



Elite Ecology

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**26 Sheldon Avenue,
London**



Bat Activity Survey

October 2022



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0. Executive Summary

0.1 This report has been prepared at the request of Mr. Paul Alston on behalf of the proprietors. It relates to the potential presence of bats and birds at the proposed re-development site located at 26 Sheldon Avenue, London N6 4JT (OS Grid Reference: TQ 27467 87884). To fulfil this brief, Elite Ecology undertook both a desktop study and a field survey.

0.2 The surveyed building is proposed to be demolished.

0.3 Due to the amount of potential ingress/egress points and suitable roosting features, the buildings were deemed to be of the following bat roosting potential:

➤ **B1 = Low**

Therefore, further bat activity surveys are required during the bat survey season (May to September, inclusive). These were subsequently undertaken in September 2022 on the same day as the initial PRA.

No evidence of nesting birds was found during the survey.

0.4 Summary

Bat presence/absence

From the survey visit undertaken on the site, it can be concluded that the structure does not contain any roosting bats. Common pipistrelle (*Pipistrellus pipistrellus*) and noctule (*Nyctalus noctula*) were detected utilising the area.

Bird presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contains no nesting birds. However, the surrounding landscape provides all of the necessary habitat elements that birds require.

Ecological value of building units

The ecological value of the building has been deemed as **negligible** to bats due to the presence of no roosting bats. The ecological value of B1 to bats has been deemed to be **negligible** due to no current bat roosts being present. The ecological value of the buildings to birds has been deemed **negligible** due to no evidence of bird nests found during the survey.

0.5 Recommendations

The recommendations for 26 Sheldon Avenue, London can be summarised as follows (please refer to **Section 5 – Recommendations** for a more in-depth description):

- **Optional Enhancement:** Install bat boxes around the site post development to enhance the site for the local bat populations.
- **Optional Enhancement:** Install a variety of bird boxes around the site post development to enhance the site for the local bird populations.

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1. Introduction

1.1 Report rationale

This report has been prepared at the request of Paul Alston on behalf of the proprietors. It relates to the potential presence of bats and birds at the proposed re-development site located at 26 Sheldon Avenue, London, N6 4JT (OS Grid Reference: TQ 27467 87884). To fulfil this brief, Elite Ecology undertook both a desktop study and a field survey.

1.2 Site description

The site itself is situated within a semi-rural setting near the city of London, which is situated to the south. The habitats located on the survey site are amenity grassland, hard standing ground, hedgerows and scattered trees, as well as the building of interest. The building of interest is a residential structure. Therefore, the site is considered to contain potential to support the local bat and bird populations by offering roosting/nesting, commuting and foraging opportunities.

Figure 1: An aerial photograph of the surveyed site at 26 Sheldon Avenue (as shown by the red outline). The arbitrary building numbers referred to throughout this report are also illustrated.



Figure 2: An aerial photograph of the surveyed site at 26 Sheldon Avenue (as shown by the red outline) in relation to the surrounding area.

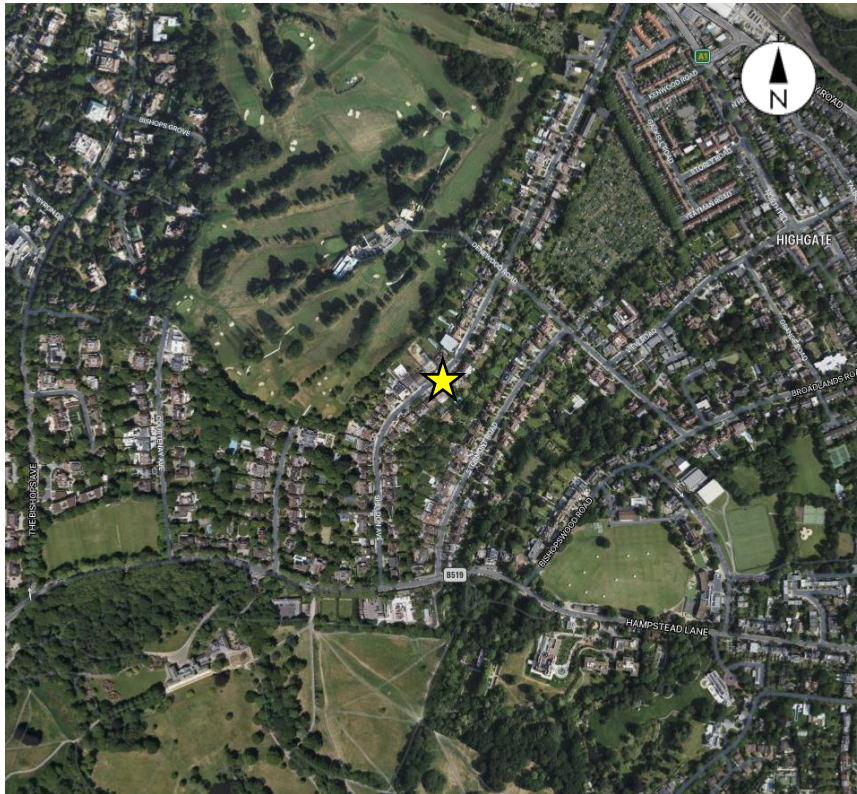
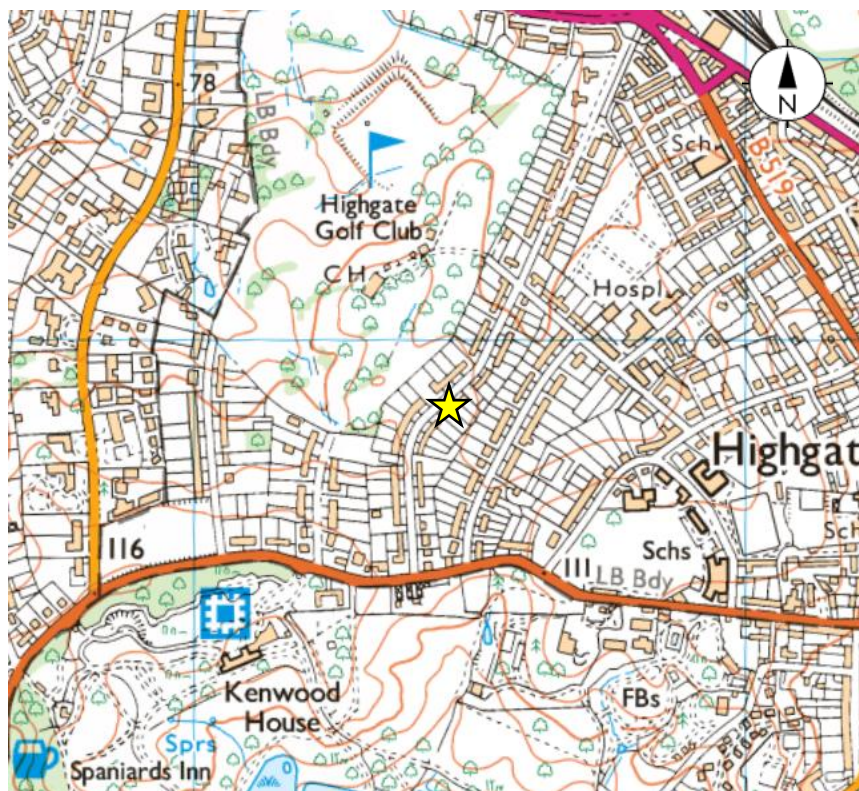


Figure 3: An OS map of the surveyed site at 26 Sheldon Avenue (as shown by the red outline) in relation to the surrounding area.



1.3 **Proposed works**

The surveyed building is proposed to be demolished the client has confirmed. There are no current plans as of writing on what is going to be built.

1.4 **Aims of surveys**

The aims of the surveys were to undertake an assessment of the building(s), vegetation and surrounding area to establish whether any bats may be present and, if so, in what way they are using the site. The actions of the surveyors on the site and during the production of this report were conducted in accordance with Bat Conservation Trust (BCT) guidelines (3rd edition).

1.4.1 This survey effort considered the potential for all **bat and bird species (including barn owls)** onsite:

- To establish the possibility of bat roosts and bird nests being present at the proposed development site.
- To assess any roost/nest status (i.e. what type and numbers of individuals).
- To assess suitable food, resources and habitat requirements on site and in the local landscape.

1.4.2 The information will subsequently be used in conjunction with the knowledge of the proposed works at the site to determine the potential need for further survey effort, the impacts of the proposed scheme of works, to establish whether a Natural England Development Licence is required along with species-specific mitigation and compensation. This is done in order to keep any protected species at a favourable conservation status on site.

2. Survey Methodology

2.1 Desktop Survey Methodology

2.1.1 A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

2.1.2 The local records centre was contacted to provide data on all bat and bird species within 2km of the proposed development site. Greenspace Information for Greater London (GIGL) were the relevant local record centre for this project.

2.2 Field Survey Methodology

2.2.1 Initial Site Survey

This is done by assessing the site by visually inspecting all building/s/structures and any trees/vegetation to be impacted by the proposed works. This is done to assess the resource availability for protected species on site and in the immediate area. Particular reference is made to:

- The presence or absence of bats and birds' onsite.
- Any evidence of potential bat roosts and birds' nests onsite.
- Whether any additional survey effort will be required.

During the initial survey, an internal and external inspection of the building(s) is undertaken to look for signs of bat activity. This is done in accordance with BCT guidelines for the assessment of building(s) and built structures.

2.2.2 External Inspection

This survey method is used to locate potential ingress and egress points around the structures that both bats and birds could use to gain access into the building. It also aims to identify any areas where cracks and crevices are present to be used as roosting/nesting features. This visual inspection is carried out in full daylight using binoculars, endoscope, torches and ladders. This will allow for the determination of the following information:

- The type of building(s) surveyed.
- The approximate age of building(s) surveyed.
- The construction type and materials used.
- The presence of potential roost features (e.g. missing roof tiles, raised ridge tiles, air vents, cracks and crevices within the mortar).
- The presence of suitable ingress and egress points (e.g. missing windows and doors, missing mortar, lifted tiles).
- The location of any anecdotal evidence for the presence of protected species (e.g. nests, droppings or food remains).

2.2.3 Internal Inspection

This survey method aims to locate and examine areas which potentially provide suitable environmental conditions for bats. This visual inspection was undertaken by using binoculars, endoscope, torches, ladders and bat detectors to inspect internal features of the building(s).

This will allow for the determination of the following information:

- The presence of warm areas, dark areas, joints, crevices, beams and cavities that could be used for roosting and nesting purposes by bats and birds.
- To locate possible bat roost and bird nest sites.
- To listen for social calling bats.
- To locate any evidence of bat and bird presence through the identification of live or dead specimens, grease marks, droppings, food remnants, urine stains and/or the characteristic smell of bats.

2.2.4 Building/Vegetation Classification

A building/vegetation classification will be assigned to each surveyed feature that is proposed to be impacted by the scheme of works. This classification is based on the features potential to support roosting bats. The rating is also influenced by the location of the structure(s) in the local landscape, along with the number of suitable alternative roosting features, the type of features present in the landscape and the surveyor's experience. For example:

A structure that has a high level of anthropogenic disturbance with limited opportunities for access by bats, that is also situated within an urbanised area with few or no mature trees, parkland, woodland or wetland would generally equate to having negligible/low potential.

Conversely, an older structure (e.g. pre 20th century or early 20th century) with multiple features suitable for use by bats that is close to optimal foraging habitat would equate to having high potential.

The amount of additional survey effort required for each feature will depend on its rating:

- Negligible – No further survey effort is required
- Low – One further activity survey is required (structures only).
- Moderate – Two further activity surveys are required.
- High – Three further activity surveys are required.

2.2.5 Roost Categories

Any structures with evidence of bats will be further evaluated to assess which of the following roost categories may be present onsite:

➤ **Day Roost:**

A place where individual bats or small groups of males, rest or shelter during the daytime. These bats are rarely found at night at these sites.

➤ **Feeding Roost:**

A place where individual bats rest or feed during the night, but are rarely present in the day.

➤ **Hibernation Roost:**

A place where bats may be found either individually or together during the winter months. These roosts often have a constant cool temperature and high humidity.

➤ **Maternity Roost:**

A place where female bats give birth and raise their young to independence.

➤ **Mating Roost:**

A place where mating/copulation takes place between male and female bats. These can continue through the winter months.

➤ **Night Roost:**

A place where bats rest and/or shelter during the night, but will rarely be found here during the day. These can be used colonially or individually by the bats.

➤ **Satellite Roost:**

These are alternative roosting sites that are found within close proximity to the main nursery colony within the maternity roost. These are used throughout the breeding season by individual or small groups of female bats.

➤ **Swarming Site:**

A place where large numbers of bats come together during the latter summer months through until Autumn. These sites are classed as being important mating areas.

➤ **Transitional/Occasional Roost:**

A place that is used by individuals or small groups of bats for a small period of time. These are used by the bats prior to hibernation and/or shortly after hibernation.

2.2.6 Bat Detector Survey (presence/absence survey)

If required, the object for this survey method is to detect any bats leaving or returning to their roost sites within the surveyed features. This is achieved by undertaking dusk and dawn activity surveys under the following protocol:

- Commencing the survey 15 minutes before sunset (dusk survey) and 2 hours before sunrise (dawn survey).
- Listening for any social calls at potential roost sites using bat detectors.
- Standing at different survey points around the building(s) and/or vegetation using bat detectors to hear the bat echolocation.
- The survey will attempt to witness the first bats emerging (dusk) and the bats returning (dawn) to their roosts.
- Standing at different transect points at foraging/commuting areas around the site.
- Carrying out this survey methodology for up to two hours after sunset (dusk) and up to 15 minutes after sunrise (dawn). This will cover the emergence and re-entry of the bats at the potential roost site, for some bat species.

- 2.2.7 In order to comply with the required legislation, the results from the surveys will be collated to establish whether a European Protected Species (EPS) development licence will be required. If required, project appropriate species-specific compensation and mitigation measures will be devised to ensure the species remains at a favourable conservation status at the impacted site.

2.3 Surveyors Information

- 2.3.1 The survey was undertaken by licensed bat ecologist/s and members of the Chartered Institute of Ecology & Environmental Management (CIEEM) and Elite Ecology staff members:

Mr. Matthew Cotterill: PGDip, Ecologist. Bat survey licence number: 2019-43981-CLS-CLS Bat Survey level 1.

Mr. Lewis Smith: BSc (Hons), Assistant Ecologist.

2.4 Field surveys

2.4.1 Site Surveys

Elite Ecology were not made aware of any previous ecological site surveys.

2.4.2 Roost Surveys

The building at 26 Sheldon Avenue, London was externally and internally inspected for the presence of bats with the use of various types of equipment (including binoculars, torches, endoscopes and ladders) in full daylight. Subsequent activity surveys use a variety of bat detectors that include Bat Box Duet, SSF Bat2, EchoMeter Touch and the EcoObs Batcorder. The following table outlines the environmental variables from the survey visits:

Environmental variables	PRA and Activity Survey of the Building – 30 th of August 2022. Dusk
Temp Start:	22°C
Temp Finish:	19°C
Humidity Start:	52%
Humidity Finish:	61%
Cloud Cover Start:	80%
Cloud Cover Finish:	70%
Wind Speed Average:	12km/h SW
Precipitation:	None

3. Results

3.1 Desktop Survey Results

The ecological data search provided by GIGL revealed multiple bat and bird species within the 2km search radius of the structure at 26 Sheldon Avenue, London.

3.1.1 Bats:

The ecological data search revealed several bat records within the 2km search radius identifying ten different species. The UK BAP species recorded in the search were brown long-eared (*Plecotus auritus*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats. The non-BAP species recorded in the search were common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), Leisler's (*Nyctalus leisleri*), Nathusius's pipistrelle (*Pipistrellus nathusii*), Natterer's (*Myotis nattereri*), Serotine (*Eptesicus serotinus*), and Whiskered/Brandt's Bat (*Myotis mystacinus/brandtii*).

The closest records to the site were of a common pipistrelle, Daubenton's and noctule bat that was located approximately 354m away.

3.1.2 Birds:

Within the ecological data set received by GIGL, 90 bird species were revealed. The nearest records to the proposed works site are of song thrush (*Turdus philomelos*), located approximately 333m away.

3.1.3 Designated sites

As the current proposal remains within the site boundary, it was not necessary to obtain any further information regarding both Statutory and Non-Statutory Nature Conservation Designations. This is due to the proposed works not altering any of the landscape surrounding the site.

3.2 Field surveys

3.2.1 Habitat description

The site itself is situated within a semi-rural setting near the city of London, which is situated to the south. The habitats located on the survey site are amenity grassland, hard standing ground, hedgerows and scattered trees, as well as the building of interest. Within the wider landscape, amenity grassland (including on Highgate Golf Club), buildings, hedgerows, ponds, scattered trees, a weir and woodland are evident. Therefore, the habitats that are present in and around the site contains all of the elements that are considered to be critical in both bat and bird life cycles.

Figure 2: An aerial photograph of the surveyed site (yellow star) and some of the nearby habitats to 26 Sheldon Avenue, London.



3.2.2 Building survey

One building is located on the survey site. This is the current residential structure.

Residential Structure (B1)

External Inspection:

The surveyed structure is a detached residential building constructed of cavity brick wall. The gable roof of the structure is constructed of clay roof/ridge tiles, with to the west of the structure a section of flat felt roofing. Gaps are under the eaves and under hanging clay tiles of the structure providing potential access for bats. The window and door frames are constructed from UPVC. Guttering and drainpipes are present on the structure. Artificial lighting is present on all exterior walls. There were no bird nests on the external of the building.

Internal Inspection:

The internal inspection revealed that the structure is a residential structure with three storeys and an additional side attic space. The ceiling is formed from timber beams and wooden slats and is insulated. It is lined with plyboard and insulation. Spider webs were located within the structure. No additional signs of bats or birds were found during the survey.

3.2.3 Summary of the building inspection

The building on site was given low bat roosting potential based on the features it contains. The following table summarises the findings. The building was not found to support nesting birds.

Building	Bat Roost Potential	Bird Nesting Potential	Number of bat activity surveys required
B1	Low	Negligible	1

Table 1: Low/Moderate/High potential building(s) survey recommendations. The full guidance can be found in the Bat Conservation Trust Good Practice Survey Guidelines. These guidelines are what all local authorities abide by.

Bat Conservation Trust

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

3.2.4 DNA Results

No DNA analysis was undertaken for this site.

3.2.5 Activity surveys

One activity survey was undertaken on the buildings on the 30th of August 2022.

Activity Survey 1 (3rd of August 2021):

The activity survey was undertaken at dusk, with sunset being recorded at 19:50.

During this survey, no bats were observed to emerge from the structure.

Common pipistrelle (*Pipistrellus pipistrellus*) and noctule (*Nyctalus noctula*) were found to be near the site for passing and foraging purposes. No flight paths were determined.

Figure 3: An aerial photograph of the surveyed buildings (red outline), the surveyor locations (yellow stars) and camera locations (red stars).



Summary:

In summary, the structure was found to contain no roosting bats.

The site is being utilised by common pipistrelle (*Pipistrellus pipistrellus*) and noctule (*Nyctalus noctula*) bats for passing and foraging.

4. Impact Assessment

4.1 Constraints

Constraints on:	Survey Information	Equipment Used
Constraint (Yes or No):	No	No
Explanation of Constraints:	N/A	N/A
Action Taken:	N/A	N/A

4.2 Potential Impacts of the re-development

The surveyed building is proposed to be demolished. No specific site plans have been revealed to Elite Ecology at the production of this report. The potential impacts of these works have been identified as follows:

4.2.1 Designated sites

As the proposed works are due to remain within the site boundary, the presence of any designated sites nearby is not applicable to this project. This, therefore, means that any building works would be of no detriment to the surrounding habitats and landscape.

4.2.2 Bat Roosts

	Short-term Impacts: Disturbance	Long-term Impacts: Roost Modification	Long-term Impacts: Roost Loss
Classification:	Negligible	Negligible	Negligible
Justification:	The structure was not found to support any roosting bats.	The structure was not found to support any roosting bats.	The structure was not found to support any roosting bats.
Any further action:	No further action is required.	No further action is required.	No further action is required.

4.2.3 Bird Nests

As no bird nests were found within the surveyed structure, no further action needs to be undertaken. However, enhancements can be adopted when the new building is constructed. Please see Section 5.2 for further recommendations.

4.2.4 Foraging and commuting habitat

It is considered that the re-development of the site would have a **negligible** effect on potential foraging and commuting habitat. The site itself offers little foraging habitat, with the adjacent land containing better opportunities for bats to use. Post development, all foraging and commuting habitats will be maintained, thus not negatively affecting the local landscape.

5. Recommendations

5.1 Bats

From the site survey, it has been established that the structure at 26 Sheldon Avenue, London contains no roosting bats. The site is currently utilised by common pipistrelle (*Pipistrellus pipistrellus*) and noctule (*Nyctalus noctula*) bats for passing and foraging purposes.

As there is no evidence of roosting bats no compulsory further actions need to be undertaken. Therefore, it is recommended that site enhancement measures could be included into the scheme of works. This could include the installation of [Eco Bat Boxes](#), [Integrated Eco Bat Boxes](#) or [Bat Access Tiles](#) on the redeveloped structure. These features should avoid any artificial lighting, with **no modern breathable felt** to be used around any bat access tiles. Bat boxes are more likely to be used if they are located where bats are known to feed. Ideally, several boxes should be put up facing in different directions on sunny aspects to provide a range of warm conditions. Boxes should be put as high as possible to try and avoid predation from cats on the ground or nearby structures. On buildings, boxes should be placed as close to the eaves as possible. Bats use dark tree lines or hedgerows for navigation, so putting boxes near these features could help bats find the box.

A soft landscaping plan should incorporate some wildlife attracting species. The table below outlines species recommended by the Bat Conservation Trust, all of which could be incorporated into the site post development:

Flowers for borders		Herbs
Aubretia	Verbena	Angelica
Candytuft	Wallflowers	Bergamot
Cherry pie	Wood forget-me-not	Borage
Corncockle	Yarrow	Coriander
Corn marigold	Trees, shrubs & climbers	English marigolds
Corn poppy	Bramble	Fennel
Echniacea	Buddleia	Feverfew
English bluebell	Common alder	Hyssop
Evening primrose	Dogrose	Lavenders
Field poppies	Elder	Lemon balm
Honesty	English oak	Marjoram
Ice plant 'pink lady'	Gorse	Rosemary
Knapweed	Guelder rose	Sweet Cicely
Mallow	Hawthorn	Thyme
Mexican aster	Hazel	
Michaelmas daisy	Honeysuckle (native)	
Night-scented stock	Hornbeam	
Ox-eye daisy	Ivy	
Phacelia	Jasmine	
Poached egg plant	Pussy willow	
Primrose	Rowan	
Red campion	Silver birch	
Red valerian		
Scabious		
St. John's Wort		
Sweet William		
Tobacco plant		

5.2 Birds

From the survey visit the building was found to support no nesting birds. The surrounding area provides all necessary requirements for bird populations.

However, enhancements can be adopted when the new building is constructed. These typically include a variety of nest boxes.



Robin box

The robin box is an open-fronted nest box. As well as providing a suitable nest box for robins, it's also ideal for other birds that use open-fronted boxes such as wrens, pied wagtails and spotted flycatchers.

Robin nest boxes are best placed so that the entrance hole is facing north-east and is sheltered from the prevailing wind and rain. Avoid obvious sun traps, such as south-facing walls. The box should be placed within the cover of a climber or overhanging vegetation. Robins typically nest quite low, usually **below 6–7 feet off the ground.**



Sparrow box

These boxes can be sited on either a tree or wall, preferably **two to four metres above ground** and with a clear flight path to the nest. House sparrows will also nest in boxes which are located high up on a house wall, beneath the eaves, but make sure that they are away from areas where house martins usually nest.



Sparrow terrace

The boxes can be hung to fit the shape of any building: horizontally or vertically, diagonally to fit gable eaves or A-shaped for a gable apex. The Terrace should be installed at least two to four metres off the ground making sure that there is a clear flight path to the nest. Boxes may also be sited directly under the eaves, but make sure that they are away from areas used by house martins.

**Blackbird box**

Choose a sheltered, shaded spot **at least 2 m above ground**. Fix to a tree or wall using the hanger at the top of the box.

**Starling Nest Box**

This nest box can be fixed to a wall, fence, tree or building in a position which is not exposed to full sun or prevailing wind/rain. Site approximately **3 – 4 metres above ground level** where there is easy flight access and where it cannot be reached by cats or other potential predators.

**House Martin Nests**

These nests should be sited underneath the eaves on exterior walls of your house or outbuildings, at a **minimum height of 2m above the ground**.

**FSC Wooden Swift Box**

Boxes should be fixed **at least five metres above the ground** and in a location that ensures a clear flight path for swifts to access the entrance hole. The box should also be placed in a position that protects it from the midday sun and preferably from the worst of the wet weather. It is important to ensure that it is not accessible to predators such as cats and squirrels.

Choosing the location

Things to consider when choosing where to position your nestbox include:

- Boxes for tits, sparrows or starlings should be fixed two to four metres up a tree or a wall.
- Unless there are trees or buildings which shade the box during the day, face the box between north and east, thus avoiding strong sunlight and the wettest winds. The front of the nest box should be angled vertically or slightly downwards to prevent rain from entering the nest box.
- Open-fronted nest boxes should be hidden from view - attach your box to a wall or fence that has shrubs and creepers growing against it.
- Make sure that the birds have a clear flight path to the nest without any clutter directly in front of the entrance. Tilt the box forward slightly so that any driving rain will hit the roof and bounce clear.
- House sparrows and starlings will readily use nestboxes placed high up under the eaves. Since these birds nest in loose colonies, two or three can be sited spaced out on the same side of the house. Keep these away from areas where house martins normally nest.
- Two boxes close together may be occupied by the same species if they are at the edge of adjoining territories and there is plenty of natural food. While this readily happens in the countryside, it is rare in gardens, where you normally can only expect one nesting pair of any one species. The exceptions to this are house and tree sparrows and house martins, which are colonial nesters. By putting up different boxes, several species can be attracted.
- Make sure cats cannot get into the box - ensure that it is not easily accessible to predators (cats and squirrels).
- Consider a metal plate around hole to deter squirrels - this preventive measure that can be used to deter squirrels from gaining access. These plates are available commercially and can be purchased from any good garden centre or bird care company at very little cost.
- Keep nest box away from bird feeders - as high levels of activity of visiting birds could disturb nesting pairs.
- Use galvanized or stainless steel screws or nails that will not rust. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings to ensure the box remains securely attached.

Traditionally, nest boxes for small birds are put up in the spring - pairs begin to prospect in the latter half of February, so a box put up at the end of the winter stands a good chance of attracting nesting birds. However, it is never too early or late to put up a nest box, as some birds will use them to roost in during the winter months.

6. Summary

6.1 Bat presence/absence

From the site survey, it has been established that the structure at 26 Sheldon Avenue, London contains no roosting bats. The site is currently utilised by common pipistrelle (*Pipistrellus pipistrellus*) and noctule (*Nyctalus noctula*) bats for passing and foraging purposes.

6.2 Bird presence/absence

From the survey visit undertaken on the site, it can be concluded that the surveyed structure contains no nesting birds. However, the surrounding landscape provides all of the necessary habitat elements that birds require.

6.3 Ecological value of building units

The ecological value of the building has been deemed as **low** to bats due to gaps in the structure. However, from the activity survey there was no presence of roosting species.

The ecological value of the buildings to birds has been deemed **negligible** due to the structure not supporting nests.

6.4 Recommendations

The recommendations for 26 Sheldon Avenue, London can be summarised as follows (please refer to **Section 5 – Recommendations** for a more in-depth description):

- **Optional Enhancement:** Install bat boxes around the site post development to enhance the site for the local bat populations.
- **Optional Enhancement:** Install a variety of bird boxes around the site post development to enhance the site for the local bird populations.

7. References

Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines*. 3rd Edition. Bat Conservation Trust: London.

Berthinussen, A. & Altringham, J.D. (2012). The effect of a major road on bat diversity. *Journal of Applied Ecology* 49: p.p. 82–89.

Biodiversity Action Reporting System (2010). *Biodiversity Action in Staffordshire*. BARS. [Online]. Available at: http://ukbap-reporting.org.uk/plans/map_county.asp.

BSBI (2008). *BSBI 2007 List*. [Online]. Available at: <http://www.bsbi.org.uk/html/database.html>.

The Conservation of Habitats and Species Regulations 2017 (Amendment). SI 2017/1012.

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. SI 2007/1843, London: HMSO.

Countryside and Rights of Way Act 2000 (c.37). London: HMSO.

Dietz, C., von Helversen, O. & Nill, D. (2009) *Bats of Britain, Europe and Northwest Africa*. London: A. C. Black

Hutson, A.M., Spitzenberger, F., Aulagnier, S., Coroiu, I., Karataş, A., Juste, J., Paunovic, M., Palmeirim, J. & Benda, P. (2008) *Pipistrellus pipistrellus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1

RSPB (2002). *The Population Status of Birds in the UK 2002-2007*

Rydell J & Racey, P A (1993). Street lamps and the feeding ecology of insectivorous bats. Recent Advances in Bat Biology, *Zool Soc Lond Symposium* abstracts.

UK Biodiversity Action Plan (2007). *UK List of Priority Species*. Joint Nature Conservation Committee. [Online]. Available at: <http://www.ukbap.org.uk/NewPriorityList.aspx>.

Wildlife and Countryside Act 1981 (and amendments) (c.69). London: HMSO.

8. Appendices

Appendix A: Site Plans

Appendix B: Eco Data List

Appendix C: Artificial Light and Bats

Appendix D: Photographic Records

Appendix E: The Annual Bat Year (BCT)

Appendix F: Legislation

Appendix A: Site Plans

No site plans have been provided at the production of this report.

Appendix B: The Ecological Data List

Birds	
Common name	Latin name
Arctic Skua	<i>Stercorarius parasiticus</i>
Arctic Tern	<i>Sterna paradisaea</i>
Baltic Gull	<i>Larus fuscus fuscus</i>
Barnacle Goose	<i>Branta leucopsis</i>
Bar-tailed Godwit	<i>Limosa lapponica</i>
Bewick's Swan	<i>Cygnus columbianus bewickii</i>
Bittern	<i>Botaurus stellaris</i>
Black Redstart	<i>Phoenicurus ochruros</i>
Black Redstart	<i>Phoenicurus ochruros</i>
Brambling	<i>Fringilla montifringilla</i>
Cetti's warbler	<i>Cettia cetti</i>
Common Sandpiper	<i>Actitis hypoleucos</i>
Common Tern	<i>Sterna hirundo</i>
corn bunting	<i>Emberiza calandra</i>
Crossbill	<i>Loxia curvirostra</i>
Cuckoo	<i>Cuculus canorus</i>
Curlew	<i>Numenius arquata</i>
Dartford warbler	<i>Curruca undata</i>
Dunnock	<i>Prunella modularis</i>
Fieldfare	<i>Turdus pilaris</i>
Firecrest	<i>Regulus ignicapilla</i>
Gadwall	<i>Mareca strepera</i>
Garganey	<i>Spatula querquedula</i>
Golden Oriole	<i>Oriolus oriolus</i>
Golden Plover	<i>Pluvialis apricaria</i>
Grasshopper Warbler	<i>Locustella naevia</i>
Green Sandpiper	<i>Tringa ochropus</i>
Greenshank	<i>Tringa nebularia</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Hawfinch	<i>Coccothraustes coccothraustes</i>
Herring Gull	<i>Larus argentatus</i>
Hobby	<i>Falco subbuteo</i>
Honey-buzzard	<i>Pernis apivorus</i>
House Martin	<i>Delichon urbicum</i>
House Sparrow	<i>Passer domesticus</i>
Kingfisher	<i>Alcedo atthis</i>
Kittiwake	<i>Rissa tridactyla</i>
Lapwing	<i>Vanellus vanellus</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>
Lesser Redpoll	<i>Acanthis cabaret</i>
Lesser Spotted Woodpecker	<i>Dryobates minor</i>
Lesser Whitethroat	<i>Curruca curruca</i>
Linnet	<i>Linaria cannabina</i>
Little Bittern	<i>Ixobrychus minutus</i>
Little Egret	<i>Egretta garzetta</i>
Little Tern	<i>Sternula albifrons</i>
Marsh Harrier	<i>Circus aeruginosus</i>
Mediterranean Gull	<i>Ichthyaetus melanocephalus</i>
Merlin	<i>Falco columbarius</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Montagu's Harrier	<i>Circus pygargus</i>

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Nightingale	<i>Luscinia megarhynchos</i>
Osprey	<i>Pandion haliaetus</i>
Peregrine	<i>Falco peregrinus</i>
Pied Flycatcher	<i>Ficedula hypoleuca</i>
Pochard	<i>Aythya ferina</i>
Red Kite	<i>Milvus milvus</i>
Red-backed Shrike	<i>Lanius collurio</i>
Redwing	<i>Turdus iliacus</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Ring Ouzel	<i>Turdus torquatus</i>
Ring-necked Parakeet	<i>Psittacula krameri</i>
Ruddy Shelduck	<i>Tadorna ferruginea</i>
Sand Martin	<i>Riparia riparia</i>
Shelduck	<i>Tadorna tadorna</i>
Short-eared Owl	<i>Asio flammeus</i>
Short-eared owl	<i>Asio flammeus</i>
Skylark	<i>Alauda arvensis</i>
Smew	<i>Mergellus albellus</i>
Song Thrush	<i>Turdus philomelos</i>
Spotted Flycatcher	<i>Muscicapa striata</i>
Starling	<i>Sturnus vulgaris</i>
Stone-curlew	<i>Burhinus oediconemus</i>
Swift	<i>Apus apus</i>
Tawny Owl	<i>Strix aluco</i>
Tree Pipit	<i>Anthus trivialis</i>
Tree Sparrow	<i>Passer montanus</i>
Turtle Dove	<i>Streptopelia turtur</i>
Whimbrel	<i>Numenius phaeopus</i>
Whinchat	<i>Saxicola rubetra</i>
White Stork	<i>Ciconia ciconia</i>
White-fronted Goose	<i>Anser albifrons</i>
Willow Tit	<i>Poecile montanus</i>
Wood Warbler	<i>Phylloscopus sibilatrix</i>
Woodcock	<i>Scolopax rusticola</i>
Woodlark	<i>Lullula arborea</i>
Wryneck	<i>Jynx torquilla</i>
Yellow Wagtail	<i>Motacilla flava</i>
Yellowhammer	<i>Emberiza citrinella</i>

Appendix C: Artificial Lighting and Bats

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ **To introduce lighting curfews or use of PIR sensors.**

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ **To consider no lighting solutions where possible.**

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ **To use only high pressure sodium or warm white LED lamps where possible.**

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ **To minimise the spread of light.**

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ **To consider the height of the lighting column.**

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ **To avoid reflective surfaces below lights.**

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

Appendix D: Photographic Records

Plate 1: Photograph of the front exterior of the surveyed structure.



Plate 2: Photograph displaying the front exterior of the surveyed property.



Plate 3: Photograph displaying the rear exterior of the property including vegetation found on the site.



Plate 4: Photograph displaying gaps within the tiles to the front of the property.



Plate 5: Photograph displaying the artificial lighting found on the property.



Plate 6: Photograph displaying gaps underneath the eaves, providing potential access for bats.



Plate 7: Photograph displaying the roof interior of the surveyed structure.



Appendix E: The Annual Bat Year (BCT)

A Year in the Life of a Bat			
January		February	
	Hibernating; using up fat reserves.		Still hibernating; few fat reserves left.
March		April	
	Some activity; occasional bat seen feeding.		Awake and feeding at night.
May		June	
	Females looking for nursery sites.		Young born, usually only one.
July		August	
	Young still suckling.		Young start catching insects; females leave nursery to find males.
September		October	
	Mating season begins; start building fat reserves for hibernation.		Search for suitable hibernation site.
November		December	
	Hibernation begins although still some activity in warm weather.		Hibernating.

Appendix F: Legislation and Policy

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 15:

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives. The latest National Planning Policy Framework was updated in February 2019, with the section in relation to conserving the natural environment being located within section 15.

Section 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

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