



**MKA**  
ECOLOGY

## **Preliminary Ecological Appraisal**

Barnet and King George V Playing Fields,  
Barnet, London

<b>Site</b>	<i>Barnet and King George V Playing Fields, Barnet, London EN5 2DA</i>
<b>Project number</b>	<i>74518</i>
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### Declaration of compliance

This Preliminary Ecological Appraisal has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

### Validity of data

Unless stated otherwise the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required in order to determine any changes in site composition and ecological constraints.

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## 1. EXECUTIVE SUMMARY

In March 2018 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal of Barnet Playing Fields and King George V Playing Fields. The appraisal included a Phase 1 habitat survey, protected species scoping survey and desktop study of protected and notable sites and species in the area. A site visit was undertaken on 22 March 2018.

The majority of the Site was found to comprise of large public open spaces containing amenity grassland. Dollis Brook flows through the southern quarter of the site and is surrounded by scrub and scattered trees. There is a small broad-leaved woodland in the north-eastern corner and there are hedgerows and lines of trees throughout the site.

The following ecological constraints were identified at the Site with recommendations made as follows;

- Habitats: Dollis Brook is a Site of Borough Grade I importance. It is recommended that this is protected from impacts where possible and enhanced to compensate for the construction of the bridge.
- Breeding bird assemblage: The scattered mature deciduous trees, scrub, hedgerows and woodland have high potential to support breeding birds. It is recommended that retaining mature deciduous trees is a priority in the final design scheme. Loss of foraging habitat is expected for some species including starling, song and mistle thrush. Any vegetation or building removal should be done outside the breeding season (i.e. removed between September and February inclusive) to avoid impacts on breeding birds.
- Bats: Several potential roosting features were noted in trees and the table tennis building on site. It is recommended that if any of these trees or building is to be altered or removed as part of the proposals, a daytime bat inspection is undertaken on these features to assess their potential to support roosting bats.
- Reptiles: Suitable habitat for reptiles was present near the woodland and along the stream. If impacts are predicted on suitable habitat, then further reptile surveys will be necessary to determine the presence or likely absence of this species group.
- Water vole: Suitable habitat for water vole was present along the stream in the banks and bank side vegetation. As a bridge is currently planned to be installed across the stream, a water vole survey is recommended.
- Invasive species: The survey was undertaken at a time of year when Himalayan balsam is not visible. It is recorded in the area and so a survey should be undertaken to determine its presence or absence along Dollis Brook.

Opportunities exist to enhance the biodiversity on the site post-development. These include native planting schemes, and hedgehog hibernation boxes. Nest box provision for starlings and house

sparrows should be incorporated into all new build to maximise opportunities for these species. There is also opportunity to work with the existing high value habitats to create a coherent green infrastructure network throughout the site and linking it to the ecologically important areas beyond. There is a need to maintain amenity grassland corridors between artificial pitches to provide foraging and access opportunities for hedgehog and thrushes. Provided that the potential impacts can be avoided and sensitively managed on the site of nature conservation interest there is potential for a sustainable scheme to be developed on the site with improvements for biodiversity.

## 2. INTRODUCTION

### 2.1. Aims and scope of Preliminary Ecological Appraisal

In March 2018 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal at Barnet Playing Fields and King George V Playing Fields by London Borough of Barnet.

The aims of the Preliminary Ecological Appraisal were to:

- Undertake a desktop study to identify the extent of protected and notable species and habitats within close proximity of the Site;
- Prepare a Phase 1 habitat map for the Site;
- Identify evidence of protected species/species of conservation concern at the Site;
- Assess the potential impacts of the proposed development;
- Detail recommendations for further survey effort where required; and
- Detail recommendations for biodiversity enhancements.

### 2.2. Site description and context

The survey area is shown on the map in Figure 1. Within this report this area is referred to as the Site or Barnet/King George V Playing Fields. The site is located within north London and falls under the authority of the Barnet Borough Council.

The Site is approximately 15.3 Ha and is dominated by amenity grassland. Dollis Brook flows through the southern half of the site and has associated scrub habitats. There is a small broadleaved woodland in the north east corner of the site and there are hedgerows bordering the site.

### 2.3. Proposed development

The current masterplan proposes several changes and additions to the current Site, which are shown in Appendix 5. The area surveyed during the Preliminary Ecological Appraisal is shown in red on the masterplan, and any recommendations made within this report pertain specifically to the surveyed area only. In Barnet Playing Fields, a proposed skate park, adventure play area, toddler play area, outdoor gym, community hub building and multi-use games area (MUGA) are proposed. Four sports pitches will also be included here, along with hardstanding including a 66 space car park, cycle ways and walkways. Proposed soft landscaping includes tree planting, bulb planting and the inclusion of three Water Sensitive Urban Designs (WSUDS) negative contours. On King George V Playing Fields, proposals include a Gaelic football pitch and pavilion to the west and a Gaelic football training area to the east. A smaller 15 space car park will expand the existing car park and a cycle track will encircle the perimeter.

Soft landscaping includes an additional two WSUDS features and areas of bulb planting. The locations of these developments are currently planned to largely replace existing amenity grassland. A small amount of scrub will be lost. A bridge across Dollis brook linking the two parks is also proposed.

#### 2.4. Legislation and planning policy

This Preliminary Ecological Appraisal has been undertaken with reference to relevant wildlife legislation and planning policy.

Relevant legislation considered within the scope of this document includes the following:

- The Wildlife and Countryside Act 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- Natural Environment and Rural Communities (NERC) Act 2006;
- The Countryside and Rights of Way (CRoW) Act 2000;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Further information is provided in Appendix 1, including levels of protection granted to the species considered in Section 3.3.

In addition to obligations under wildlife legislation, the National Planning Policy Framework (NPPF) issued in 2018 requires planning decisions to contribute to conserving and enhancing the local environment. Further details are provided in Appendix 1.

The Barnet London Borough Council has produced an adopted Local Plan which covers a number of policies relating to biodiversity and habitat conservation, including Chapter 17: Biodiversity and Policy DM16: Biodiversity. The Mayor's Biodiversity Strategy contains several proposals including Proposal 19: which protects and enhances the biodiversity of the Blue Ribbon Network (The Thames and London's waterways). Where relevant these are discussed in further detail in Section 5.

## 3. METHODOLOGIES

This Preliminary Ecological Appraisal has been undertaken in accordance with the Chartered Institute for Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).

### 3.1. Desktop study

A data search was conducted for the Site and the surrounding area within 2km of the site. The organisations listed in Table 1 were contacted with regard to biodiversity data.

**Table 1: Organisations providing biodiversity data**

Organisation	Data collected	Date collected
Multi-agency Geographic Information for the Countryside (MAGIC) <a href="http://www.magic.gov.uk">www.magic.gov.uk</a>	Information on local, national and international statutory protected areas.	07/08/2018
Greenspace Information for Greater London (GiGL)	Information on protected and notable sites and species within 2km of the Site.	28/03/18

### 3.2. Phase 1 habitat survey

The habitat at the Site was surveyed using the standardised Joint Nature Conservation Committee (JNCC) Phase 1 classification and mapping methodology (JNCC, 2010). Data were recorded onto field maps and then transferred onto a Geographic Information System (GIS) following the JNCC Colour Mapping Pallet for ArcGIS. Dominant plant species were observed and recorded within each habitat type. The plant species nomenclature follows that of Stace (2010).

The DAFOR scale is used to describe the relative abundance of species. The scale is shown in Table 2. It is important to note that where a species is described as rare this description refers to its relative abundance within the Site and is not a description of its abundance within the wider landscape. Therefore a species with a rare relative abundance within the Site may be common within the wider landscape.

**Table 2: DAFOR scale**

DAFOR code	Relative abundance
D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

### 3.3. Protected species scoping survey

As part of the Preliminary Ecological Appraisal of the Site, an assessment of the potential for the habitats on site to support protected or notable species was made. This assessment was based on the quality, extent and interconnectivity of suitable habitats, along with the results of the desktop study detailed in Section 3.1.

Protected species frequently encountered on development sites include the following:

- Amphibians: Great crested newt *Triturus cristatus*.
- Reptiles: Adder *Vipera berus*, common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica helvetica*.
- Birds: All species, with special reference to species listed under Schedule 1 of The Wildlife and Countryside Act 1981 (as amended).
- Mammals: Badger *Meles meles*, bats (all species), European water vole *Arvicola amphibius*, Otter *Lutra lutra* and hazel dormouse *Muscardinus avellanarius*.
- Invertebrates: White-clawed crayfish *Austropotamobius pallipes*.

In each case the likelihood of presence of these protected species at the Site was classified as being either high, moderate, low or negligible. These definitions are as follows:

**Confirmed:** The species is confirmed on the site during the Preliminary Ecological Appraisal, previous survey effort or recent records.

**High:** Habitats are available onsite which are highly suitable for this species and there are records within the desktop study. The surrounding areas also provide widespread opportunities for the species which are well connected to the Site.

**Moderate:** Some suitable habitat available on site for the species although not of optimum quality. Species is present with the desktop study.

**Low:** Some suitable habitat available on site for the species but this is low value and possibly of small scale or with poor connectivity. No, or very few, records returned in the desktop study.

**Negligible:** No suitable habitat available for the species, or very little poor quality habitat

In addition to the species listed above, the potential for the Site to support other rare or notable species (or habitats) is also considered. This includes Species and Habitats of Principal Importance as listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Red and Amber listed Birds of Conservation Concern (BoCC) as per Eaton *et al.*, 2015 (see Appendix 1).

This protected species scoping survey is designed to assess the *potential* for presence or absence of a particular species or species group, and does not constitute a full survey for these species.

### 3.4. Surveyor

The survey was undertaken by Gabrielle Horne GradCIEEM, Consultant Ecologist at MKA Ecology Limited. Gabrielle has over three years' experience in undertaking Preliminary Ecological Appraisal and holds a Natural England class licence for surveying great crested newt.

### 3.5. Date, time and weather conditions

See Table 3 below for details of the date, time and prevailing weather conditions recording during the site visit for the Preliminary Ecological Appraisal.

**Table 3: Date, time and weather conditions of survey visit**

Date	Time of survey	Weather conditions*
22/03/18	11:00	Wind: 3-4 Cloud: 6 Temp: 7°C Rain: no

\*Wind as per Beaufort Scale / Cloud cover given in Oktas.

### 3.6. Constraints

It should be noted that a single visit cannot categorically ascertain the presence or absence of any protected species. However, an assessment is made of the likelihood for protected species to occur based on habitat characteristics and the ecology of each species. Where there is potential for protected species, additional survey work may be required to ascertain their presence or absence.

The assessment was undertaken outside the optimum period of April to the end of September. However, within the scope of the study it was possible to identify key habitats present and assess their likelihood of supporting a greater range of species.

Data on species records obtained from local biological records centres are sometimes only available at low spatial resolutions, and are partly constrained by what local residents, recorders or experts have chosen to record in the field and submit as records. So while these records provide a useful indication of species recorded in the local area, in particular protected or notable species, the data is not necessarily an accurate reflection of species assemblages or abundance in the area around the site.

A small parcel of land immediately south of the woodland was fenced off and unable to be accessed (Target Note 13). However, no impacts are predicted upon it within the design scheme.

## 4. RESULTS

### 4.1. Desktop study

An ecological desktop study was completed for the Site and the surrounding 2km. The data, provided by Greenspace Information for Greater London (GiGL), identified numerous UK and European protected species, Species and Habitats of Principal Importance (as listed under Section 41 of the NERC Act 2006), and species of conservation concern within 2km of the Site. It should be noted that this is not a comprehensive list of the distribution or extent of the local flora and fauna of conservation importance. These species records are discussed in greater detail in the protected species scoping survey section (Section 4.3 below).

Details of statutorily designated sites identified as part of the desktop study are displayed in Table 4 below. One Local Nature Reserve (LNR) was returned. Oak Hill Wood LNR is present just outside the search area at approximately 2.1km east of the site.

**Table 4: Statutorily designated sites within 2km of Barnet and King George V Playing Fields**

Site name	Area (ha)	Distance and direction	Reasons for selection
Covert Way LNR	6.80ha	2km NE	<ul style="list-style-type: none"> <li>Grassland supporting the scarce adder's-tongue fern <i>Ophioglossum vulgatum</i></li> <li>Supports the locally scarce four-spot orb weaver spider <i>Araneus quadratus</i></li> </ul>

Details of non-statutorily designated sites identified as part of the desktop study are displayed in Table 5 below.

**Table 5: Non-statutorily designated sites within 2km of Barnet and King George V Playing Fields**

Site name	Area (ha)	Distance and direction	Reasons for selection
Hadley Green (Site of Metropolitan Importance)	9.98ha	1.6km N	<ul style="list-style-type: none"> <li>Comprises acid grassland and wetland habitats including ponds, wet ditches and wet grassland</li> <li>Supports several London rarities including mat grass <i>Nardus stricta</i>, heath rush <i>Juncus squarrosus</i> as well as regionally uncommon species such as tufted forget-me-not <i>Myosotis taxa</i> and arrowhead <i>Sagittaria safittifoli</i>.</li> </ul>

Site name	Area (ha)	Distance and direction	Reasons for selection
Totteridge Fields and Highwood Hill (Site of Metropolitan Importance)	97.21ha	990m W	<ul style="list-style-type: none"> <li>Comprises large areas of mostly unimproved grassland supporting a very rich flora, including numerous locally uncommon plants including devil's-bit scabious <i>Succisa pratensis</i> and square-stemmed St John's-wort <i>Hypericum tetrapterum</i></li> <li>Supports a varied breeding avifauna and an important invertebrate fauna including several nationally rare and scarce beetles and spiders.</li> </ul>
Folly Brook and Darland's Lake Nature Reserve (Site of Borough Grade I)	11.18ha	1.5km S	<ul style="list-style-type: none"> <li>Comprises a tree-lined stream and a lake fringed with reeds and wet woodland</li> <li>Darland's Lake is managed as a nature reserve by the Herts &amp; Middlesex Wildlife Trust</li> <li>Formerly designated as a Site of Special Scientific Interest for supporting rare plants, including a population of snake's head fritillary, but they are now known to be introduced and the Site is no longer a SSSI.</li> <li>Contains a diverse range of breeding birds including hobby <i>Falco subbuteo</i> and reed bunting <i>Emberiza schoeniclus</i> as well as common waterfowl.</li> </ul>
Monken Hadley Common (Site of Borough Grade I)	72.16	1.4km N	<ul style="list-style-type: none"> <li>Comprises a large broad leaved wooded common with areas of acid grassland and several ponds</li> <li>The ponds support large populations of amphibians, which attract grass snakes</li> </ul>
Upper Dollis Brook (Site of Borough Grade I)	39.62	0m	<ul style="list-style-type: none"> <li>Comprises an attractive section of the Dollis Brook, winding through flower-rich fields with small woods and hedges</li> <li>Mostly lined with a narrow strip of woodland</li> </ul>

Site name	Area (ha)	Distance and direction	Reasons for selection
Totteridge Croft Field (Site of Borough Grade I)	2.44	1.6km SW	<ul style="list-style-type: none"> <li>An isolated unimproved grassland field surrounded by hedges.</li> <li>A lack of management in the 1990s has led to a loss of floral diversity with creeping thistle <i>Cirsium arvense</i> replacing the meadow species in large areas.</li> </ul>
Totteridge Green (Site of Borough Grade II)	4.96	1.1km S	<ul style="list-style-type: none"> <li>Comprises open grassland with scattered trees, woodland and a pond.</li> <li>Supports dry acid grassland</li> </ul>
King George's Fields (Site of Borough Grade II)	27.75	960m N	<ul style="list-style-type: none"> <li>Comprises largely semi-improved grassland, but there are several areas with a much richer flora typical of unimproved grassland including devil's bit scabious</li> <li>Supports a network of hedgerows across the fields, some of which have expanded into belts of woodland</li> </ul>
Northern line Embankment, High Barnet (Site of Borough Grade II)	6.18	80m E	<ul style="list-style-type: none"> <li>Comprises an embankment vegetated with woodland, dense scrub and rough grassland.</li> <li>The more open habitats support one of the few known colonies of common lizards <i>Zootoca vivipara</i> in the borough of Barnet and slow worms <i>Anguis fragilis</i> are also present</li> </ul>
Pymme's Brook (Site of Borough Grade II)	10.80	2.1km	<ul style="list-style-type: none"> <li>Two sections of the brook are included in this site.</li> <li>The brook flows through a strip of rough grassland and woodland.</li> </ul>
Bell's Hill Burial Ground (Site of Local Importance)	3.31	1.4km W	<ul style="list-style-type: none"> <li>Comprises a cemetery. The eastern half is less heavily managed and supports tall meadow grasses and wild flowers such as tufted vetch <i>Vicia cracca</i>.</li> </ul>
Greenhill Gardens (Site of Local Importance)	1.63	440m E	<ul style="list-style-type: none"> <li>Comprises amenity grassland, a pond and scattered trees.</li> </ul>

Site name	Area (ha)	Distance and direction	Reasons for selection
Oakleigh Park Rail Cutting (Site of Local Importance)	7.99	1.7km SE	<ul style="list-style-type: none"> <li>Comprises scrub, woodland, semi-improved neutral grassland and tall ruderal herbs.</li> </ul>

The Site is surrounded on the northern, eastern and western sides by residential buildings. A railroad track runs parallel with the eastern border, at approximately 110m distance. To the south is a horse activity centre and a golf course - both largely comprise grassland and are interspersed with hedgerows.

The wider landscape consists of the urban environment of the London Borough of Barnet. The Site is part of the green belt and as such is connected in the south and south west to an extensive area of green space. This area comprises predominately of grassland with interconnecting hedgerows and scattered with woodland copses, intersected with small watercourses. These features are of significantly higher ecological value for a range of important species including birds and bats in the wider urban London environment.

#### 4.2. Phase 1 habitat survey

The Site was found to comprise amenity grassland, dense scrub, scattered trees, broadleaved woodland and a stream, along with man-made habitats of low ecological value such as hardstanding and buildings. More detailed species lists, along with their relative abundance, can be found in Appendix 2. The Phase 1 habitat survey map is provided in Figure 1, at the end of this section. Descriptions of the habitat types present along with dominant species compositions are provided below.

##### *Amenity grassland*

This habitat type (see Photograph 1, Appendix 3) covered the majority of the site and was used as public open space. It was dominated by perennial rye-grass *Lolium perenne*. Other occasionally and rarely occurring species are listed in Appendix 2. This habitat was regularly managed, with a very short sward height.

##### *Scattered trees*

There were a number of scattered trees (See Photograph 2, Appendix 3) within the hedgerows bordering the site and the scrub lining Dollis Brook. The trees varied in age and included mature trees. The tree species on site included oak *Quercus sp.*, ash *Fraxinus excelsior* and alder *Alnus glutinosa*.

#### *Tall ruderal*

This habitat was present in a small area in the south western corner, near to Dollis Brook (see Photograph 3, Appendix 3). It was dominated by common nettle *Urtica dioica*, bramble *Rubus fruticosus* agg. and occasionally occurring cleavers *Galium aparine*.

#### *Species-poor intact hedgerow*

Three species-poor intact hedgerows were present bordering the Site (see Photograph 4, Appendix 3). Two of the hedgerows were dominated by hawthorn *Crataegus monogyna* and ivy *Hedera helix*. The third hedgerow was dominated by garden privet *Ligustrum ovalifolium* and was managed through frequent cutting.

#### *Dense scrub*

Dense scrub was present along Dollis Brook, on the southern and northern boundaries of the Site and amongst the woodland (see Photograph 5, Appendix 3). It contained small trees including elder *Sambucus nigra*, hawthorn, with cow parsley *Anthriscus sylvestris* also present.

#### *Broadleaved woodland*

A small broadleaved woodland (see Photograph 6, Appendix 3) was present in the north-eastern area. It contained abundant oak and hazel *Corylus avellana* with occasional silver birch *Betula pendula*. The understory was sparse due to the time of year, but frequently contained bramble.

#### *Semi-improved grassland*

There was a small area of semi-improved grassland present within the broad-leaved woodland which was dominated by Yorkshire fog *Holcus lanatus* and perennial rye-grass and was not frequently cut (See Photograph 7, Appendix 3).

#### *Hardstanding*

Three car parks were present on the western side of the Site (see Photograph 8, Appendix 3) and hardstanding tracks crossed the field.

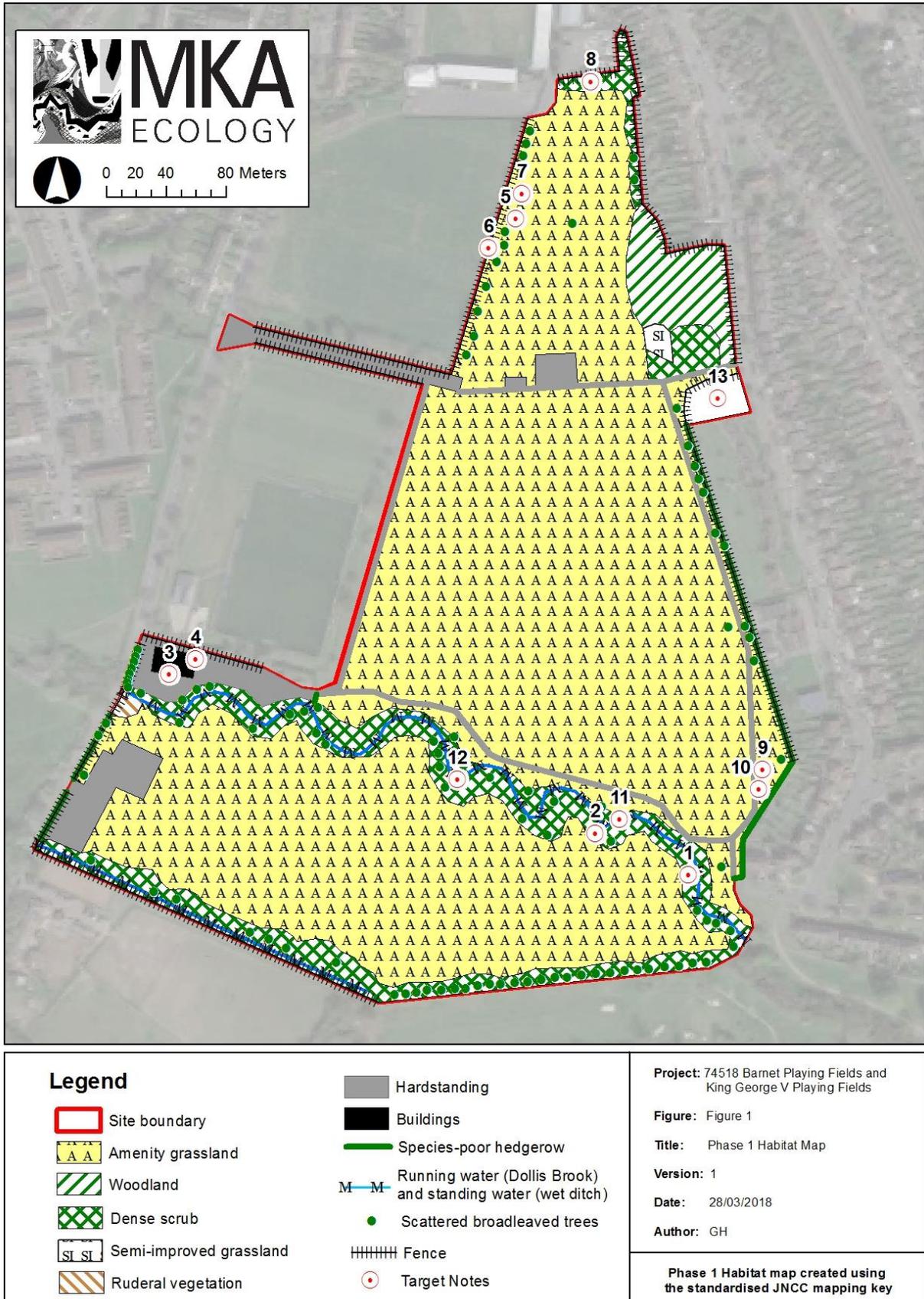
### *Buildings*

A single building was present on site (see Photograph 9, Appendix 3). It was brick-built single-storey building with a sloping tiled roof on one section and a flat roof on the other. It contained several holes and gaps and was considered to have bat roost potential

### *Standing water/running water*

A wet ditch was present in the scrub on the southern border. Dollis Brook flows between Barnet Playing Fields and King George V Playing Fields and was also surrounded by scrub and a small amount of marginal vegetation (see Photograph 10, Appendix 3).

Figure 1: Phase 1 habitat map of Barnet and King George V Playing Fields



### Target notes

TN01: Mature tree (ash *fraxinus excelsior*) with several cavities; bat roost potential

TN02: Mature tree (oak *Quercus sp.*) with several cavities; bat roost potential

TN03: Gap between bargeboard and wall of building; bat roost potential

TN04: Hole in wall of building; bat access potential

TN05: Mature tree with cavity

TN06: Rat burrow and rat

TN07: Mature tree (oak *Quercus sp.*) with cavity; bat roost potential

TN08: Mature tree (oak *Quercus sp.*) with several cavities; bat roost potential

TN09: Mature tree (oak *Quercus sp.*) with woodpecker hole; bat roost potential

TN10: Mature tree (oak *Quercus sp.*) e with cavity; bat roost potential

TN11: Borrows in bank and rat seen

TN12: Burrows in bank

TN13: No access – garden habitat with lawn and shrubs

### 4.3. Protected species scoping survey

#### Plants

The data search returned numerous records of protected or notable plants within 2km of the Site. These included species listed under Schedule 8 of the Wildlife and Countryside Act (1981) (as amended) (bluebell *Hyacinthoides non-scripta*), Section 41 of the NERC Act (2006) (red hemp-nettle *Galeopsis angustifolia*), UK and London Biodiversity Action Plans, those listed as Nationally Rare and Scarce and Local Species of Conservation Concern.

No plants listed in the data search were found on site, although the assessment was undertaken in a sub-optimal time of year, and so some species may not have been apparent. The plant species for which Dollis Brook SINC is designated for (including yellow iris *Iris pseudocorus*, sneezewort *Achillea ptarmica* and devil's bit scabious *Succisa pratensis*) were not recorded, although the timing of the site visit would have prevented recording of these species and a full botanical survey was not conducted at the Site.

The majority of the site comprised amenity grassland which is unlikely to support any notable species. As such, the likelihood of notable species being present is considered to be **negligible**.

No signs of Himalayan balsam was observed on site, however the site visit was undertaken in March when it is not visible. Nine records were returned from the data search of the surrounding 2km.

Himalayan balsam seeds float and as such it is often found next to watercourses. The likelihood of the presence on site is considered to be **low to moderate**.

### *Invertebrates*

Numerous invertebrate species were returned from the data search, including species listed on Section 41 of the NERC Act (2006), and local and national Biodiversity Action Plan species.

The hedgerows, woodland and riparian habitats may be suitable habitat for invertebrates. However, the relative paucity of vegetative habitats overall and absence of dead wood on site indicates that there is a **negligible** risk of notable invertebrate species being impacted by development. Therefore, this group is not considered further in this report.

### *Amphibians*

The data search returned records of common frog *Rana temporaria* and common toad *Bufo bufo*. No records of great crested newt were returned within 2km of the site. A search on MAGIC Map indicates that no European Protected Species licences for this species have been issued within 2km.

No waterbodies were identified on site. An Ordnance Survey map and aerial photographs were consulted for the presence of other waterbodies within 500m of the Site boundary. At least seven waterbodies and several drains were identified within 500m of the Site. Five of the seven waterbodies are small (less than 100m<sup>2</sup>) and are located to the south of the Site, on the golf course and horse centre. The habitat between the Site and the ponds to the south consists of grassland and hedgerow. Both of these habitats are considered to be suitable for great crested newt migrating between aquatic and terrestrial habitats. The two remaining ponds to the north and east of the site are separated from the site by buildings, hardstanding and a railway line. These habitats pose a significant migration barrier to the Site.

The large majority of on-site habitat consisted of amenity grassland, which is considered unsuitable habitat for great crested newt. Overall, the likelihood of this species being present on site is considered to be **low** and their potential presence is not considered further.

### *Reptiles*

The data search returned three records of slow-worm, one record of grass snake and one record of common lizard. The closest record was of a slow-worm at 251m north of the Site. The woodland, semi-improved grassland and scrub are considered to provide suitable habitats to support these common reptile species.

Overall the likelihood of the site to support this species group is considered to be **moderate to high**.

### Birds

A total of 25 species were recorded during the site visit. These species are shown in Table 6 below, together with their conservation status. It is important to note that this is not a full inventory of species for the site.

**Table 6: Bird species recorded during site visit at Barnet and King George V Playing Fields**

Common name	Systematic name	S1 W&CA <sup>1</sup>	BoCC <sup>2</sup> Status	S41 SPI <sup>3</sup>	Local PrSp <sup>4</sup>
Blackbird	<i>Turdus merula</i>	No	Green	No	No
Black-headed gull	<i>Chroicocephalus ridibundus</i>	No	Amber	No	No
Blue tit	<i>Cyanistes caeruleus</i>	No	Green	No	No
Carrion crow	<i>Corvus corone</i>	No	Green	No	No
Chaffinch	<i>Fringilla coelebs</i>	No	Green	No	No
Fieldfare	<i>Turdus pilaris</i>	Yes	Red	No	No
Goldfinch	<i>Carduelis carduelis</i>	No	Green	No	No
Great tit	<i>Parus major</i>	No	Green	No	No
Green woodpecker	<i>Picus viridis</i>	No	Green	No	No
Grey heron†	<i>Ardea cinerea</i>	No	Green	No	No
House sparrow	<i>Passer domesticus</i>	No	Red	Yes	Yes
Jackdaw	<i>Corvus monedula</i>	No	Green	No	No
Little egret	<i>Egretta garzetta</i>	No	Green	No	No
Magpie	<i>Pica pica</i>	No	Green	No	No
Mallard	<i>Anas platyrhynchos</i>	No	Amber	No	No
Mistle thrush*	<i>Turdus viscivorus</i>	No	Red	No	No
Nuthatch	<i>Sitta europaea</i>	No	Green	No	No
Pied wagtail	<i>Motacilla alba</i>	No	Green	No	No
Redwing*	<i>Turdus iliacus</i>	Yes	Red	No	No

Common name	Systematic name	S1 W&CA <sup>1</sup>	BoCC <sup>2</sup> Status	S41 SPI <sup>3</sup>	Local PrSp <sup>4</sup>
Ring-necked parakeet	<i>Psittacula krameri</i>	No	Green	No	No
Robin	<i>Erithacus rubecula</i>	No	Green	No	No
Song thrush	<i>Turdus philomelos</i>	No	Red	Yes	Yes
Starling	<i>Sturnus vulgaris</i>	No	Red	Yes	Yes
Woodpigeon	<i>Columba palumbus</i>	No	Green	No	No
Wren	<i>Troglodytes troglodytes</i>	No	Green	No	No

<sup>1</sup> Schedule 1 of The Wildlife and Countryside Act 1981 (see Appendix 1)

<sup>2</sup> Birds of Conservation Concern (see Appendix 1)

<sup>3</sup> Section 41 (NERC Act 2006) 'Species of Principal Importance' (see Appendix 1)

<sup>4</sup> Local Priority Species

\* Observed flying over site/off site.

† Carcass found

The Site contains suitable breeding bird habitat in the form of scrub, scattered trees, hedgerows, and buildings.

A large number of species were returned within the data search of the site and surrounding 2km. These included species listed on Annex 1 of the Birds Directive, Schedule 1 of the Wildlife and Countryside Act 1981, Section 41 of the NERC Act, UK and local Biodiversity Action Plans, and birds listed as Amber or Red on the IUCN Red list.

Several of these species including osprey *Pandion haliaetus* and several waders would not occur at the site due to the absence of suitable habitat. However, some passerine birds listed on the data search including kingfisher *Alcedo atthis* (Schedule 1 listed), stock dove *Columba oenas*, bullfinch *Pyrrhula pyrrhula*, spotted flycatcher *Muscicapa striata* (which are listed as either Red or Amber on the BoCC Red List), have the potential to utilise the Site in addition to those recorded during the survey.

Six red list species were recorded on the site during the site visit. Two of these (redwing and fieldfare), are both listed on Schedule 1 of The Wildlife and Countryside Act 1981 (as amended). These species are very common wintering visitors in parkland and their presence would be expected at this time of year. They are protected on account of very rare breeding records which have never occurred in this region and thus their presence is not considered further. The four other red list species: mistle and song Thrush, house sparrow and starling, could all breed within or close to the site and the area is likely to be a significant foraging location.

Overall the likelihood of the Site to support important assemblages of bird species, or protected bird species is considered to be **moderate** and the potential to support nesting birds is **high**.

## Bats

MAGIC Map was consulted for any existing European Protected Species Licences for bats, and a single licence was retrieved within 2km of the Site boundary. The Licence was for common pipistrelle, at a distance of 1.3km from the Site boundary (licence period March 2016-March 2021).

The desktop study returned records for six bat species: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, natterer's bat *Myotis nattereri*.

These species are all associated with roosts in buildings and other built structures, and/or tree holes. Numerous trees scattered across the site contained knotholes, woodpecker holes and other cavities, all of which provide suitable roosting habitat for bats. The table tennis building in the south western corner also had potential to support bats and contained holes in the walls. Overall the site is considered to provide **high** roosting potential.

Habitats on site, including hedgerows, scrub, lines of trees and woodland all offer suitable foraging habitat for a range of bat species. Fields to the south and adjoining hedgerows provide commuting routes for bats to the site, however the north and east of the site is surrounded by urban environments. The commuting and foraging value of the site is considered to be **moderate**.

## Badgers

The data search returned records of badger within 2km of the Site. Whilst there is suitable foraging habitat in the form of hedgerows and woodland, no evidence of the species was recorded during the site visit. The site is linked in the south to a much larger area of greenspace and there is considered to be a **low** risk of badger being present on Site.

## Other mammals

The data search returned records of European water vole *Arvicola amphibious*, European otter *Lutra lutra*, hedgehog *Erinaceus europaeus* and harvest mouse *Micromys minutus* records within the search area.

The banks on Dollis Brook and the riparian scrub vegetation provides suitable habitat for water vole. Rodent burrows were recorded during the site visits, although they were likely made by brown rat *Rattus norvegicus*. The likelihood of water vole being present on site is considered to be **moderate**. Otter are a wide ranging and highly mobile species. Due to the exposure of the river to human disturbance, the likelihood of otter being present on site is considered to be **negligible**.

Numerous records of hedgehog were returned from the data search, with the closest record located 251m north of the Site. The woodland has the potential to provide foraging and nesting habitat for hedgehog. Overall, the likelihood of this species being present on site is considered to be **moderate to high**.

Harvest mouse is a Species of Principle Importance and is a Priority Species for London. The amenity grassland is closely mown and as such, does not provide suitable habitat for this species. Overall the likelihood of harvest mouse being present on site is considered to be **negligible**.

## 5. ECOLOGICAL CONSTRAINTS, OPPORTUNITIES AND RECOMMENDATIONS

This section outlines key ecological issues for consideration, recommendations for further work and ecological enhancements where appropriate.

### *Off-site habitats*

One statutory designated site is present within 2km of the Site, and this is designated for supporting the scarce adder's-tongue fern and four-spot orb weaver spider. 13 non-statutorily designated sites were present within 2km. Whilst the majority of these sites are unlikely to be directly or indirectly impacted by the development due to the distance and type of development, Dollis Brook flows between Barnet and King George V Playing fields and will be directly and indirectly impacted – this is discussed in the following section. Overall, there are limited perceived impacts on off-site habitats.

### *On-site habitats*

The current masterplan proposes building a bridge across Dollis Brook between the two playing fields, as well as a cycle track parallel with the stream. This will likely involve the removal of habitats present in the area the bridge is to be built, including riparian vegetation and scrub. Direct impacts on Dollis Brook may result from establishing foundations or footings for the bridge and the risk of polluting the watercourse. During construction of the bridge and the other proposed development, indirect impacts include increased noise, lighting and activity levels which could affect species present or those that interact with them. There is also the risk of accidental damage to the designated site.

These indirect impacts during construction are same post development, with an increase in number of visitors affecting noise and activity levels whilst required lighting within the development will cause an increase in lighting which will spill on the designated site. Direct impacts to the Dollis Brook include increased footfall and use by cyclists, which if not kept to designated paths could affect vegetation for which the site is designated for.

Dollis Brook is a Site of Borough Grade I Importance. The management of Borough sites should usually allow and support their enjoyment by people and their use for education. The predicted increase in visitors is to be encouraged, however it should be managed carefully to minimise impacts upon Dollis Brook. Taking these impacts into account, it is recommended that a management plan is developed to minimise impacts on Dollis Brook. This management plan will cover aspects including (but not limited to):

- Buffering vegetation within design scheme;

- Protection from accidental damage during works;
- Visitor management;
- Lighting management; and
- Noise management.

It is recommended that surveys for water vole and invasive species (see following recommendations) are undertaken prior to the development of the Dollis Brook management plan. Further enhancements for Dollis Brook are recommended in detail within the Biodiversity Enhancements section below.

#### **Recommendation 1**

Develop a management plan to eliminate direct and indirect impacts on Dollis Brook during and post construction.

Hedgerows, streams and woodland are listed as Habitats of Principal Importance on the NERC Act (2006). These habitats on site are currently considered to be of low value, each being species-poor examples of the habitat types. As these habitats have potential to be enhanced to a higher ecological value and meet the standards listed under the Habitats of Principal Importance, it is recommended that these habitats are retained where feasible and enhanced.

#### **Recommendation 2**

Retain, where feasible, and enhance hedgerows, stream and woodland on site.

Loss of foraging habitat for thrushes and hedgehog anticipated due to the development of the sports pitches. This is likely to have an impact on the food availability for these species. Recommendations regarding this are made under the headings for these species below.

#### *Plants*

No signs of Himalayan balsam was recorded during the site visit, however the data search returned nine records of occurrences, with a maximum occurrence of 30 individuals. As the site visit was undertaken in March, it will not have been readily visible. Himalayan balsam is listed on Schedule 9 of the Wildlife and Countryside Act 1981. It is an offence to plant or cause this plant to spread in the countryside and all waste containing these plants come under the control of Part II of the Environmental Protection Act 1990.

Therefore, it is recommended a Himalayan balsam survey should be undertaken during the appropriate season to confirm the presence or absence.

### Recommendation 3

Undertake a Himalayan balsam survey to ascertain its presence or absence on site. Its presence would require significant management on site.

### Reptiles

Suitable habitat for reptiles (common lizard, grass snake and slow-worm) is present on the Site, such as semi-improved grassland and woodland. Impacts on reptiles are possible through clearance of vegetation and construction activities, as well as longer term habitat loss. Reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (see Appendix 1), and are listed as Species of Principal Importance under the NERC Act (2006).

Where impacts to suitable reptile habitat is predicted, survey work is recommended in order to determine the presence or absence of reptiles and establish potential impacts on these species. These surveys should be carried out using artificial cover objects (on or under which reptiles can bask) in the active season which runs from March to October. The optimum survey times are in April, May and September. Seven visits should be conducted during suitable weather conditions according to guidance published by Froglife (1999).

### Recommendation 4

Undertake a survey for reptiles between March and September, if impacts are predicted on the semi-improved grassland and woodland.

### Birds

A total of 25 bird species were recorded during the Preliminary Ecological Appraisal. The scattered trees, hedgerows, woodland, riparian habitat and buildings all have potential to provide suitable nesting habitat for birds.

Four species (in addition to redwing and fieldfare, discussed earlier) were recorded that are on the red list (Eaton *et al*, 2015). Three of these, song and mistle thrush and starling will experience a loss of foraging habitat with the reduction in amenity grassland, which may be particularly pertinent for mistle thrush, which is the least common of the three species. It is recommended that strips of amenity grassland are retained between the artificial pitches, to maintain access corridors and ensure foraging opportunities for these species.

### Recommendation 5

Retain strips of grassland between artificial pitches to ensure foraging habitat and access corridors are retained for hedgehog and thrushes.

Provisions for the fourth species (house sparrow) can be improved through increased nesting opportunities within the built environment, which could also aid starling. These are discussed in more detail below

All wild birds, their active nests and eggs are protected under The Wildlife and Countryside Act 1981 (as amended), which makes it an offence deliberately, or recklessly, to kill or injure any wild bird or damage or destroy any active birds' nest or eggs.

Scheduling vegetation and building removal works between the months of September and February inclusive (i.e. outside of the bird season) would avoid impacts on breeding birds.

Where vegetation and or building clearance works are required during the breeding bird season (between the months of March and August inclusive), such works can only proceed following the completion of a nesting bird check undertaken by an experienced ornithologist. Any active birds' nest identified during this check must be protected from harm until the nesting attempt is complete. This will require a buffer to be left around the nest, the size of which will depend upon the species involved (as a general rule, this will be 10m in all directions around the nest). Any buffers established as a result of the initial nesting bird check must be subjected to a second check after the original nesting attempt is completed, before such areas can be removed during the breeding bird season.

#### **Recommendation 6**

Schedule vegetation and building clearance works between the months of September and February inclusive to avoid impacts on breeding birds.

**It is strongly recommended that any potential nesting bird habitat is cleared outside the breeding bird season in order to avoid potentially lengthy delays if nests are found during nesting bird checks.**

The loss of bird nesting habitat at the site will be mitigated for by the provision of bird boxes as part of the biodiversity enhancements proposed for the site. The provision of bird boxes is discussed in greater detail in the relevant section below.

#### *Bats*

The Site contained areas of suitable foraging and commuting habitat for bats. There are also potential roosting opportunities for bats in the buildings and mature trees.

Bats and their roosts are protected by law (see Appendix 1), which makes it an offence deliberately to capture, injure, kill or disturb a bat, disturb a bat, damage or destroy a bat roost, disturb a bat at a roost or obstruct access to a roost.

Removal of buildings and trees may kill, injure or disturb bats, or destroy roosts, whilst development in close proximity to roosts may obstruct access to a roost or result in further disturbance. A bat inspection survey should be undertaken at the Site to identify which buildings or trees may support roosting bats. The data gathered in this inspection will inform requirements for nocturnal survey effort.

**Recommendation 7**

Undertake a daytime bat inspection upon any buildings or mature trees scheduled for removal.

Bat roosting behaviour, commuting and foraging activity can additionally be dramatically affected by artificial lighting (BCT, 2009). It is strongly recommended that any proposed exterior lighting is managed appropriately to ensure that the area remains suitable for foraging bats. A sensitive lighting scheme should be developed to allow suitable roosting and foraging areas for bats.

**Recommendation 8**

Light pollution from any lighting should be minimised both during and after the construction phase. A sensitive lighting scheme should be developed and approved by a suitably qualified ecologist allow for suitable roosting and foraging areas for bats within the site with maximum use of down lighting and hoods where necessary.

*Water vole*

Potential water vole habitat was identified along the banks of Dollis Brook. Water voles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 and are a priority conservation species. It is illegal to damage, destroy or block their places of shelter or protection (on purpose or by not taking enough care).

A water vole survey should be undertaken on Dollis Brook to ensure no water voles are impacted upon during construction of the bridge, or in the long term. The water vole survey should cover between least 50-100m upstream and downstream of the proposed bridge location. Surveys for this species can be undertaken between April and September inclusive.

**Recommendation 9**

Undertake a water vole survey along Dollis Brook.

*Opportunities for biodiversity enhancement*

Following the issue of the National Planning Policy Framework (NPPF; see Appendix 1), all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological

conservation interests. Ecological enhancements should aim to deliver biodiversity gains for the proposed development site.

Planting of native species or those with a known attraction or benefit to local wildlife is recommended in landscape proposals to enhance foraging opportunities for birds and bats by increasing the invertebrate diversity on site. Planting should reflect the native species historically found within the region and plants should be of local provenance wherever possible.

The locations of new areas of planting should aim to buffer existing habitats and form a coherent network of ecologically rich habitats through the Site. This can be achieved through the incorporation of hedgerows, a Habitat of Principle Importance, into the design scheme. Additionally, hedgerows act as green infrastructure, the provision of which is in accordance with the London Plan. Providing hedgerows which include several native species will increase the biodiversity of the Site post-development, in line with national policy. It is recommended that the current hedgerows should be retained and enhanced within the development scheme. Additional species to include would be dogwood *Cornus sanguinea*, Guelder rose *Viburnum opulus* and blackthorn *Prunus spinosa*. This will help to provide high quality hedgerow habitat which is considered a Habitat of Principal Importance under the NERC Act (2006).

Enhanced opportunities for breeding birds should be incorporated into the design scheme. Bird boxes should be mounted on trees, fences and built structures at the site. It is recommended that there is a focus house sparrow and starling, together with the provision of generalist bird boxes. Both of these species, which are BoCC Red listed and have undergone severe population declines, were recorded during the site visit.

Enhancements to Dollis Brook are also recommended to compensate for the proposed bridge. It is recommended the design explores the provision of nest boxes for grey wagtail *Motacilla cinerea* on the underside of the bridge is also recommended, as well as placing them on new and existing buildings.

#### **Recommendation 10**

A minimum of 10 bird boxes should be installed at the site, to include provisions for starling and house sparrow. Provisions for grey wagtail should also be incorporated. Boxes should be integrated into the new built structures where possible.

The wider landscape has the potential for use by foraging bats. With this in mind, enhanced opportunities for roosting bats should also be provided at the site through the provision of bat boxes. The provision of ten bat boxes in the final site design would be appropriate for the size of this development. These should be located away from light sources and mounted on suitable trees and integrated into the new built structures.

Enhancements to Dollis Brook could include the installation of bat boxes for Daubenton’s bat *Myotis daubentonii*, a species which forages over water. These boxes could be installed onto the new bridge or on nearby mature trees.

**Recommendation 11**

Provisions should be made for roosting bats at the site post-development, to include a minimum of 10 integrated or wall mounted bat bricks or bat boxes and boxes mounted in trees at the site.

The broadleaved woodland and scrub have the potential to support foraging and hibernating hedgehogs. The inclusion of Hedgehog domes would encourage this species to thrive. Hedgehogs are a Species of Principal Importance under the NERC Act (2006) and the Local and Regional Planning Authorities have a responsibility to conserve populations of these species as well as restore and enhance populations. Corridors of grassland should be maintained within the site design, to ensure foraging opportunities are maintained and enable the continued movement of hedgehog across the site.

Additionally, the inclusion of two Hedgehog domes would help to sustain and enhance the population at a local level. These should be installed at the north-east of the Site within the woodland. An example of a suitable hedgehog dome is provided in Appendix 4.

**Recommendation 12**

Retain areas of amenity grassland for commuting and foraging hedgehogs. Hedgehog domes should also be included in the site design.

Further opportunities for ecological enhancements could be made at the site post-development to encourage native wildlife and create rich and ecologically valuable habitats at the site. Enhancements to consider could include provision of log piles for invertebrates and the creation of a wildlife pond.

*Summary of recommendations*

Table 7 below summarises the recommendations made within this report, and specifies the stage of the development at which action is required. Colour coding of cells within the table is as follows:

**Key:**

	No action required for this species group at this stage
	Action required (see notes for details)
	Level of action required will be determined following the further survey work

**Table 7: Summary of recommendations at Barnet and King George V Playing Fields**

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Habitats	Management Plan for Dollis Brook	No	No	No
Bats	Further survey work if impacts predicted	TBC	Install integrated boxes	Bat boxes and native planting
Reptiles	Further survey work if impacts predicted	TBC	TBC	TBC
Birds	No	Agreement of box provision within new build for sparrows and grey wagtail and kingfisher on bridge and brook	Timing of works for vegetation removal OR further survey work. Provision of a kingfisher bank, install integrated boxes	Bird boxes and native planting
Water vole	Further survey work	TBC	TBC	TBC
Invasive species	Further survey work	TBC	TBC	TBC

## 6. CONCLUSIONS

The Site at Barnet and King George V is a typical urban fringe recreational area with some potential protected species groups. These require careful and sensitive management in the development process. Prior to planning and development further assessment is required in order to understand fully the potential impacts on these protected species and to guide any necessary mitigation measures.

The non-statutorily designated Site of Borough Grade I Importance, Dollis Brook, flows between Barnet Playing Fields and King George V Playing Fields. The development has the potential to impact upon the brook and a management plan as well as ecological enhancements have been recommended to ensure it retains its ecological value. Other habitats at the Site are of ecological value, in particular the woodland and the hedgerows. These habitats should be retained within the final design scheme to maintain coherent ecological network.

The masterplan has provision of tree planting and corridor creation which will add to the value of the site, and the maintenance of amenity grassland corridors between the artificial pitches is important for species such as Hedgehog and foraging birds, notably thrushes. It is possible that the loss of amenity grassland will have a negative impact on local foraging bird species, notably mistle thrush.

The majority of the construction footprint is likely to cover areas which are of lower ecological value, including amenity grassland and hardstanding. As such, there is opportunity to greatly enhance the biodiversity of the site post-development. Provision of bird and bat boxes will assist in making the development permeable to wildlife. These recommendations for ecological enhancement are in line with local and national planning policy for ensuring sustainable developments.

## 7. REFERENCES

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## 8. APPENDICES

### 8.1. Appendix 1: Relevant wildlife legislation and planning policy

Please note that the following is not an exhaustive list, and is solely intended to cover the most relevant legislation pertaining to species commonly associated with development sites.

Subject	Legislation (England)	Relevant prohibited actions
<i>Amphibians</i>		
Great crested newt <i>Triturus cristatus</i>  Natterjack toad <i>Epidalea calamita</i>	Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended)  Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> <li>• Intentionally or deliberately capture or kill, or intentionally injure;</li> <li>• Deliberately disturb or intentionally or recklessly disturb them in a place used for shelter or protection;</li> <li>• Damage or destroy a breeding site or resting place;</li> <li>• Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and</li> <li>• Possess an individual, or any part of it, unless acquired lawfully.</li> </ul>
<i>Reptiles</i>		
Common lizard <i>Zootoca vivipara</i>  Adder <i>Vipera berus</i>  Slow-worm <i>Anguis fragilis</i>  Grass snake <i>Natrix helvetica helvetica</i>	Part of Sub-section 9(1) of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> <li>• Intentionally kill or injure individuals of these species (Section 9(1)).</li> </ul>

Subject	Legislation (England)	Relevant prohibited actions
<p>Sand lizard <i>Lacerta agilis</i></p> <p>Smooth snake <i>Coronella austriaca</i></p>	<p>Full protection under Section 9 of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)</p>	<ul style="list-style-type: none"> <li>• Deliberately or intentionally kill, capture (take) or intentionally injure;</li> <li>• Deliberately disturb;</li> <li>• Deliberately take or destroy eggs;</li> <li>• Damage or destroy a breeding site or resting place or intentionally damage a place used for shelter; or</li> <li>• Intentionally obstruct access to a place used for shelter.</li> </ul>
<i>Birds</i>		
<p>All wild birds</p>	<p>Wildlife and Countryside Act 1981 (as amended)</p>	<ul style="list-style-type: none"> <li>• Intentionally kill, injure, or take any wild bird or their eggs or nests.</li> </ul>
<p>'Schedule 1' Birds</p>	<p>Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)</p>	<ul style="list-style-type: none"> <li>• Disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young; or</li> <li>• Disturb the dependent young of any wild bird listed on Schedule 1.</li> </ul>
<i>Mammals</i>		
<p>Bats (all UK species)</p>	<p>Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended)</p>	<ul style="list-style-type: none"> <li>• Deliberately capture, injure or kill a bat;</li> <li>• Deliberately disturb a bat (disturbance is defined as an action which is likely to: (i) Impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) Impair their ability to hibernate or migrate; or (iii) Affect significantly the local</li> </ul>

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	<p>distribution or abundance of the species);</p> <ul style="list-style-type: none"> <li>• Damage or destroy a bat roost;</li> <li>• Intentionally or recklessly disturb a bat at a roost; or</li> <li>• Intentionally or recklessly obstruct access to a roost.</li> </ul> <p>In this interpretation, a bat roost is "<i>any structure or place which any wild [bat]...uses for shelter or protection</i>". Legal opinion is that the roost is protected whether or not the bats are present at the time.</p>
Badger <i>Meles meles</i>	Protection of Badgers Act 1992	<p>Under Section 3 of the Act:</p> <ul style="list-style-type: none"> <li>• Damage a sett or any part of it;</li> <li>• Destroy a sett;</li> <li>• Obstruct access to, or any entrance of, a sett; or</li> <li>• Disturb a badger when it is occupying a sett.</li> </ul> <p>A sett is defined legally as any structure or place which displays signs indicating current use by a badger (Natural England 2007).</p>
Hazel dormouse <i>Corylus avellana</i>	Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended)	<ul style="list-style-type: none"> <li>• Intentionally or deliberately capture or kill, or intentionally injure;</li> <li>• Deliberately disturb or intentionally or recklessly disturb them in a place used for shelter or protection;</li> </ul>

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> <li>• Damage or destroy a breeding site or resting place;</li> <li>• Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and</li> <li>• Possess an individual, or any part of it, unless acquired lawfully.</li> </ul>
Otter <i>Lutra lutra</i>	Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended)	<ul style="list-style-type: none"> <li>• Deliberately capture, injure or kill an otter;</li> <li>• Deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young;</li> <li>• Intentionally or recklessly disturb any Otter whilst it is occupying a holt;</li> <li>• Damage or destroy or intentionally or recklessly obstruct access to an otter holt.</li> </ul>
	Section 9(4)(b) and (c) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	
Water vole <i>Arvicola amphibius</i>	Section 9 of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> <li>• Intentionally kill, injure or take water voles;</li> <li>• Possess or control live or dead water voles or derivatives;</li> <li>• Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; or</li> <li>• Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.</li> </ul>
<i>Crustaceans</i>		

Subject	Legislation (England)	Relevant prohibited actions
White-clawed crayfish <i>Austropotamobius pallipes</i>	Section 9(1) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"><li>Intentionally kill, injure or take white-clawed crayfish by any method.</li></ul>

#### Conservation of Habitats and Species Regulations 2010 (as amended)

Full legislation text available at: <http://www.legislation.gov.uk/ukxi/2010/490/regulation/61/made>

#### The Wildlife and Countryside Act 1981 (as amended)

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>.

#### Countryside and Rights of Way Act 2000

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/2000/37/contents>

#### Protection of Badgers Act 1992

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents>

#### Section 41 of Natural Environments and Rural Communities (NERC) Act 2006

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/2006/16/section/41>

Many of the species above, along with a host of others not afforded additional protection, are listed on Section 41 of the NERC Act 2006.

Section 41 (S41) of the Natural Environment and Rural Communities (NERC Act 2006) requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK Biodiversity Action Plan (BAP) List of Priority Species and Habitats.

The S41 list should be used to guide decision-makers such as local and regional authorities to have regard to the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006. The duty applies to all local authorities and extends beyond just conserving what is already there, to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

### **Schedule 9 of Wildlife and Countryside Act 1981 (as amended)**

In addition to affording protection to some species, The Wildlife and Countryside Act 1981 (as amended) also names species which are considered invasive and require control. Section 14 of the Act prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed in Schedule 9 to the Act. In the main, 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, such that further releases should be regulated.

### **Wild Mammals (Protection) Act 1996**

Full legislation text is available at: <http://www.legislation.gov.uk/ukpga/1996/3/contents>

Under this legislation it is an offence to cause unnecessary suffering to wild mammals, including by crushing and asphyxiation. It largely deals with issues of animal welfare, and covers all non-domestic mammals including commonly encountered mammals on development sites such as rabbits, foxes and field voles.

### **Birds of Conservation Concern (BoCC)**

This is a quantitative assessment of the status of populations of bird species which regularly occur in the UK, undertaken by the UK's leading bird conservation organisations. It assesses a total of 246 species against a set of objective criteria to place each on one of three lists – Green, Amber and Red – indicating an increasing level of conservation concern. There are currently 52 species on the Red list, 126 on the Amber list and 68 on the Green list. The classifications described have no statutory implications, and are used merely as a tool for assessing scarcity and conservation value of a given species.

### **National Planning Policy Framework (NPPF)**

Full text is available at: <https://www.gov.uk/government/collections/revISED-national-planning-policy-framework>

A revised NPPF was published on 24 July 2018 setting out the Government's planning policies for England and the process by which these should be applied. The policies within the NPPF are a material consideration in the planning process. The key principle of the NPPF is a presumption in favour of sustainable development, with sustainable development defined as a balance between economic, social and environmental needs.

Policies 170 to 183 of the NPPF address conserving and enhancing the natural environment, stating that the planning system should:

- Contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes;
- Recognise the wider benefits of ecosystem services; and
- Minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity.

Furthermore there is a focus on re-use of existing brownfield sites or sites of low environmental value as a priority, and discouraging development in National Parks, Sites of Specific Scientific Interest, the Broads or Areas of Outstanding Natural Beauty other than in exceptional circumstances.

Where possible, planning policies should also

“promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”.

## 8.2. Appendix 2: Phase 1 Habitat species list

Please note that these lists are intended to be incidental records and do not constitute a full botanical survey of the site. Relative abundance is given using the DAFOR scale. Please see Table 2 for details.

### Amenity grassland

Common Name	Systematic Name	Relative abundance
Perennial rye-grass	<i>Lolium perenne</i>	Dominant
Chickweed species	<i>Stellaria media</i> agg.	Occasional
Cock's-foot	<i>Dactylis glomerata</i>	Occasional
Common mouse-ear	<i>Cerastium fontanum</i>	Occasional
Creeping buttercup	<i>Ranunculus repens</i>	Occasional
Daisy	<i>Bellis perennis</i>	Occasional
Dandelion	<i>Taraxacum</i> sp.	Occasional
Ground-ivy	<i>Glechoma hederacea</i>	Occasional
Lesser celandine	<i>Ranunculus ficaria</i>	Occasional
Moss species	<i>Bryophyte</i> sp.	Occasional
Ribwort plantain	<i>Plantago lanceolata</i>	Occasional
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	Occasional
White clover	<i>Trifolium repens</i>	Occasional
Daffodil	<i>Narcissus pseudonarcissus</i> spp. <i>Pseudonarcissus</i>	Rare

### Scattered trees

Common Name	Systematic Name	Relative abundance
Alder	<i>Alnus glutinosa</i>	Occasional
Ash	<i>Fraxinus excelsior</i>	Occasional
Elder	<i>Sambucus nigra</i>	Occasional
Horse-chestnut	<i>Aesculus hippocastanum</i>	Occasional
Lime	<i>Tilia x europaea</i>	Occasional
Lombardy poplar	<i>Populus nigra 'italica'</i>	Occasional
London plane	<i>Platanus x hispanica</i>	Occasional

Oak species	<i>Quercus sp.</i>	Occasional
Sessile oak	<i>Quercus petraea</i>	Occasional
Silver birch	<i>Betula pendula</i>	Occasional
Willow species	<i>Salix sp.</i>	Occasional

*Tall ruderal*

Common Name	Systematic Name	Relative abundance
Bramble	<i>Rubus fruticosus spp.</i>	Occasional
Cleavers	<i>Galium aparine</i>	Occasional
Common nettle	<i>Urtica dioica</i>	Occasional

*Species-poor intact hedgerow 1*

Common Name	Systematic Name	Relative abundance
Hawthorn	<i>Crataegus monogyna</i>	Dominant
Ivy	<i>Hedera helix</i>	Occasional
Bramble	<i>Rubus fruticosus spp.</i>	Occasional
Ash	<i>Fraxinus excelsior</i>	Occasional
Field Maple	<i>Acer campestre</i>	Occasional
Lords-and-Ladies	<i>Arum maculatum</i>	Occasional

*Species-poor intact hedgerow 2*

Common Name	Systematic Name	Relative abundance
Garden privet	<i>Ligustrum ovalifolium</i>	Dominant

*Species-poor intact hedgerow 3*

Common Name	Systematic Name	Relative abundance
Beech	<i>Fagus sylvatica</i>	Abundant
Hawthorn	<i>Crataegus monogyna.</i>	Occasional
Sycamore	<i>Acer psuedoplatanus</i>	Occasional
Holly	<i>Ilex aquifolium</i>	Occasional

*Dense scrub*

Common Name	Systematic Name	Relative abundance
Elder	<i>Sambucus nigra</i>	Abundant
Hawthorn	<i>Crataegus monogyna.</i>	Occasional
Ash	<i>Fraxinus excelsior</i>	Occasional
Cow parsley	<i>Anthriscus sylvestris</i>	Occasional
Blackthorn	<i>Prunus spinosa</i>	Occasional
Holly	<i>Ilex aquifolium</i>	Occasional
Yew	<i>Taxus baccata</i>	Occasional
Garden privet	<i>Ligustrum ovalifolium</i>	Occasional

*Dense scrub – by Dollis Brook*

Common Name	Systematic Name	Relative abundance
Pendulous sedge	<i>Carex pendula</i>	Abundant
Teasel	<i>Dipsacus sp.</i>	Occasional
Cleavers	<i>Galium aparine</i>	Occasional
Cow parsley	<i>Anthriscus sylvestris</i>	Occasional
Red dead-nettle	<i>Lamium purpureum</i>	Occasional
Coltsfoot	<i>Tussilago farfara</i>	Occasional

*Broad-leaved woodland*

Common Name	Systematic Name	Relative abundance
Blackthorn	<i>Prunus spinose</i>	Occasional
Bramble	<i>Rubus fruticosus spp.</i>	Occasional
Cherry	<i>Prunus sp.</i>	Occasional
Oak	<i>Quercus sp.</i>	Occasional
Silver birch	<i>Betula pendula</i>	Occasional
Hazel	<i>Corylus avellana</i>	Occasional
Hawthorn	<i>Crataegus monogyna</i>	Occasional

*Semi-improved grassland*

Common Name	Systematic Name	Relative abundance
Yorkshire fog	<i>Holcus lanatus</i>	Abundant
Perennial rye-grass	<i>Lolium perenne.</i>	Occasional
Dove's-foot crane's-bill	<i>Geranium molle</i>	Occasional

### 8.3. Appendix 3: Site photographs

**Photograph 1: Amenity grassland**



**Photograph 2: Scattered trees**



**Photograph 3: Tall ruderal**



**Photograph 4: Species-poor intact hedgerow**



**Photograph 5: Dense scrub**



**Photograph 6: Broadleaved woodland**



**Photograph 7: Semi-improved grassland**



**Photograph 8: Hardstanding**



**Photograph 9: Buildings**



**Photograph 10: Running water (Dollis Brook)**



## 8.4. Appendix 4: Bird box, bat box and hedgehog dome recommendations

### **Bird box recommendations**

A large number of bird boxes are available, designed for the specific needs of individual species. These are normally either designed to be mounted onto trees, external walls or integrated into a building. In general, bird boxes should be mounted out of direct sunlight and prevailing winds, out of reach of predators, with suitable foraging habitat for the subject species close by. Bird boxes should also be left up over winter as they can provide useful roosting sites for birds in bad weather.

Nest boxes should be cleaned at the end of each bird breeding season. All nesting material and other debris should be removed from the box. It should then be scrubbed clean with boiling water to kill any parasites (avoid using any chemicals). Once the box is clean, it should be left to dry out thoroughly. Under the Wildlife and Countryside Act 1981 it is an offence to disturb breeding birds and therefore annual cleaning is best undertaken from October to January when there is no risk of disturbing breeding birds.

#### Generalist boxes

Boxes to attract garden birds and woodland breeding species such as tits, nuthatch, redstart and pied flycatcher can be placed in gardens, orchards, woodlands and a wide variety of other habitats. The species of birds attracted to the box will depend upon the size of the entrance hole (see table below).

Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats. Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east.

General		
Example	Description	Picture
Bird Brick Houses Integrated bird box	<a href="http://www.birdbrickhouses.co.uk/brick-nesting-boxes/integrated-bird-box/">http://www.birdbrickhouses.co.uk/brick-nesting-boxes/integrated-bird-box/</a> Integrated into outside skin of 75mm and most 3" brickwork courses. Comes with a variety of hole sizes to suit particular bird species (see below).	
Entrance Hole	<ul style="list-style-type: none"> <li>28mm: Blue-, Marsh-, Coal- and Crested Tit, Wren.</li> </ul>	

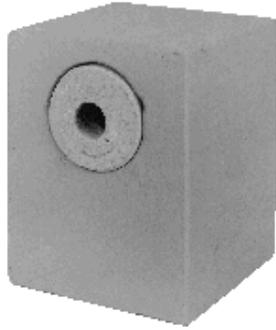
	<ul style="list-style-type: none"> <li>• 34mm: Great-, Blue-, Marsh-, Coal- and Crested Tit, Nuthatch, Pied Flycatcher, House Sparrow.</li> <li>• 40mm: Redstart and Black Redstart</li> <li>• 50m: Starling</li> <li>• 60m: Spotted Flycatcher</li> </ul>	
Example	Description	Picture
Schwegler No. 1B General Purpose Nest box	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Suitable for various garden and woodland birds, created with different sized entrance holes to avoid competition between species. Other variations (e.g. 2M) can be free hanging, to deter predators.</p>	
Entrance Hole	<ul style="list-style-type: none"> <li>• 26 mm: Blue-, Marsh-, Coal- and Crested Tit, possibly Wren. All other species are prevented from using the nest box due to this smaller entrance hole</li> <li>• 32 mm: Great-, Blue-, Marsh-, Coal- and Crested Tit, Redstart, Nuthatch, Pied Flycatcher, Tree and House Sparrows.</li> <li>• Oval: Redstart; also used by species that nest in the diameter 32 mm boxes. However, because more light enters the brood chamber, it is preferred by Redstarts.</li> </ul>	

### House Sparrow boxes

House Sparrow typically nest in loose colonies of around 10-20 pairs and, as they do not defend a territory, boxes can be placed as close as 20-30cm apart. Several individual boxes can be placed together or a terrace (see below) can be installed. House Sparrow's typical range is less than 2km; however, during breeding season adult birds will forage within just 60–70 m metres of their nest site with residential gardens, with native deciduous shrubbery, trees and grassland being favourable foraging habitat

The brick design box can be incorporated into the building or attached the outside of the building. Ideally the box will be placed at soffit/eaves level or at least 2m high.

The ideal nest box for this species will be approximately 350mm (h) x 150mm (w) x 150mm (d) with a hole approximately 32mm in diameter.

House Sparrow		
Example	Description	Picture
Schwegler Brick Box Type 24	<p>(<a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a>)</p> <p>This brick design can be built into the wall of the new development and the external surface, excluding the hole, can be rendered to match the surrounding wall.</p>	
Bird Brick Houses integrated Sparrow terrace box	<p><a href="http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/">http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/</a></p> <p>This has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows.</p>	
Habibat Terraced Sparrow Box	<p><a href="http://www.habibat.co.uk/category/bird-boxes/habibat-terraced-sparrow-box">http://www.habibat.co.uk/category/bird-boxes/habibat-terraced-sparrow-box</a></p> <p>This box is made of insulating concrete which provides an internal roost space, and can be seamlessly integrated into the fabric of a building as it is built or renovated. The access hole is specifically design to accommodate sparrows. This box is made to order with a choice of finishes, and can be provided unfaced for rendering.</p>	
Schwegler Sparrow Terrace 1SP	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>A multiple nest site for this species which can be mounted into or on the external surface of the wall.</p>	

Starling boxes

Starlings are often found in areas where there are established pasture fields close to their roosting site, with further foraging provided by hedges close by.

The nest box should be placed at soffit/eaves level, or at a similar height on a tree, and should not be situated closer than 3m to the ground. Although Starlings do not defend a territory, boxes should be spaced at least several metres apart.

The ideal nest box for Starlings is approximately 400mm (h) x 180mm (w) x 180mm (d) with a hole approximately 45mm in diameter.

Starling		
Example	Description	Picture
Bird brick houses integrated Starling box	<p><a href="http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/">http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/</a></p> <p>This is the same as the standard box but with a 48 mm entrance hole.</p>	
Habibat Starling Nest Box	<p>The Habibat Starling Nest Box is a small, solid box made of insulating concrete which provides an internal roost space, and can be seamlessly integrated into the fabric of a building as it is built or renovated. The access hole is specifically design to accomodate starlings.</p> <p>This box is made to order with a choice of finishes, or can be left unfaced for rendering.</p>	

<p>Schwegler Starling box 3S</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Can be mounted on buildings or trees, ideally out of direct sunlight.</p>	
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### Grey wagtail box

Grey wagtails prefer boxes with an open, balcony-type entrance area, as do other species such as blackbirds, robins and song thrush. Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats. Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east.

For grey wagtail, the box should be fixed on the vertical walls or underside of the bridge, at least 0.5m above the high water line. The wooden insert should be removed.

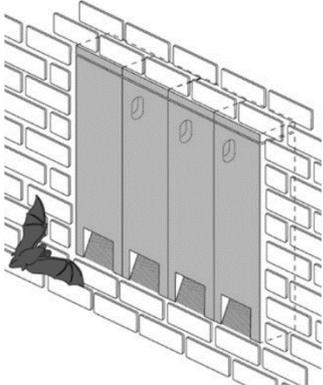
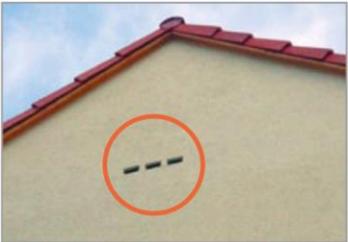
Song thrush		
Example	Description	Picture
<p>Schwegler Nest Box 2HW</p>	<p>(<a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a>)</p> <p>A particularly deep box which can be hung on walls or tree. Contains a wooden insert which can be removed for inspection and also provides protection against predators</p>	 <p><b>Error! Hyperlink reference not valid.</b> <b>Error! Hyperlink reference not valid.</b></p>

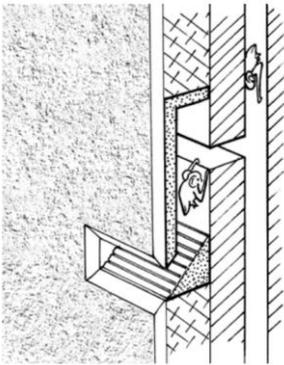
## **Bat box recommendations**

A wide range of bat boxes are available to suit a variety of species and design requirements. Bat boxes can be mounted externally on buildings, built directly into the wall structure or mounted on trees (dependent on box design).

Boxes are more likely to be inhabited if they are located where bats feed and it may help to place the box close to features such as tree lines or hedgerows, which bats are known to use for navigation and can provide immediate cover for bats leaving the roost. Boxes should be placed in areas sheltered from strong winds and are exposed to the sun for part of the day. Access to any bat roosting features should not be lit and should also be at a reasonable height to avoid predation (at least 2m if possible, preferably 4-5m).

Example	Description	Picture
<b>Integrated boxes</b>		
Bird Brick Houses Bat Box	<p><a href="http://www.birdbrickhouses.co.uk/brick-nesting-boxes/bat-box/">http://www.birdbrickhouses.co.uk/brick-nesting-boxes/bat-box/</a></p> <p>Designed to fit into brickwork. This product is ideal for most of the UK's bat species, in particular Pipistrelles. The box is self-cleaning due to an internal tilt board at the base; this works by diverting droppings out of the entrance hole.</p>	
Habibat Bat Boxes (various types)	<p><a href="http://www.habibat.co.uk/category/bat-boxes">http://www.habibat.co.uk/category/bat-boxes</a></p> <p>Habibat provide a range of integrated bat boxes suitable for many different building types and can be installed using standard building methods of construction.</p> <p>These can be faced with brick, block, stone and wood or left unfaced for render.</p> <p>Boxes are made of insulating concrete which provides an internal roost space and are suitable for most species commonly found in the UK.</p>	

Example	Description	Picture
<p>Brick Box Type 27</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Dimensions: 26.5(h) x 18(w) x 24(d) cm Weight: 9.5kg</p> <p>Installation: Can be flush with outside wall and rendered or covered so only the entrance hole is visible.</p> <p>This box is ideal for all types of bats that inhabit buildings.</p>	
<p>Schwegler 2FR</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Dimensions: 47(h) x 20(w) x 12.5(d) Weight: 9.8kg</p> <p>Installation: Can be installed on external walls – either flush or beneath a rendered surface in concrete and, during renovation work, under wooden panelling or in building cavities. Several tubes should be installed together (recommended three).</p> <p>This box is ideal for all types of bats that inhabit buildings. By installing boxes side by side a colony roost can be created with any size requirement. This box has three different environmental partitions inside, attracting different species. The box is self-cleaning.</p>	 
<p>Schwegler 1FE</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Dimensions: 30(h) x 30(w) x 8(d) cm. Weight: approx. 5.1 kg.</p> <p>Installation: Installation of multiple units is recommended. The box can be integrated into insulation or masonry. It can also be attached to the underlying structure to cover existing cavities, allowing bats to still see them. Install at least 3m above the ground.</p>	

Example	Description	Picture
	<p>This is a general purpose box, suitable for all species. There is a maintenance-free access panel for installing on or in the surface of exterior walls. The open rear enables bats to continue to use existing nesting sites in walls.</p>	
<p>Schwegler 1FQ</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Dimensions: 60(h) x 35(w) x 9(d) cm Weight: 15.8kg Installation: Attached to most external brick, timber or concrete walls at least 3m high. Can also be placed inside roof space</p> <p>This box is ideal for all types of bats that inhabit buildings. The box is weather-resistant and is also temperature controlled and self-cleaning. The front panel of the box can also be painted during manufacture, to match an existing colour.</p>	
<p><b>Hanging boxes</b></p>		
<p>Schwegler General Purpose Bat Box 2F with Double Front Panel</p>	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Height 33 cm Weight: approx. 4.1 kg External diameter: 16 cm Installation: Hanging</p> <p>This box is suitable for crevice dwellers, such as Nathusius' Pipistrelle, Daubenton's Bat and Common Pipistrelle.</p>	

Example	Description	Picture
Schwegler 1FF	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>Dimensions: 14(d) x 27(w) x 43(h) cm Weight: 9.9 kg Installation: Hanging</p> <p>This box is suitable for crevice dwellers, such as Nathusius' Pipistrelle, Daubenton's Bat and Common Pipistrelle.</p> <p>This box minimises temperature fluctuations in spring and autumn and is self-cleaning.</p>	

### **Hedgehog domes**

Hedgehogs usually construct nesting places in hollow tree stumps, piles of wood, dense vegetation and piles of leaves, all of which are becoming harder to find. Hedgehog domes should be located somewhere sheltered from both wind and rain, and ideally somewhere where animals do not have to cross a lawn because these are usually damp at night.

If possible, domes should be filled with hay, but alternatively, dry leaves, straw, cut up newspaper or wood shavings can be used. Hedgehogs will readily occupy Hedgehog Domes, and hedgehogs are welcome visitors to gardens because their diet consists of snails, caterpillars, millipedes, etc.

Example	Description	Picture
Schwegler Hedgehog Dome	<p><a href="http://www.schwegler-nature.com">www.schwegler-nature.com</a></p> <p>This circular Hedgehog Dome has an entrance hole of 11 x 12cm, and a basal diameter of approximately 50cm. Hay is supplied with the dome, and this dome is suitable as both a summer home and hibernation quarters.</p>	





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