London's Nature: The Mayor's Biodiversity Strategy provides a statutory framework for the delivery of biodiversity policies in London. It seeks to ensure that there is no overall loss of wildlife habitats in London.
- **The London Plan (2011), Sustainable Design and Construction Supplementary Planning Guidance (April 2014)¹⁷:**
 - Mayor's Priority - Developments should contribute to the Mayor's target to increase tree cover across London by 5% by 2025.
 - Mayor's Priority - There is no net loss in the quality and quantity of biodiversity.
 - Mayor's Priority - Developers make a contribution to biodiversity on their development site.
 - Mayor's Priority - Any loss of a tree/s resulting from development should be replaced with an appropriate tree or group of trees for the location, with the aim of providing the same canopy cover as that provided by the original tree/s.

¹⁶ Greater London Authority (2002), *Connecting with Nature: The Mayor's Biodiversity Strategy adopted in 2002*

¹⁷ Greater London Authority (2011), *The London Plan Sustainable Design and Construction Supplementary Planning Guidance adopted in April 2014*

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