

**6 NUTLEY TERRACE, GREATER LONDON**

**DAYTIME BAT SURVEY**

A Report to: Mrs Shamim Shafi

Report No: RT-MME-118690-02

Date: January 2015



Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ

Tel: 01676 525880 Fax: 01676 521400

E-mail: [admin@middlemarch-environmental.com](mailto:admin@middlemarch-environmental.com) Web: [www.middlemarch-environmental.com](http://www.middlemarch-environmental.com)

## REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development".

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	26/01/2015	Jeffrey Grant GradCIEEM (Ecological Projects Officer)	Tom Docker MSc MCIEEM (Ecological Project Manager)	Dr Philip Fermor CEnv, MCIEEM (Managing Director)

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

### DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

### VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

## NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned by KSR Architects LLP on behalf of Mrs Shamim Shafi to carry out a daytime bat survey at the site of a proposed development at 6 Nutley Terrace in London Borough of Camden. This assessment is required to inform a planning application associated with demolition of the existing property and construction of new residential units on the site.

The ecological desk study revealed six species of bats within 1 km of the site, including common *Pipistrellus pipistrellus* located approximately 250 m from the site.

The walkover survey was undertaken on 8<sup>th</sup> January 2015 by Jeffrey Grant, Ecological Project Officer and Jacob Kench, Field Assistant. At the time of the survey, the site was occupied by a two-storey house with associated hardstanding, wooden shed and garden habitats. The garden was dominated by amenity grassland with planted shrub beds, and several scattered trees were also present.

6 Nutley Terrace was a two-storey brick building with a flat pyramidal roof with concrete tiled pitches. The brickwork was in good condition, but gaps suitable for use by roosting bats were present on the northern and southern pitches where a number of slipped and missing tiles were identified. Gaps were also present between the soffit and the brickwork, but these were heavily cobwebbed and had no signs of recent usage.

The shed on site was fully surveyed and did not offer any features suitable for use by bat species.

The site was bordered by Nutley Terrace to the north and residential properties with associated gardens to the east, south and west. The wider landscape is dominated by residential development, interspersed with school grounds, recreational grounds, and hospital grounds. Hampstead Heath (870 m north-east) is the nearest area of green space. The wider residential landscape provides foraging and commuting habitat for bat species via the gardens. However, connectivity to optimal habitat is limited due to the large distance between the site and parkland.

Due to the height of the building, not all features identified as suitable for roosting bats could not be fully assessed. Therefore recommendations for further survey work were made:

- R1**     **6 Nutley Terrace** has been identified as having high potential to support roosting bats. Two options for further works are available:
- Option 1**       Endoscope Survey (to examine features from elevated platform or scaffold)
  - Option 2**       Nocturnal Activity Surveys (to determine the presence/absence of roosting bats within the building) to be completed between May and September.
- R2**     **The garden shed** was fully inspected and no bat roost was identified. This building had no potential for roosting bats.

Recommendations with respect to the inclusion of bat-friendly wildlife planting within any landscaping schemes for the site are also provided.

## CONTENTS

<b>1. INTRODUCTION</b>	<b>4</b>
1.1 PROJECT BACKGROUND	4
1.2 SITE DESCRIPTION AND CONTEXT	4
1.3 DOCUMENTATION PROVIDED	4
<b>2. METHODOLOGY</b>	<b>5</b>
2.1 DESK STUDY	5
2.2 FIELD SURVEY	5
<b>3. DESK STUDY</b>	<b>6</b>
<b>4. SURVEY RESULTS</b>	<b>7</b>
4.1 INTRODUCTION	7
4.2 CONSTRAINTS	7
4.3 SURVEY RESULTS	7
4.3.1 Main House	7
4.3.2 Other	9
4.3.3 Site and Surrounding Habitats	9
<b>5. DISCUSSION AND CONCLUSIONS</b>	<b>10</b>
5.1 SUMMARY OF PROPOSALS	10
5.2 ASSESSMENT OF BUILDINGS	10
5.3 POTENTIAL VALUE OF SITE TO BATS	10
<b>6. RECOMMENDATIONS</b>	<b>11</b>
<b>REFERENCES AND BIBLIOGRAPHY</b>	<b>12</b>
<b>APPENDIX 1</b>	<b>13</b>

## 1. INTRODUCTION

### 1.1 PROJECT BACKGROUND

In December 2014, KSR Architects LLP, on behalf of Mrs Shamim Shafi, commissioned Middlemarch Environmental Ltd to undertake a Daytime Bat Survey at 6 Nutley Terrace in London Borough of Camden. This assessment is required to inform a planning application associated with the demolition of the existing property and construction of a new residential apartment block on the site.

In addition, Middlemarch Environmental Ltd has been commissioned to undertake a Preliminary Ecological Assessment of the site, the findings of which are detailed in Report RT-MME-118690-01.

All UK bat species are European protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1. This section also provides some brief information on the ecology of British bat species.

### 1.2 SITE DESCRIPTION AND CONTEXT

The development site is located off Nutley Terrace in the London Borough of Camden, centred at National Grid Reference TQ 2663 8496. It is a rectangular parcel of land measuring approximately 0.15 ha in size and is generally flat in topography, though there is a small embankment in the southern half of the site.

At the time of the survey, the site was occupied by a two-storey house with associated hardstanding, wooden shed and garden habitats. The garden was dominated by amenity grassland with planted shrub beds, and several scattered trees were also present.

The site was bordered by Nutley Terrace to the north and residential properties with associated gardens to the east, south and west. The wider landscape is dominated by residential development, interspersed with school grounds, recreational grounds, and hospital grounds.

### 1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Location Plan: NUT2-L01	KSR Architects
Existing Site Plan: NUT2-020	KSR Architects
Proposed Site Plan: NUT2-100	KSR Architects
Proposed Lower Ground Floor: NUT2-102	KSR Architects
Proposed First Floor Plan: NUT2-104	KSR Architects
Proposed Second Floor Plan: NUT2-105	KSR Architects
Proposed Third Floor Plan: NUT2-106	KSR Architects

**Table 1.1: Documentation Provided by Client**

## **2. METHODOLOGY**

### **2.1 DESK STUDY**

As part of the Preliminary Ecological Appraisal (Report RT-MME-118690-01) an ecological desk study was undertaken within a 1 km radius from the site. The consultees for the desk study were:

- Natural England - *MAGIC* website for statutory conservation sites; and,
- Greenspace Information for Greater London - environmental records centre.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

### **2.2 FIELD SURVEY**

In line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys: Good Practice Guidelines (Hundt, 2012), a daytime survey of the site was conducted.

A visual assessment was undertaken to determine the potential roosting value of the site, together with a general appraisal of the suitability of the site for foraging and commuting. Suitable roosting areas and accessible features which could allow bat access into potential roosting areas were inspected using a torch and endoscope for evidence of possible bat presence. Buildings were surveyed externally and internally.

For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders.

### 3. DESK STUDY

Records of bat species within a 1 km radius of the survey area provided by the local record centre are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Local BAP?	Legislation / Conservation Status
<b>Mammals – bats</b>						
Common pipistrelle <i>Pipistrellus pipistrellus</i>	12	2012	250 m west	-	✓	ECH 4, WCA 5, WCA 6
Pipistrelle species <i>Pipistrellus</i> sp.	7	2004	650 m south-west	#	✓	ECH 4, WCA 5, WCA 6
Vesper species <i>Vespertilionidae</i> sp.	2	2004	670 m west	#	✓	ECH 2 #, ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	2	2009	680 m north	✓	✓	ECH 4, WCA 5, WCA 6
Brown long-eared bat <i>Plecotus auritus</i>	1	2009	680 m north	✓	✓	ECH 4, WCA 5, WCA 6
Daubenton's bat <i>Myotis daubentonii</i>	1	1993	960 m north	-	✓	ECH 4, WCA 5, WCA 6
<p><b>Key:</b> #: Species dependent.</p> <p>ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.</p> <p>ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.</p> <p>WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).</p> <p>WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.</p> <p>Species of Principal Importance: Species of Principal Importance for Nature Conservation in England. Local BAP: London Biodiversity Action Plan.</p> <p>Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).</p>						

**Table 3.1: Bat Species Records Within 1 km of Survey Area**

## 4. SURVEY RESULTS

### 4.1 INTRODUCTION

The daytime bat survey was conducted on 8<sup>th</sup> January 2015 by Jeffrey Grant (Ecological Projects Officer) and Jacob Kench (Field Assistant). The results are presented in the following sections.

Weather conditions at the time of the daytime bat survey were recorded and are presented in Table 4.1.

Parameter	Conditions
Temperature (°C)	9
Cloud Cover (%)	30
Precipitation	Rain
Wind Speed (Beaufort)	F2

**Table 4.1: Weather Conditions During the Daytime Survey**

### 4.2 CONSTRAINTS

A loft conversion has created an attic room in the property that was occupied at the time of the survey. No access was available to this room at the time of the survey.

Due to the height of the building it was not possible to view the flat section of the roof.

### 4.3 SURVEY RESULTS

#### 4.3.1 Main House

##### *External Assessment*

The main house on site was a modern two-storey brick structure with a concrete tiled flat-topped pyramid roof (Plates 4.1 and 4.2). A small pitched section with a hipped end extended north from the north eastern corner of the main roof.



**Plate 4.1: 6 Nutley Terrace viewed from the South.**



**Plate 4.1: 6 Nutley Terrace viewed from the North.**

A number of skylights were installed into the pitched elevations of the roof. A number of roof tiles were slipped and broken on the northern and southern elevations, in particular around the skylights on these elevations (Plate 4.3). Areas of the southern elevation appeared to have been patched with roofing felt

where tiles had been removed. The lifted and missing tiles provide potential ingress points for roosting bats but due to their height these features could not be fully inspected at the time of the survey.



**Plate 4.3: Missing and slipped tiles of southern elevation.**

The eastern elevation of the building was in good condition, with no gaps in the roof tiles and tightly fitted skylights. A brick chimney extended from the southern end of the eastern elevation. This chimney had some missing mortar in the brickwork but when inspected with binoculars and a high-powered torch the gaps were found not to extend into the chimney, and so were deemed unsuitable for roosting bats.

The western elevation of the building could not be viewed due to its height and aspect.

The hipped ends of the roof were sealed with lead flashing which was lifted in places, providing potential ingress points for bat species. Due to their height the gaps beneath the flashing could not be fully inspected at the time of the survey. The ridge tiles of the building were concrete and in good condition, with no gaps suitable for roosting bats.

uPVC soffits and plastic guttering were present on the east, south and western elevations of the building. The soffit was in good condition, but occasional gaps were present between the soffit and brickwork of the walls (Plate 4.4). When inspected with a high powered torch and binoculars these were found to be heavily cobwebbed, indicating no recent faunal use.



**Plate 4.3: Gap between soffit and brickwork.**

A brick parapet wall c. 50 cm high and topped with concrete coping stones ran along the top of the northern elevation of the building, obscuring the view of much of this pitch (Plate 4.2). The brick work was in good condition, with no gaps in the mortar or beneath the coping stones.

The brickwork of the building was in good condition with no gaps in the mortar. Occasional ventilation tiles were present but when examined with a torch and endoscope these were found to be cobwebbed, indicating no recent faunal use. The doors and windows of the building had a combination of wooden and uPVC frames which were all in good condition and tightly sealed to the surrounding brickwork.

A concrete balcony with metal railings extended from the first floor of the eastern elevation, supported by brick columns (Plate 4.1). The underside of the balcony was white washed and no gaps were present at the join between the balcony and main building.

It was not possible to inspect the broken and lifted roof tiles due to the height at which they were located and as such it was not possible to establish if bats had used these features to enter a roost location at the time of surveying. No evidence of roosting bats, e.g. droppings, urine staining, feeding remains or scratch marks, was recorded within the features that could be fully inspected during the survey.

#### *Internal Assessment*

No loft space was present within the building due to a loft conversion. The attic room was occupied at the time of the survey and so no internal assessment could be made.

#### **4.3.2 Other**

A wooden garden shed with a felt roofed pitch was present in the garden to the south of the building. The wooden slats of the walls and the felt of the roof were tightly sealed, with no suitable ingress points for bat species. Gaps were present above and below the door of the shed and could provide access for roosting bats. However the interior of the building did not offer any suitable roosting features for bats. No bats or evidence of roosting bats, e.g. droppings, urine staining, feeding remains or scratch marks, were recorded within the garden shed.

#### **4.3.3 Site and Surrounding Habitats**

The site comprises a two-storey residential building surrounded by amenity grassland lawn and flower beds of planted shrubs. The lawn and boundary trees of the site provide some foraging habitat on site, and connectivity with the wider landscape via a mosaic of residential gardens. The level of lighting (street lighting and security lights) in the area is high, and this reduces the suitability of the site for bats. While roosting opportunities on site may be provided by the building, it is likely that bats use the site in some capacity for commuting and foraging.

The wider landscape is predominantly residential and urban in nature. There is little open parkland in the vicinity, with Hampstead Heath (870 m north-east) the largest open space nearby. This area of parkland provides a variety of commuting, foraging and roosting habitat, and is connected to the site through a mosaic of residential gardens.

## 5. DISCUSSION AND CONCLUSIONS

### 5.1 SUMMARY OF PROPOSALS

The site proposals involve the demolition of the existing property and construction of a new residential apartment block on the site, to consist of six units over four floors. The trees and southern half of the garden on site are to be retained and supplemented with additional planting.

### 5.2 ASSESSMENT OF BUILDINGS

The main house had a number of features suitable for roosting bats. These included slipped and missing roof tiles on the north and south elevations. Due to the height of the building it was not possible to assess the flat roof; and the presence of a parapet wall meant it was not possible to fully assess the northern pitch.

Due to the features of the building identified as suitable for roosting bats but which could not be fully inspected, the building is concluded to have a high potential for use by roosting bats. As such, recommendations are made in Section 6.

The garden shed on site had no features suitable for roosting bats and no further recommendations are made in respect to this structure.

### 5.3 POTENTIAL VALUE OF SITE TO BATS

A total of five bat species were identified by the desk study, the closest of which was a common pipistrelle *Pipistrellus pipistrellus* located approximately 250 m west of the site. The habitats immediately surrounding the site are predominantly residential and provides limited foraging habitat for bat species. However, residential gardens provide connectivity to Hampstead Heath 870 m north-east. This open green space provides optimal foraging and roosting habitats for a range of bat species. However, the considerable distance between site and the parkland reduce the likelihood of bats commuting onto site from Hampstead Heath.

Due to the lack of nearby records and large distance to optimal habitat, it is unlikely that bats would utilise the site regularly, but may still utilise it infrequently as a commuting route to foraging sites. Due to the number of features found during the daytime bat survey and considering the surrounding habitat, the site is considered to have potential for roosting bats and as such recommendations are made in Chapter 6.

## 6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

### R1 Main House

6 Nutley Terrace has been identified as having high potential to support roosting bats. To proceed with development, further survey work is required. There are two options:

#### Option 1 Endoscope Survey

It is recommended that an endoscope survey of the missing and lifted tiles noted on the southern elevation is carried out (from an extendable moving platform or scaffolding). This will also allow an assessment of the flat roofed section. If all these features are fully accessed and surveyed, and no bats or evidence of bat activity (in the form of scratch marks, feeding remains, grease marks, urine staining or droppings) are found, then works can commence as planned as no bat roost is present. However, if any areas are inaccessible, evidence of bat activity is identified, or it is not possible to conclusively state that bats are not present then it will be necessary to undertake the bat activity surveys outlined in Option 2.

#### Option 2 Nocturnal Activity Surveys

Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Hundt, 2012) recommends that for buildings with high bat roosting potential at least three nocturnal emergence and/or dawn re-entry surveys be undertaken during the bat activity season to determine the presence/absence of roosting bats within the building. The bat activity season extends from May to September. At least one of the surveys should be a dawn re-entry survey, and at least two of the surveys should be undertaken between mid-May and August. If a roost is discovered during these surveys, a Natural England licence application may be required.

### R2 Shed

The garden shed fully inspected and no bat roost was identified. This building had no potential for roosting bats.

### R3 Landscaping

Should the proposals include planting of new vegetation, the scheme should include planting night-scented plants, such as honeysuckle *Lonicera periclymenum* and evening primrose *Oenothera biennis*, and culinary herbs. These would help to attract moths and other flying insects to the site, and would therefore provide a food resource for bats.

### R4 Lighting

Where possible, on site lighting should be retained at current levels to ensure the retention of any dark corridors that may be used by commuting bats.

## REFERENCES AND BIBLIOGRAPHY

Altringham, J (2003). *British Bats*. New Naturalist. HarperCollins.

English Nature (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

Hundt L. (2012) *Bat Surveys: Good Practice Guidelines, 2nd Edition*. Bat Conservation Trust, London.

Joint Nature Conservation Committee (2012). *UK Post-2010 Biodiversity Framework*. Available:  
[http://jncc.defra.gov.uk/pdf/UK\\_Post2010\\_Bio-Fwork.pdf](http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf)

Jones, K and Walsh, A (2006). *A Guide to British Bats*. The Mammal Society, London.

Middlemarch Environmental Limited (2014). *Preliminary Ecological Assessment: 6 Nutley Terrace, Greater London*. Report RT-MME-118690-01.

Mitchell-Jones, A.J. & McLeish, A.P. (2004). *The Bat Workers' Manual (3<sup>rd</sup> Ed.)*. JNCC, Peterborough.

## APPENDIX 1

### LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2010 (as amended), states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2010 (as amended) for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* (rather than deliberately) kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly\** damage or destroy, or *obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly\** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

\*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*.

All species which occur within the county are considered to be priority species on the London BAP.

The reader should refer to the original legislation for the definitive interpretation.

### ECOLOGY

At present, 18 species of bats are known to live within the United Kingdom, of which 17 species are confirmed as breeding. All UK bat species are classed as insectivorous, feeding on a variety of invertebrates including midges, mosquitoes, lacewings, moths, beetles and small spiders.

Bats will roost within a variety of different roosting locations, included houses, farm buildings, churches, bridges, walls, trees, culverts, caves and tunnels. At different times of the year the bats roosting requirements alter and they can have different roosting locations for maternity roosts, mating roosts and hibernation roosts. Certain bat species will also change roosts throughout the bat activity season with the bat colony using the site to roost for a few days, abandoning the roost and then returning a few days or weeks later. This change can be for a variety of reasons including climatic conditions and prey availability.

Bats are known live for several years and if the climatic conditions are unfavourable at a particular roost, they may abandon it for a number of years, before returning when conditions change. Due to the matriarchal nature of bat colonies, the locations of these roosts can be passed down through the generations.

Bats usually start to come out of hibernation in March and early April (weather dependent), when they start to forage and replenish the body weight lost during the hibernation period. The female bats then start to congregate together in maternity roosts prior to giving birth and a single baby is born in June or July. The female then works hard to feed her young so that they can become independent and of a sufficient weight to survive the winter before the weather gets too cold and invertebrate activity reduces. Males generally live solitary lives, or in small groups with other males, although in some species the males can be found living with the females all year. The mating season begins in the autumn. During the winter bats hibernate in safe locations which provide relatively constant conditions, although they may venture outside to forage on warmer winter nights.