



DARWIN ECOLOGY
integrating nature conservation

Unit 13 & 14, Sandy Farm Business Centre, Sands Road, Farnham, GU10 1PX
Email: info@darwin-ecology.co.uk www.darwin-ecology.co.uk

Bat Emergence Surveys Phase 2 Report

**All Saints Church
The Avenue, Hampton TW12 3RS**

May 2018

Darwin Ecology Ltd
Registered Office: 8 Layton Lane, Shaftesbury, Dorset SP7 8EY
Company No. 07654823

Contents:

1. EXECUTIVE SUMMARY	3
2. INTRODUCTION AND BACKGROUND	4
Site Overview	4
3. LEGISLATIVE AND POLICY BACKGROUND	5
Bat Legislation	5
4. METHODOLOGY	6
5. OVERVIEW OF SURVEY RESULTS	7
Results - Dusk Emergence Surveys	7
6. IMPACTS, MITIGATION, COMPENSATION and ENHANCEMENT	8
Status of bat roosts on site	8
Impacts of Proposals	8
Mitigation & Recommendations	8
Roofing materials	8
Lighting	8
Creation of bat roosting opportunities	9
Enhancements	9
Roosting features	9
Planting	10
6. REFERENCES	11
7. APPENDIX - SURVEY & REPORTING LIMITATION & EXCEPTIONS	13

1. EXECUTIVE SUMMARY

- 1.1. Darwin Ecology Ltd was commissioned by the Vicar and Church Wardens of All Saints' Church Hampton via Loxton & Associates to undertake a bat emergence survey on the bungalow at no. 44 The Avenue, Hampton TW12 3RG.
- 1.2. No bats or evidence of bats was observed during the initial bat scoping survey in November 2017. The building had potential for bats due to a few external crevices suitable for crevice dwelling bats such as Pipistrelles.
- 1.3. No bats were observed entering or emerging from the building during the phase 2 survey. However, the bat surveys found the open garden area to the west of the building and east of the building to provide habitat for foraging activity by bats. General activity during the emergence survey was low and the most frequently recorded species were soprano and common pipistrelle bats.
- 1.4. As an advisory recommendation, areas with bat roosting potential such as the bargeboard on the west gable end, gaps behind soffit, fascia board and under the flashing of the chimneys, as well as holes in the tiles should be stripped by hand in a sensitive way by the builders. If any signs of bats or bats are found then an ecologist should be contacted immediately to deal with the situation in the appropriate manner.
- 1.5. The following recommendations and enhancements have been made:
 - The new builds should be lined with bitumen felt and not breathable roofing membrane as this can be harmful to bats.
 - Bat sensitive lighting scheme designed to minimise light spillage on site and on adjacent areas.
 - As a precautionary and enhancement measure and to provide alternative roosting sites for bats during construction works, it is recommended that 2 woodcrete bat boxes are installed on southern aspects of mature trees. These are to be installed in locations determined by a Licensed Bat Ecologist to ensure likelihood of uptake is increased.
 - As an enhancement measure two new bat roost features are recommended on the new builds.
 - Any future planting should ideally be native, seek to enhance biodiversity, improve connectivity to the surrounding habitats and provide food and shelter for a wide range of faunal species.

2. INTRODUCTION AND BACKGROUND

- 2.1. Darwin Ecology Ltd was commissioned by the Vicar and Church Wardens of All Saints' Church Hampton via Loxton & Associates at All Saints Church, The Avenue, Hampton TW12 3RS. The instructed ecological surveys were in connection with the proposals to demolish the existing Church Hall and the bungalow at no. 44 The Avenue Hampton TW12 3RG, and construction of a new Narthex to the Church, a new Church Hall incorporating one flats and 3x four bedroom houses and 1x three bedroom house. The new Church Hall will be linked to the Church with a corridor through the north wall.
- 2.2. A bat scoping survey was carried out in November 2017 and following the external and internal inspection the buildings were given the following assessments; the church has high potential, the hall has negligible potential and the bungalow has low potential for roosting bats. As there will be no impacts on roosting areas for the church it was recommended the bungalow had one bat emergence survey undertaken during the active bat season of May to September to assess the presence or absence of roosting bats, level of use and roost type.

Site Overview

- 2.3. The site is situated within the suburban area of Hampton. The site itself does not lie within any designated statutory or non-statutory sites however it is within a Site of Special Scientific Interest Impact Risk Zone (IRZ). The size and impacts of the development are low level and do not fall within any of the risk categories for the IRZ designation. Within 2km there are 3 designated areas. Bushy Park and Home Park (SSSI), Kempton Park Reservoirs (Ramsar) and Kempton Nature Reserve (LNR).
- 2.4. Immediately surrounding the proposed development are residential dwellings and there is a small local park opposite the site. The wider landscape comprises residential dwellings and associated urban services with local parks, commons, meadows, semi-improved grassland, deciduous and broadleaved woodland, orchard, wood pasture and parkland. The habitats surrounding the site provide potential roosting, foraging and commuting habitat for a number of species of bat.
- 2.5. The proposed development comprises of one church, two halls and one bungalow house. The church and the bungalow are brick with clay tiles and the halls are stone and brick with part flat metal roof and part corrugated iron roof. Habitats within the site boundary include the buildings, hardstanding, amenity grassland and ornamental planting. The gardens offer foraging opportunities for bats.

3. LEGISLATIVE AND POLICY BACKGROUND

Bat Legislation

- 3.1. All British bat species are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010 ('Habitat Regulations'). This legislation combined makes it an offence to:
- **Damage or destroy a breeding site or resting place** or intentionally or recklessly obstruct **access** to a structure or place used for shelter by a bat;
 - Deliberately, intentionally or recklessly **disturb** bats; in particular any disturbance which is likely to impair the ability of bats to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating bats, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species;
 - Deliberately **kill, injure** or take any bat.
- 3.2. The government's statutory conservation advisory organisation, Natural England, is responsible for administering European Protected Species (EPS) licences that permit activities that would otherwise lead to an offence.
- 3.3. A licence can be obtained if the following three tests have been met:
- Regulation 53(9)(a) - there is "no satisfactory alternative" to the derogation, and;
 - Regulation 53(9)(b) - the derogation "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range" and;
 - Regulation 53(2)(e) - the derogation is for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment".

4. METHODOLOGY

Dusk emergence surveys

- 4.1. A dusk emergence survey was undertaken on 7th May 2018. Surveys were undertaken in line with good practice guidance detailed by the Bat Conservation Trust (Bat Surveys – Good Practice Guidelines 2016).
- 4.2. The surveys were conducted by the ecological surveyors Laura Ashford MSc and Angela Rose.
- 4.3. Surveyors recorded bat activity using hand-held Echometer Touch detectors. Analysis of recordings was undertaken after the surveys to confirm species identification, where necessary. Survey results were recorded to include bat access points, bat species, time, and type of activity (e.g. emergence, re-entry, commuting, foraging). Any significant activity patterns and access points were identified and recorded.
- 4.4. A summary of the survey dates and weather conditions are provided in Table 1 below:

Table 1: Emergence survey dates and weather conditions

Date	Survey type	Temp at start (°C)	Sunset/ sunrise time	Weather conditions
07/05/17	Dusk survey	23°C	20:34	Dry, slight breeze, 25% cloud cover

5. OVERVIEW OF SURVEY RESULTS

Results - Dusk Emergence Surveys

- 5.1. Three species of bat were recorded during the surveys; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrelles pygmaeus* and Nathusius' pipistrelle *Pipistrellus nathusii*.
- 5.2. No bats were seen emerging from the building. There were twelve recordings of foraging bat activity, predominantly in the front garden. Two of the recordings were seen flying north through the front garden the rest were heard as they did not fly around the house or around the garden when foraging. Considering the optimal conditions of the survey bat activity overall was considered low and it can be assumed bat species are using other more suitable habitat such as the water features and parkland 0.7km west of the site.

Survey Summary

- 5.3. Low levels of foraging activity by predominantly common pipistrelle. Calls became more frequent 1 hour and 10 minutes from sunset. Occasional soprano pipistrelle recordings and one recording of Nathusius' pipistrelle during the survey. No bats seen emerging from the building.

6. IMPACTS, MITIGATION, COMPENSATION and ENHANCEMENT

Status of bat roosts on site

- 5.4. No bats or evidence of bats was observed during the internal and external inspections and no bats were seen emerging from the bungalow building on the emergence survey. It can therefore be assumed that no bats are presently roosting on site.

Impacts of Proposals

- 5.5. It is likely that bats are absent from roosting within the building and therefore is it unlikely that the development will result in an offence under the European Habitats Directive. The proposed alterations to the building would have no impact on the bats in the local area, providing the recommendations set out below in sections 5.12 to 5.17 are followed.
- 5.6. As an advisory recommendation, areas with bat roosting potential such as the bargeboard on the west gable end, gaps behind soffit, fascia board and under the flashing of the chimneys, as well as holes in the tiles should be stripped by hand in a sensitive way by the builders. In the unlikely event that any bats or evidence of a roost are found during works, a licensed ecologist should be contacted immediately to take the appropriate course of action.

Mitigation & Recommendations

Roofing materials

- 5.7. Bitumen roof felt should be used as lining in the new build, no breathable membrane should be included in the build at all. Breathable roofing membrane has been proven to cause entanglement and can lead to fatalities within bat roosts.

Lighting

- 5.8. Any new external lighting must be directed to avoid light spillage onto vegetation, particularly linear habitat features such as woodland edges or potential roosting sites within trees and buildings. Bats are sensitive to light and could potentially avoid the area if access points or the surrounding areas become lit. Appropriate lighting options will prevent a negative impact on bats potentially using the habitats on site and should be approved by a suitably qualified Licensed Bat Ecologist.
- 5.9. Any potential impact on bats can be minimised by: using low - pressure sodium lamps instead of high - pressure sodium or mercury lamps. "Warmer" lights should be used as a preference as these are less penetrating than bright white lights (such as LEDs). Maintaining the brightness as low as possible; limiting the times during which the lighting can be used to provide some dark periods. Motion sensors are strongly recommended, using a short timer to reduce the duration of lighting and reduce disturbance to bats.

Directing the lighting to where it is needed to avoid light spillage onto vegetated margins; and minimising upward lighting by fitting lights with downward facing baffles to avoid light pollution.

- 5.10. Light can be restricted by fitting hoods which direct the light below the horizontal plane, at an angle less than seventy degrees. Limiting the height of lighting columns and directing light at a low level away from vegetation reduces the ecological impact of the light

Creation of bat roosting opportunities

- 5.11. As bats are using the surrounding habitat, the installation of 2 woodcrete bat boxes such as the 3FN Schwegler Bat Box or the 2F Schwegler Bat Box (both double front panel), installed on southern aspects of mature trees on site is recommended. These would also serve as a precautionary measure as an alternative roosting site for bats during construction works should any bats be found during the demolition. These will be installed at a height of at least 4m, preferably on a southern un-cluttered aspect with good connectivity to linear features such as other mature trees and hedgerows. This box must be installed prior to any works on the building and will remain on site permanently post-development. This will ensure that roosting opportunities are available on site at all times during and post-development. A licensed ecologist should be instructed to fix these boxes to ensure likelihood of uptake is increased.

Enhancements

Roosting features

- 5.12. National planning policy states that all developments should seek to enhance onsite biodiversity whether impacts on protected species are recorded or not. Incorporating enhancement features into new or renovated buildings should be carefully considered. These features can be simple and inexpensive, please see below for bat specific recommendations.
- 5.13. Provision of 2 new bat roost features within the new builds is recommended as an enhancement to bat roosting opportunities in the local area. Darwin Ecology can advise upon and oversee the options, design or installation of any of the below. These new roosting opportunities can be inexpensive and easy to install, they should ideally be integrated into the new build such as access gaps integrated into barge boards and fascia boards fitted at the apex of the wooden cladding are likely to be used by pipistrelle bats.

- 5.14. Integrated bat wall boxes may be the preferred option and we recommend the 2FR Schwegler Bat Tube which can be integrated into the cavity wall, allowing bats an enclosed cavity space to roost within.

- 5.15. Gaps can also be created within soffit/fascias allowing access to the soffit box, at gable apexes allowing access directly into the loft space, under lifted tiles/slates/wooden cladding either allowing roosting between tiles and roofing felt, between the wooden boards externally or within the loft space.

Planting

- 5.16. Any future planting should seek to enhance biodiversity, improve connectivity to the surrounding habitats and provide food and shelter for a wide range of faunal species. The text regarding Landscape and Biodiversity from the Design and Access Statement provides excellent recommendations to accommodate a wide range of species including hedgehogs, birds and bats.

6. REFERENCES

Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines*. BCT London.

Mitchell-Jones, A.J., (2002). *Bat Mitigation Guidelines*. English Nature, Peterborough.

Mitchell-Jones, A. J. & McLeish, A. P. (2004). *Bat Workers' Manual* (3rd Edition). JNCC, Peterborough.

Schofield, H. W. & Mitchell-Jones, A.J. (2004). *The Bats of Britain and Ireland*. Vincent Wildlife Trust, Ledbury.

APPENDIX 1 - SURVEY AND REPORTING LIMITATIONS AND EXCEPTIONS

This report and its survey results should be considered in conjunction with the terms and conditions proposed and scope of works agreed between Darwin Ecology Ltd and the client.

This report has been produced in the context of the proposals stated in the Introduction & Background section of this report (Section 2) and should not be used in any other context.

Darwin Ecology Ltd have endeavoured to identify the likely presence / absence of protected species wherever possible on site, where this falls within the agreed scope of works. Current standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility can be accepted where these methodologies fail to identify all species or significant species on site.

Extended Phase 1 and Preliminary Ecological survey techniques provide a preliminary assessment of the likelihood of protected species occurring on the development site, based on the suitability of the habitats and any field signs found during the site visit. A Phase 1 survey should not be taken as providing a full and definitive survey of any protected species group.

Extended Phase 1 and Preliminary Ecological Appraisals represent a snapshot of conditions at the time of survey and are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Surveys should therefore not be considered a comprehensive list of all plant species or as conclusive proof that certain protected species are not present or will not be present in the future.

Where the presence/absence of a certain species is in question our ecologists must apply a precautionary approach until further survey data can be sought to better inform the decision.

Darwin Ecology Ltd will advise on the optimum survey season for a particular habitat or protected species prior to undertaking the survey work. Darwin Ecology Ltd cannot accept responsibility for the accuracy of surveys undertaken outside this period.

The potential impacts, mitigation and enhancement sections of the report provide an overview and is for guidance only. This section should not be solely relied upon, but should be considered in the context of the whole report.

Interpretations of survey results and recommendations outlined in the report represent our professional opinions, expressed in accordance with recognised industry practices and current legislation at the time of reporting. The results of survey work undertaken by Darwin Ecology Ltd are representative at the time of surveying.

Where the client had supplied us with data from previous reports, it has been assumed that this information is valid. No responsibility can be accepted by Darwin Ecology Ltd for inaccuracies within any previous data supplied.

The copyright in this report, plans and other associated documents prepared by Darwin Ecology Ltd is owned by them and no such report, plans and other associated documents may be reproduced without their written consent.

Amendments to this report after its submission may be necessary in light of new, relevant information and / or legislation. This report should be referred to us for re-assessment if any such amendments are necessary or after the expiry of one year from the date of the report.