

Bat Activity Survey

94 Oak Tree Road

Tilehurst

Reading

RG31 6JY



Dr Stacey Dawn Waring

16-002-IBA

June 2016

Signed:



Date: 30/06/2016

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Executive Summary

Eaves Ecology were commissioned by Mr Phil Lamb to carry out an initial bat assessment, at the property located at 94 Oak Tree Road, Tilehurst, Reading, RG31 6JY. The site is located a grid reference SU 66792 74775. This was to support a planning application submitted to Reading Borough Council.

The bat survey and report have been conducted and prepared by a qualified licensed bat ecologist Stacey Dawn Waring. This report provides results of an initial bat assessment conducted on 31st March 2016 during daylight hours.

The initial bat assessment found evidence of bats using the house for roosting, in the form of a small number of droppings within the roof void. The condition of the house was good; however, there were numerous of areas that could be exploited by bats. This was mainly due to the gaps in the mortar near the hips and spaces in the tile roof covering, there is also potential for bats to access the roof void above the single storey extension; to which there was no access.

Due to the evidence indicating the confirmed presence of bats roosting in the house (whether currently or historically), further survey effort in the form of evening emergence surveys (based on recommendations in Bat Surveys Good Practice Guidelines) was recommended to determine potential impacts on any bat roost present.

During the here evening emergence surveys no bats were observed emerging from or entering the building at 94 Oak Tree Road. Taking this information into account it is concluded that no bats are currently using the building for roosting and the lack of underlay within the roof void make it unsuitable as a hibernation site. The droppings previously found in the loft are likely from a bat investigating the roof void from a neighbouring property. Consequently, the works will not have a negative impact on bats and an EPS Licence will not be required.

1 Introduction

Eaves Ecology was commissioned by Mr Phil Lamb to carry out an initial bat assessment, at the detached residential property, located at 94 Oak Tree Road, Tilehurst, Reading, RG31 6JY.

The initial bat assessment and report have been conducted and prepared by a qualified Natural England licensed bat ecologist Stacey Dawn Waring. This report gives details of the day time assessment survey conducted on the 31st March 2016.

1.1 Objectives of the Survey and Report

The initial bat assessment is designed to provide information to:

- Identify the presence/likely absence of bats within the house and extension;
- Provide information on the status of bats using the building (currently or previously);
- Establish whether further surveys, mitigation or an EPS licence is required.

The survey and report writing were carried out in accordance with Bat Surveys: Good Practice Guidelines (Bat Conservation Trust, 2012).

1.2 Surveyor Information

The initial bat assessment survey and report were completed by Dr Stacey Dawn Waring who holds a Class II Bat Licence (No. 2015-6768-CLS-CLS) and is an associate member of CIEEM. She has 7 years' experience of carrying out research for the Bat Conservation Trust and University of Reading and has worked with several ecological consultancies conducting bat surveys.

2 Legislation

All bats in the UK are protected under law and therefore thought must be given when demolition and/or planning is to be considered. The Wildlife and Countryside Act (WCA) 1981 (as amended), forms the key legislation protecting habitats and species in the UK. All UK bat species are fully protected under the 1981 Act through inclusion on Schedule 5. All bats are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2010, which transcribes the EC Habitats Directive into UK law. In combination, this legislation makes it an offence to:

- Deliberately or recklessly take, injure or kill a bat;
- Deliberately or recklessly damage or destroy a place or structure used by bats for shelter or protection;
- Deliberately or recklessly obstruct access to a bat roost; or
- Deliberately or recklessly disturb bats while occupying a roost.

Bat roosts are protected under these laws whether the animals are present at the time of survey or not. A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the

time of survey. The above is a summary of the relevant legislation and the original Acts and Schedules should be referred to for the precise wording.

Barbastelle Bats *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* are also listed as being species of principle importance to the conservation of biodiversity in England under Section 41 of the Natural Environment and Rural Communities Act 2006.

3 Background

3.1 Site Description

94 Oak Tree Road is located in Tilehurst, a suburb 4km north-west of Reading town centre (Figure 1). The site is located a grid reference SU 66792 74775.

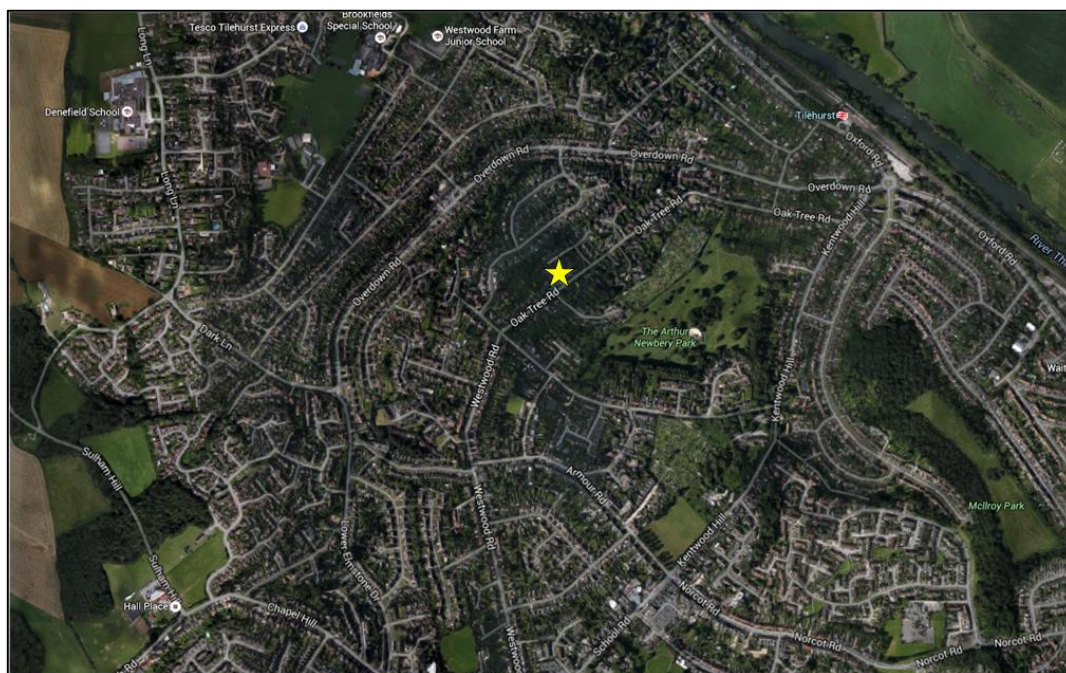


Figure 1 – Showing site location of 94 Oak Tree Road (courtesy of Google Earth)

The site is in a suburban area and is surrounded by residential dwellings, gardens, allotments and roads (Figure 1). To the south-east of the site (within 200m) is Arthur Newbery Park which contains areas of Priority Habitat and Deciduous Woodland (BAP habitat). Also to the south-east (within 500m) are McIlroy Park and Round Copse; both are designated Local Nature Reserves and contains areas of Ancient and Semi-Natural Woodland and Deciduous Woodland which are BAP priority habitats. To the west of the site (within 1km), there are further areas of Ancient and Semi-Natural Woodland, Deciduous Woodland and Woodpasture and Parkland (BAP Priority habitats) located within Sulham. There are several small water bodies within the vicinity of the site, including small ponds (within 200m) and the

River Thames is approx. 500m to the north-east of the site. These habitat areas combined with the waterbodies in the vicinity of the site increase the areas ability to support bats and their insect prey.

The site consists of a detached, two storey building of brick construction (Figures 2 & 3) with a pitched roof, consisting of timber rafters resting on the walls and a part hand-made/part machine-made tile covering. On the north-eastern elevation of the property there is a single storey extension, which also has a pitched, tiled roof (Figure 4). There is also a single storey, flat roofed garage building to the rear of the property, which is included in this survey. The property is in good condition and is currently occupied.



Figure 2 – Southern (front) elevation of 94 Oak Tree Road



Figure 3 – Northern (rear) elevation of 94 Oak Tree Road



Figure 4 – North-eastern (side) elevation, showing single storey extension

3.2 Development proposals

The plans for works to be conducted at 94 Oak Tree Road can be seen in the planning application submitted to Reading Borough Council (Application No. 160281). They include the demolition of the single storey side extension and garage and the erection of a two storey extension to the side of the property. The surveys were required to identify if any bats are present and using the building and how they may be impacted by any proposed development of the building for planning consent.

4 Methods

4.1 Daytime assessment

The buildings' (main house and garage) suitability for bat roosting was assessed by examining structural features. Structural features that may influence the suitability of a building to support roosting bats include the presence of a roof void, the presence of access points into the building (including gaps beneath barge boards, weatherboarding, soffits and fascias, gaps under lead flashing, gaps within masonry and under loose tiles, gaps between tenon and mortise joints), the complexity and size of any roof void and daytime light levels in the roof void.

The buildings' suitability for roosting bats was also assessed by examining the surrounding habitat. Important habitat features surrounding the structure which may influence roost potential include whether the structure is in a semi-rural or parkland location, its proximity to a significant linear habitat features such as a watercourse, mature hedgerow, wooded lane or an area of woodland.

Taking account of these architectural and habitat features, the buildings were then assigned a level of roost suitability based the criteria given in the Bat Conservation Trust's Bat Surveys: Good Practice

Guidelines (Hundt, 2012) and professional judgement. The primary objective of this exercise was to identify the need for further detailed bat surveys later in the year, or alternatively to obtain sufficient information that would dismiss the need for further assessment.

A detailed initial bat assessment was undertaken by Dr Stacey Dawn Waring (NE licensed ecologist) on the 31st March 2016. A systematic internal inspection of the building was conducted using a high-powered torch to illuminate all areas thought to be suitable for roosting bats. All surfaces were also surveyed for signs of bat presence. An external search around the perimeter of the buildings was conducted and any possible access points i.e. gaps and crevices were noted and surveyed with the high powered torch and ladder as required.

Features of potential value to bats surveyed for included:

- Construction of the Building – Soffits, loft space, tiles/slates, lead flashings etc;
- Building Condition – structure of roof and walls;
- Internal conditions – Microclimate stability, drafts etc;
- Access points – potential entry and exit points for bats;
- Roosting points – cracks and crevices, between underlay and roofing tiles/slates;

Field signs that would indicate the presence of bats were also searched for. These included:

- Bat droppings that are dry and do not putrefy, but can crumble away to dust;
- Feeding remains (particularly butterfly and moth wings);
- Evidence of urine and/or oily staining around possible roost entrances;
- Presence of areas cleared of cobwebs;
- Where a breathable roofing membrane has been fitted staining on the membrane may suggest use by bats;
- Odour can sometimes suggest the present of bats;
- Squeaking and chattering can reveal bats roosting between the tiles and roofing underlay.

4.2 Emergence Surveys

The evening emergence surveys of 94 Oak Tree Road were conducted on the 16th May, 6th June and 17th June 2016, a time of year when active bats are most likely to be found and maternity roost should be present. Conditions were good for all bat surveys with warm weather and any bats present are very likely to be active. The emergence surveys began approximately 15 minutes before sunset and finished after 1 and a half hours after sunset on each survey.

Three surveyors were present and Batlogger M detectors were used for taking time-expanded recordings of any bats that may emerge from the building. Recordings were analysed on Elekon bat analysis software to facilitate species identification.

5 Results

All accessible areas were examined around the buildings for droppings and evidence of bats. It should be noted however that it is not always possible to identify bat presence by examining externally around buildings as poor weather conditions may have washed away droppings which were deposited on exposed surfaces.

5.1 Daytime assessment

5.1.1 Internal inspection

Main House

The property had a single roof void accessible through a hatch in the ceiling. The roof void was L-shaped and approx. 1.5m high (at the ridge) throughout the length of the roof. There was no underlay fitted and this resulted in the void being draughty. The roof void had a single chimney stack located towards the southern end of the building. This provided a partial barrier within the roof void behind which the microclimate appeared more stable (Figure 5). Due to the lack of underlay there were numerous access points throughout the roof void that could be utilised by bats. These included gaps in tiles, eaves gaps and access via the ridge. There was a very high level of cob-webbing along the length of the roof void; however, a small section of the ridge board (close to the chimney stack) was free of cobwebs and had staining indicative of bats roosting on it. Below this small section was a small collection of bat droppings. The droppings were in a varied state of decay, suggesting that the roof had been used for a number of years. The size and number of the droppings would suggest use by a single brown long-eared bat (*Plecotus auritus*).



Figure 4 – Roof void showing lack of underlay



Figure 5 – Chimney stack located towards the southern end of the property



Figure 6 – collection of bat droppings underneath the ridge board

In addition to the main roof void in the property, there was an additional void above the single storey extension to the side of the property (Figure 4). There was no access to this void and as a result an internal survey could not be conducted.

Garage/Workshop

The double garage, to the rear of the property, will be demolished as part of the planned extension works and so were also inspected for bat potential. The garage consisted of a single storey, single skinned brick building, with a flat roof (Figures 7&8). The building had numerous gaps around the garage doors and windows, which allowed draughts and exposed the interior of the building to the external environment. The building was in a poor state of repair due to structural deterioration (Figure 9). There was no evidence of bats and the buildings themselves provided no suitable roosting areas, due to the changing microclimate and constant usage



Figure 7 – Exterior of the double garage, showing brick construction, doors and flat roof



Figure 8 – shows interior of the garage which has a boarded flat roof, areas of damp and gaps which allow draughts



Figure 9 – gaps around windows due to structural issues

5.1.2 External Inspection

Main House

The external features of the house were also examined for signs described in section 4.1. Windowsills, exposed features around the windows and walls were inspected for any evidence of bat droppings or staining.

The primary roof covering consisted of both hand-made and machine-made tiles which were in relatively good condition. There were several missing and broken tiles (Figures 10&11) throughout the span of the roof, which could provide access to roosting bats. The mortar along the ridge and verges was in fair condition, although there were areas where the mortar was missing along the hips (Figure 12). Around the chimney the lead flashing was raised in areas, partially due to a missing tile (Figure 11). The eaves were sealed and the soffits in very good condition (Figure 11), this area provided no access potential.



Figure 10 – Tile roof covering showing good condition with only a couple of lifted tiles



Figure 11 – Open ended tiles close to the eaves



Figure 12 – Sections of mortar missing from the hips

During the external inspection no evidence of bats was found around the main house, however, weather prior to the initial assessment may have removed any signs of bats using the building/area. There were however, numerous areas that could be utilised by bats for roosting, or accessing roosting areas.

Garage/Workshop

The exterior of the garage/workshop provided no potential for bats. The brickwork was single-skinned and so even where gaps were present there was no crevice suitable for roosting. The flat roof on the garage (Figure 7) was in good condition and fixed directly to the timber cladding. Consequently there was no void to accommodate crevice dwelling bats.

During the internal and external inspections of 94 Oak Tree Road low numbers of bat droppings were found along with numerous areas that could be utilised by bats. Consequently a confirmed bat presence is reported following the initial bat assessment.

5.2 Emergence Surveys

The emergence surveys were carried out on the main house only as the garage was not deemed suitable to support roosting bats. Three surveyors were used for all three surveys, the positions of which are indicated in Figure 13.

During the three emergence surveys conducted on the 16th May, 6th June and 17th June 2016, no bats were seen emerging from or entering the property at 94 Oak Tree Road. There was a moderate level of bat activity, primarily foraging in the rear garden and flying around the buildings. Over the three surveys at least four species (*Pipistrellus pipistrellus*, *Pipistrellus pygmaeus*, *Auritus plectous* and *Nyctalus noctula*) were recorded flying or foraging in the gardens surrounding 94 Oak Tree Road.

Several bats were observed emerging from the neighbouring property (No. 113 Oak Tree Road) on all three surveys. The full results of the three emergence surveys are detailed in Table 1 and Figure 14.

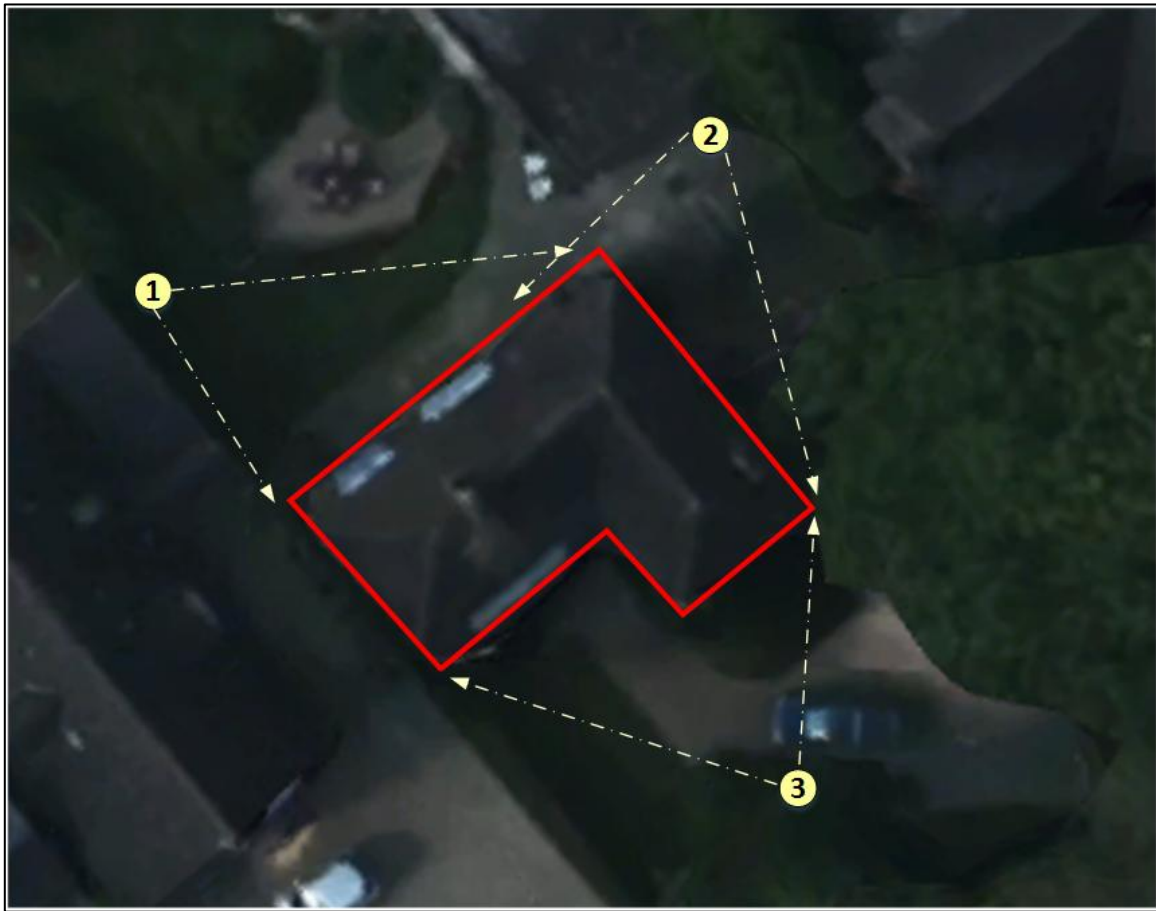


Figure 13 – Surveyor locations during the three evening emergence surveys a 94 Oak Tree Road

16th May – Weather conditions were good for the survey (13⁰C and still with approximately 30% cloud cover at 20:50) and any bats present are likely to be active.

6th June – Weather conditions were good for the survey (22⁰C with a light breeze and 5% cloud cover at 21:15) and any bats present are likely to be active.

6th June – Weather conditions were good for the survey (18⁰C and still with approximately 20% cloud cover at 21:22) and any bats present are likely to be active.

Table 1 – Full results of the three emergence surveys conducted at 94 Oak Tree Road

Date	Surveyor Position	Time	Species	Comments
16/5/2016	1	21:05	bat	Flew from west over building
		21:11	45 pip	3 bats observed emerging from neighbouring property
		21:16	45 pip	Flew from north-west over building
		21:18	55 pip	Flew from north-west over building
		21:20	Pip. sp	Flew from neighbouring property behind surveyor 2
		21:25-21:45	45 pip	2 bats flying and foraging in the rear garden
		21:46	Long-eared	Emerged from neighbouring property
		21:55 – 22:04	45 pip	Single bat foraging in rear garden
	2	21:05	45 pip	Bat flew from behind surveyor 2 then along north-east elevation
		21:08	45 pip	Bat flew between gap between two properties
		21:11 – 21:18	45 pip	4 bats seen flying up and down between the building and neighbouring property
		21:27	45 pip	Bat circled above surveyor 2
		21:34 - 21:46	45 pip	2 bats circling above surveyor 2 with social calls
		21:55	45 pip	Bat flew between gap between two properties
		22:04	45 pip	Bat flew between gap between two properties
	3	21:27 – 21:36	45 pip	3 bats were observed flying back and forth in the gap between the building and the neighbouring property
6/6/2016	1	21:49	bat	Emerged from neighbouring property
		21:51	45 pip	Foraging in rear garden
		21:56	Noctule	Flying high above property (north-south)
		21:58	Long-eared	Emerged from neighbouring property and flew west
		21:59	45 pip	Foraging in rear garden
		22:01	55 pip	Commuting west-east in rear garden
		22:05-22:20	45 pip	Foraging in rear garden
		22:24-22:30	45 pip	Foraging in rear garden with social calls
	2	21:30	Bat	Bat flew from behind surveyor 2 then along north-east elevation
		21:32	Noctule	Heard not seen
		21:38 – 21:58	45 pip	4-5 bats seen flying up and down between the building and neighbouring property
		22:05 – 22:15	45 pip	3 bats foraging around surveyor 2 and flying between gardens

		22:20	45 pip	Heard not seen
		22:27	45 pip	Heard not seen
		22:40	45 pip	Heard not seen
	3	21:52	45 pip	Heard not seen
		21:55	45 pip	Flew from the neighbouring property (east) towards road
		21:58	45 pip	Flew in front of the house (west-east)
		22:05	45 pip	Foraging in neighbours front garden
		22:08-22:45	45 pip	Constant foraging activity around the front garden
17/6/2016	1	21:41	Bat	Bat emerged from neighbouring property
		21:45	Bat	Bat emerged from neighbouring property
		22:14	45 pip	Bat emerged from neighbouring property then flew over garden
		22:19	Long-eared	Bat flew from west then along hedgerow in rear garden
		22:20-22:23	45 pip	Bat foraging in rear garden
		22:31	Long-eared	Bat flew from west then along hedgerow in rear garden
	2	21:50	Noctule	Heard not seen
		21:51	45 pip	Bat flew from behind surveyor 2 then along north-east elevation
		22:05	45 pip	Bat flew from behind surveyor 2 then along north-east elevation
		22:15	45 pip	Bat flew from behind surveyor 2 then along north-east elevation
		22:17	Noctule	Heard not seen
		22:23-22:26	45 pip	2 bats were foraging around the rear garden
	3	21:57	45 pip	Emergence from neighbouring property
		22:14	45 pip	Passed in front of house (west-east)
		22:24	45 pip	Emergence from neighbouring property

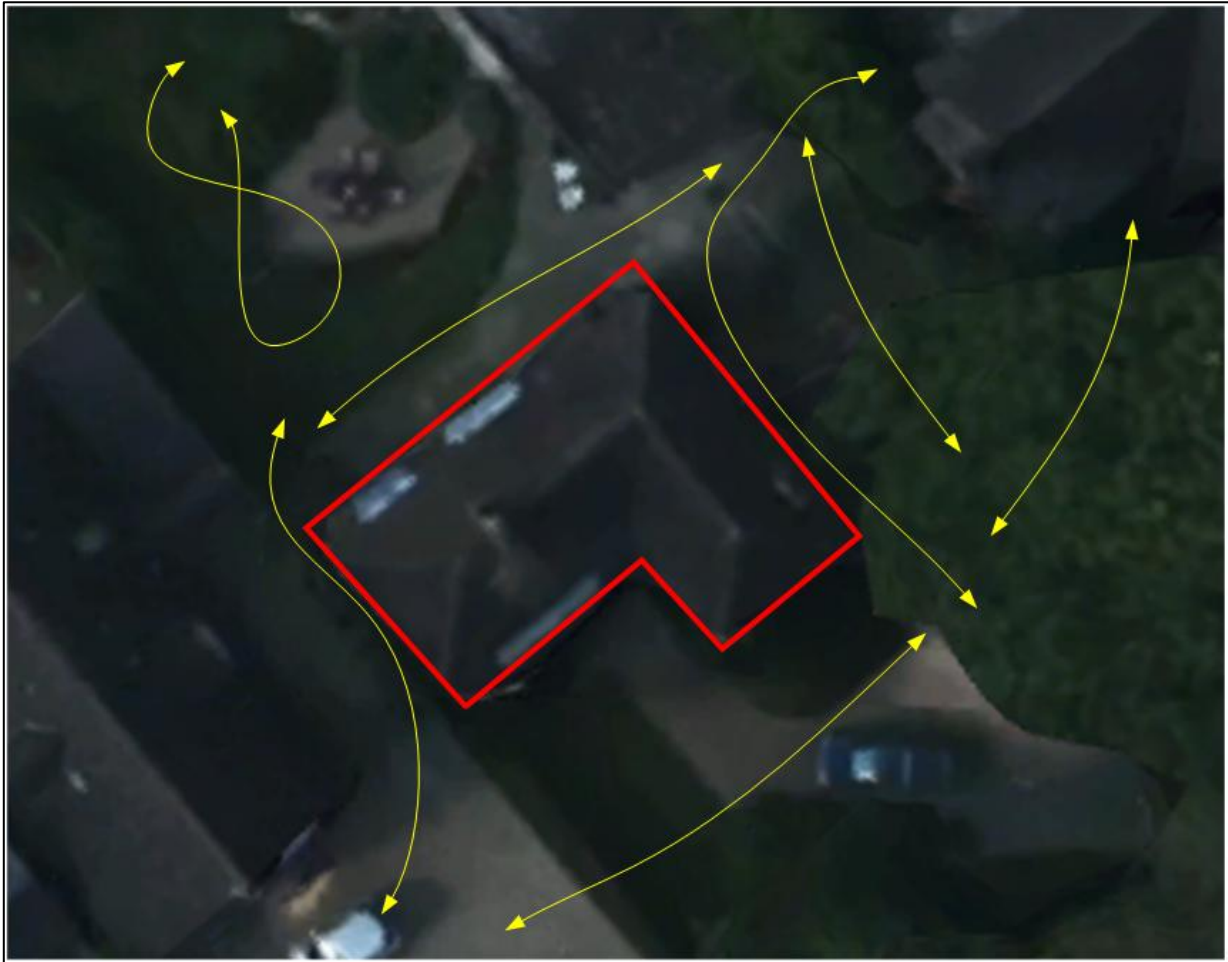


Figure 14 – Main flight paths used by bats observed during the three evening emergence surveys at 94 Oak Tree Road

5.3 Constraints/limitations

Bats are difficult to locate in large structures, with so many potential roosting areas, particularly in inaccessible areas such as large buildings, finding the exact roosting site can be difficult, especially male/single bat roosting sites.

Bats can have seasonal use of buildings and being so mobile may arrive and start using a site after it has been surveyed, or roost somewhere else during the period it was surveyed. For this reason bats may potentially be present but remain undetected, particularly during day time assessment.

Prior to the initial bat assessment recent weather conditions may have washed away external droppings.

6 Conclusions

Bats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation (Contravening (Natural Habitats &c.) Regulations 2010, (which make it illegal to intentionally kill, injure or otherwise disturb bats, or to damage, destroy or obstruct access to a bat roost, whether bats are

present or not). In some cases, if the proposed work will have a detrimental effect on bats or disturb or damage their roost then an EPS licence from Natural England has to be applied for.

Initial observations consider the local area suitable for bats. The proximity of the site to woodland, riparian habitat and water bodies increases the likelihood that the site may support roosting bats.

The initial bat assessment at 94 Oak Tree Road revealed a small number of bat droppings concentrated under the ridge board (near the chimney stack) within the roof void. The location, size, shape and contents of the droppings suggested that the roof may have been used by a single brown long-eared bat (*Plecotus auritus*). Consequently, further evening emergence surveys were required to determine the status of any bat roosts within the building.

During the here evening emergence surveys no bats were observed emerging from or entering the building at 94 Oak Tree Road. At least four species of bat (*Pipistrellus pipistrellus*, *Pipistrellus pygmaeus*, *Auritus plectous* and *Nyctalus noctula*) were recorded flying/foraging in the vicinity of the adjoining gardens. Two species of bat including a brown long-eared bat were recorded emerging from the neighbouring property, on all three emergence surveys. Taking this information into account it is concluded that no bats are currently using the building for roosting and the lack of underlay within the roof void make it unsuitable as a hibernation site. The droppings previously found in the loft are likely from a bat investigating the roof void from a neighbouring property. Consequently, the works will not have a negative impact on bats and an EPS Licence will not be required.

Precautionary mitigation is recommended with regards to the use of traditional bitumen felt in any new extensions due to the risk of entanglement in modern breathable roofing membranes.

7 References

Bat Surveys Good practice Guidelines – Bat Conservation Trust 2012

Bat Workers Manual – Mitchell-Jones & McLeish 2004

Bat Mitigation Guidelines – Natural England 2006

The Conservation and Habitat Regulations 2010