

# **Bat Survey Report for The Coachhouse, Parkhill Estate, Dyce**

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## CONTENTS

Executive Summary	Page 3
1. Introduction	Page 3
1.1 Site location	Page 3
1.2 Site description	Page 3
1.3 Proposed works	Page 3
2. Survey and Site Assessment	Page 3-5
2.1 Objectives	Page 3
2.2 Methods	Page 4-5
3. Legislation and Policy Guidance	Page 5
4. Bat Ecology	Page 5-6
5. Results	Page 6-9
5.1 Pre-survey data search	Page 6
5.2 Field Surveys	Page 6-9
6. Assessment	Page 9-10
6.1 Constraints on survey information	Page 9
6.2 Discussion	Page 9
6.3 Potential impacts of development	Page 9-10
6.4 Licensing	Page 10
7. Recommendations and Mitigation	Page 10-11
7.1 Species Protection Plan	Page 11
8. References	Page 11
9. Appendices	Page 11-12
Appendix 1 Site Location	Page 12

## EXECUTIVE SUMMARY

A preliminary survey to assess the potential likelihood of bats roosting at the Coachhouse, Parkhill Estate demonstrated a moderate potential for the presence of bat roosts. Day-time external and internal surveys were carried out. No bats or signs of bats in the form of droppings were recorded internally, small numbers of pipistrelle species bat droppings were recorded externally. The hibernation assessment demonstrated a low potential for hibernating bats within the building.

The proposed renovation of the property may impact on any bat roosting there, therefore one emergent (dusk) and one re-entrant (dawn) survey were recommended prior to works commencing, to establish if bats are roosting at the property or not. No further hibernation surveys are required. One emergent and one re-entrant survey were carried out. One roost, containing two Soprano pipistrelles was identified. Soprano and Common pipistrelles were recorded foraging around the site. The surveys took place in favourable weather conditions and results are accurate as to the species, numbers, and locations of bats in the area at the time of the survey.

Bats are a protected species and it is an offence to intentionally, or recklessly, disturb a bat in a shelter or resting place; or to damage or destroy a breeding or resting site. All bats and their roosts are legally protected because bats return to the same places every year, a bat roost is protected even if there are no bats there. The proposed renovation will not have a long-term detrimental impact on the bat population at the site providing an alternative roost site is provided. A bat licence will be required before work commences to permit the destruction of the bat roost with appropriate mitigation and compensation methods. There is always the possibility that bats can be found unexpectedly once building work occurs and appropriate action should be taken in this eventuality.

## 1. INTRODUCTION

### 1.1 Site location

The Coachhouse is situated on Parkhill Estate, located east of the A90 road, north-east of Dyce. The property is located at NJ 897141 at an altitude of 50m above sea level. *Appendix 1 Site Location*

### 1.2 Site description

The Coachhouse is a traditional stone-built structure with a slate roof on timber sarking.

### 1.3 Proposed works

It is proposed to renovate the building.

## 2. SURVEY AND SITE ASSESSMENT

### 2.1 Objectives

The survey aims to make an appraisal of the presence and/or absence of any species of bat which may be affected by the development at the proposed site. The survey specifically looked for evidence of bat roosts with an emergence and re-entrant survey.

## 2.2 Methods

### 2.2.1 Pre-survey data search

Web-based sources of information were examined, principally the National Biodiversity Network (NBN) Gateway (<http://data.nbn.org.uk/>) where a radius of 5km from the centre of the proposed development was searched to provide suitable coverage of the area. Nature designation classifications were obtained from Scottish Natural Heritage Site Link (<https://sitelink.nature.scot/home>). Other websites searched include Bat Conservation Trust (<http://www.bats.org.uk/>). Positive records for species present in the survey area can be used to inform the assessment of biodiversity on the site but the lack of records clearly cannot be taken to imply that the species in question is absent.

### 2.2.2 Survey methodology

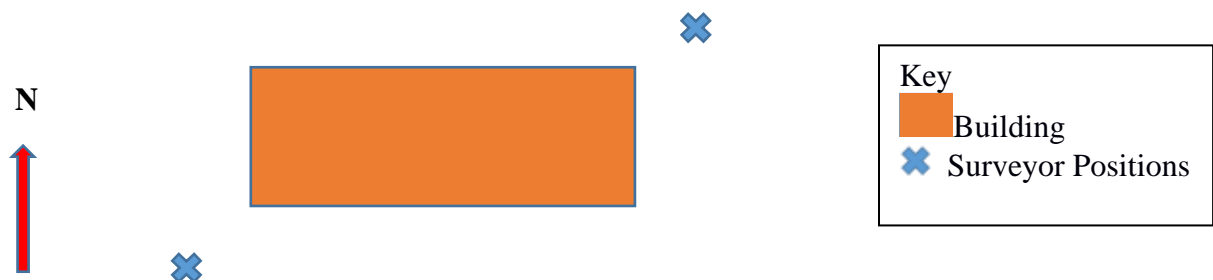
A site visit and habitat assessment were carried out after receiving information from Craig Stenhouse, Property Owner. A bat survey was carried out incorporating a preliminary ecological appraisal, preliminary roost assessment and a hibernation survey. The building was surveyed internally and externally from ground level following best practice guidelines: Good Practice Guidelines, 3rd Edition. Bat Conservation Trust (BCT), Collins, J (2016).

Emergence (dusk), activity and re-entrant (dawn) surveys, were carried out following the format identified in the best practice guidelines. One emergence, one re-entrant, and activity surveys were carried out using Anabat Walkabouts, Anabat Express passive bat detectors and recorders, and hand-held BatBox Duet detectors. Data was analysed using analook software.

### 2.2.3 Survey area and surveyor positions

The survey covered all elevations of the property externally and internally. Two surveyors were positioned at opposite sides of the building, over 1 dusk and 1 dawn survey, which took place 2 weeks apart to cover all elevations as shown below.

**Diagram showing simplified property plan and surveyor positions** (not to scale)



### 2.2.4 Timings, types, and weather conditions of Field Surveys

**27/07/2020** Bat roost assessment and hibernation survey – structures - Temperature 14 degrees Celsius; wind speed 5mph; cloud cover 100%; heavy rain showers; good visibility.

**31/07/2020** Emergence (Dusk)/ Activity Survey – Sunset 21.23 - Time 21.00 – 23.00; temperature 18 degrees Celsius; wind speed 5mph; cloud cover 40%; no precipitation; good visibility.

**16/08/2020** Re-entrant (Dawn)/ Activity Survey – Sunrise 05.38 - Time 04.00 – 05.55; temperature 13 degrees Celsius; wind speed 5mph; cloud cover 100%; dry then light drizzle; good visibility.

### 2.2.5 Limitations

Survey data is only accurate on the date/time that the surveys took place.

### 2.2.6 Personnel

Emma O'Shea, Ecological Consultant, Tay Ecology, Bat Licence Number 103292

Emma has worked in the environmental sector for sixteen years, during which time she has gained a wealth of experience and expertise. For the last 6 years she has worked as an ecological consultant for Tay Ecology with lead responsibility for development projects requiring protected species surveys and species licensing, she trained for her bat licence under Neil Middleton, Echoes Ecology on the Bat Skills Development Programme. Emma has a Postgraduate Diploma in Environmental Management and is a member of the Institute of Environmental Management and Assessment.

Rosemary O'Shea, Bat Surveyor

Rosemary first volunteered as a bat surveyor with the National Trust for Scotland at Drum Castle in 2004, she attended a training course with the Bat Conservation Trust and has volunteered for many bat surveys and bat counts over the last 16 years. In the 2018/9 survey seasons she surveyed for Tay Ecology, North East Nature and Aquila Ecology.

Gary Flynn, Bat Surveyor

Gary first volunteered as a bat surveyor with the National Trust for Scotland in 2006. He has worked in wildlife conservation in Aberdeenshire for over 20 years and trained with Tay Ecology during the 2019 season.

## 3. LEGISLATION AND POLICY GUIDANCE

**Bats:** All bats and their roosts are legally protected in Scotland by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) - "the Habitats Regulations". A bat roost is any structure or place which a bat or group of bats use for shelter or protection, because bats return to the same places every year, a bat roost is protected even if there are no bats there.

It is an offence to deliberately or recklessly: capture, injure or kill a wild bat; harass a wild bat or group of bats; disturb a wild bat in a roost (any structure or place it uses for shelter or protection); disturb a wild bat while it is rearing its young (this would be a 'maternity' roost); obstruct access to a bat roost or to otherwise deny the animal use of the roost; disturb such a wild bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of that species; disturb a wild bat in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear/care for its young.

It is also an offence to: damage or destroy a breeding site or resting place of such an animal (note: this does not need to be deliberate or reckless to constitute an offence); keep, transport, sell or exchange or offer for sale or exchange any wild bat or any part or derivative of one (if obtained after 10 June 1994).

## 4. BAT ECOLOGY

In this part of Scotland there are 5 species of bat generally found: Common Pipistrelle (*Pipistrellus pipistrellus*); Soprano Pipistrelle (*Pipistrellus pygmaeus*); Brown Long-eared (*Plecotus auritus*);



Daubenton's (*Myotis daubentonii*); and Natterer's (*Myotis nattereri*). The 2 species of pipistrelle use man-made structures to roost and can be found in both a rural and urban setting. Brown long-eared bats often roost in old buildings with large attics, preferring buildings associated with mature woodland in which they can forage. Daubenton's bats roost close to still or running bodies of water, either in trees or structures such as bridges. Natterer's bats have a similar habitat to brown long-eared bats but are less common.

Female bats roost together in a colony from May until the autumn. They usually have one baby in June which is reliant on its mother for 2 months and will remain in the roost whilst the mother feeds. In the autumn, the colony will move from their warm summer roost, often in buildings, to a cooler winter roost which may be in trees, unheated buildings with thick stone walls, caves and similar places. In their winter roost they become torpid as the weather cools and they hibernate. Male bats live in smaller groups or individually in cooler roosts such as steadings or tree holes and can be found in maternity colonies in the early autumn when mating takes place. Whilst bats are hibernating, they are particularly vulnerable to disturbance. Each time they wake it uses up their energy stores and with repeated disturbance the result can be their death.

## 5. RESULTS

### 5.1 Pre-survey data search

Scottish Natural Heritage: no nature designations within 5km.

National Biodiversity Network confirmed presence Soprano pipistrelle (*Pipistrellus pygmaeus*), Common pipistrelle (*Pipistrelle pipistrellus*), and Daubenton's bat (*Myotis daubentonii*) within 5km of the proposed location. Common and Soprano pipistrelle have been confirmed within 1km.

### 5.2 Field surveys

#### 5.2.1 Description of Habitats of potential value to wildlife

There is small freshwater loch within 200m to the south of the Coachhouse and mature coniferous and deciduous trees across the estate. The River Don is 700m to the west.

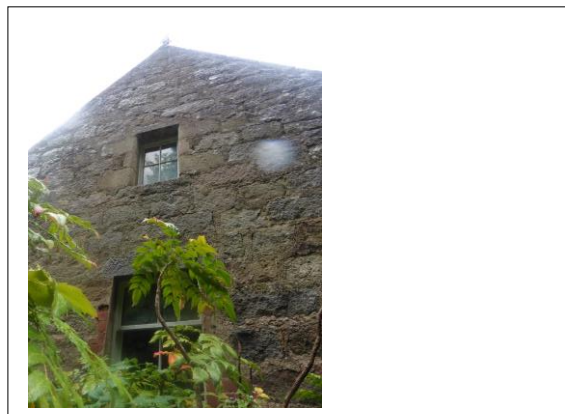
#### 5.2.2 Bat Surveys

##### 5.2.2.1 Preliminary roost assessment

North elevation



East elevation



West elevation



Woodland and Water Habitat within 200m



**Description and assessment of suitability of features for roosting.**

**Table 5.1 Description, proposed works, assessment, and suitability of features for roosting,** with assessment adapted from Collins (2016, pp.35, 51, 52)

Description	Assessment	Suit-ability	Proposed Works	Implications for Proposed Works
Traditional stone-built structure with slate roof on timber sarking.	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status. Habitat within 200m that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.	Moderate	It is proposed to renovate the property.	Further survey recommended – 2 surveys including 1 dusk and 1 dawn survey between April – September.

Table 5.1 shows that the Coachhouse has one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status. Habitat within 200m that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water (Collins, 2016, p.35), and 2 surveys between April-September are recommended (Collins, 2016, p.52).

**Table 5.2 Description of potential roost features and evidence of bats**

Descriptions of potential roost features	Evidence of bats found	Areas not surveyed/why
Gaps under roof ridge and around chimney	None	n/a
Gaps between walls and roof	Small numbers pipistrelle sp. droppings on east window and on 2 north doors	n/a
Gaps between slate roof and sarking	None	n/a

Table 5.2 above, shows that the potential roost features include gaps under roof ridge and gaps between walls and roof. Pipistrelle species bat droppings were visible externally on the east window, and on 2 of the north elevation doors. Droppings were in single figures of less than 5 where they were recorded.

Examples of potential roost locations and evidence of bats (droppings) on doors



**Description and assessment of suitability of features for foraging**

The woodland habitats, small loch and river are suitable for foraging.

**Description and assessment of suitability of features for commuting**

The woodland edges and the small loch and river have potential for commuting.

**5.2.2.2 Winter hibernation assessment**

**Table 5.3 shows description of winter hibernation potential and evidence of bats**

Descriptions of potential hibernation roost features	Evidence of bats found	Areas not surveyed and why
Low potential limited to opportunistic bats using gaps under the roof ridge.	None	n/a

Table 5.3 shows that the potential hibernation roost features are low as the temperature will fluctuate within the roof.

**5.2.2.3 Emergence, Re-entrant and Activity Surveys**

**31/07/2020** Emergence (Dusk)/ Activity Survey – Sunset 21.23 - Time 21.00 – 23.00

The first bat was recorded at 21.43, 20 minutes after sunset, it was a Soprano pipistrelle which emerged from Roost 1, underneath the roof ridge on the south elevation. A 2<sup>nd</sup> Soprano pipistrelle was recorded emerging from Roost 1 at 21.48. At 21.51 2 Soprano pipistrelles were recorded foraging around the north-east elevation.

Foraging Soprano and occasional Common pipistrelles were recorded around the Coachhouse with the preferred areas to the north-east and south. Bat activity continued until the survey end. No bat emerged from any other elevation during the survey and no other species of bat was recorded.

**16/08/2020** Re-entrant (Dawn)/ Activity Survey – Sunrise 05.38 - Time 04.00 – 05.55

The first bat was recorded at 04.01, it was a Soprano pipistrelle foraging in the garden to the south. Soprano pipistrelles were recorded foraging frequently during the survey, the preferred foraging area was at the north-east side of the Coachhouse in the trees with activity also recorded in the garden area to the south. Occasional Common pipistrelle calls were recorded from 04.15. At 05.03 2 Soprano pipistrelles entered Roost 1 on the south elevation, no other bat was recorded after this time. No bat re-entered any other elevation of the building during the survey and no other species of bat was recorded.



Roost **1** location on south elevation



## **6. ASSESSMENT**

### **6.1 Constraints on survey information**

The survey data is accurate at the time of survey.

### **6.2 Discussion**

The Coachhouse was surveyed internally and from ground level externally. The proposed work is to renovate the building. The structural survey demonstrates that one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat exist, but these are unlikely to support a roost of high conservation status. The habitat within 200m is connected to the wider landscape and could be used by bats for foraging such as trees, scrub, grassland, or water (Collins, 2016, p.35). The property has moderate roost suitability and 1 dusk and 1 dawn survey between April – September is recommended (Collins, 2016, p.52). No evidence of bats in the form of bat droppings or the presence of live bats was found internally during the preliminary assessment. Small numbers of pipistrelle species bat droppings were found externally. The hibernation survey demonstrates a low potential for hibernation roost sites and no further hibernation surveys are recommended.

The survey results show that 2 species of bat, Soprano and Common pipistrelle, were recorded foraging around the property. The preferred foraging areas were to the east, north and south. Two Soprano pipistrelles were recorded using 1 roost location on the north elevation, no bats were recorded using the property on any other elevation. The weather conditions at the time of the surveys were favourable for surveying with mild temperatures, and light winds. It is likely that the roost is a day roost for male or non-breeding females, bats are known to use 5 to 7 day-roosts. As bats are mobile creatures, it cannot be completely eliminated that bats may use other locations at the property for roosting on occasions.

### **6.3 Potential impacts of development**

The renovation of the property will have an impact on the bat roost as the roost will be destroyed by the proposed works. A bat licence from Scottish Natural Heritage will be required prior to works commencing. However, the short to long-term impact will be low as a replacement roost will be provided before renovation takes place. The overall significance of the impact is assessed as low as the roost is for male or non-breeding female bats, each bat is likely to have 5 to 7 day-roosts which it uses, and with appropriate mitigation and compensation the impact will be greatly reduced to ensure the long-term viability of the population.

It is not foreseen that the proposed works will have any detrimental long-term impact to the bat population providing appropriate mitigation and compensation is put in place to replace the roost. This will ensure that bats can continue to use the area in the future with no detrimental impact to the population. The foraging and commuting areas identified during the survey will not be impacted by the proposal. It cannot be guaranteed that a bat will not be found within the building once work commences and any contractors on site should be aware of the potential of bats during works, and what to do in the event a bat is discovered.

**Table 6.1 Impact timescale and effect of impact**

<b>Impact timescale</b>	<b>Impact/effect of impact</b>
Short-term impact	Potential for disturbance or injury to bats during renovation.
Medium-term impact	Alternative roost with similar temperature regimes will be made available for the bats. This reduces impact.
Long-term impact	Proposed work carried out carefully and sympathetically with appropriate mitigation and compensation will result in continuing favourable conditions for bats at the site. Impact is low.

Table 6.1 demonstrates that there is a potential short-term impact to the bats, however, over the medium and long-term this is negated by appropriate mitigation and compensation.

#### **6.4 Licensing**

Activities that may result in offences taking place can in some instances be permitted, for example roofing repairs to a house which has a bat roost. However, a strict process of licensing must be observed and followed for this to be lawful. In this case a licence from Scottish Natural Heritage is required before any work can commence, and any condition imposed must be met. There is no guarantee that such a licence will be granted.

Three tests from the Conservation Regulations must be satisfied before SNH can grant a licence:

1. the licence relates to one of the specified purposes, including preserving public health or public safety or other imperative reasons of overriding public interest; preventing the spread of disease; preventing serious damage to the property. Supporting evidence for any assertions about the significance of the project, such as its social or economic importance will be required by the licensing authority.
2. there is no satisfactory alternative to carrying out work which will affect bats or their roosts.
3. the work will not adversely affect the local bat population.

An application for a licence will fail if these 3 tests are not met.

## **7. RECOMMENDATIONS and MITIGATION**

Bat surveys are normally valid for a period of 18 months. There is always the possibility that bats can be found unexpectedly once building work occurs. If this is the case, then SNH should be contacted immediately and work must cease.

Mitigation licences: a bat licence from Scottish Natural Heritage will be required before work can commence. A bat licence will be applied for on the grounds of an imperative (urgent) reason of overriding (long-term) public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment. The non-breeding pipistrelle bat roost can be licensed on a SNH low impact bat licence which are held by licensed bat surveyors.

**Table 7.1 Impact timescale and mitigation/compensation measures**

<b>Impact Timescale</b>	<b>Mitigation/compensation measures</b>
Short term impact	<ul style="list-style-type: none"> <li>• Within 100m of the site the erection of 1 suitable bat box (eg. Schwegler 2F Bat Box (general purpose) or equivalent) in adjacent tree or structure before work commences, to relocate any bats be found during work.</li> <li>• If small numbers of bats (five or less) are found during the survey or at any time during works they must be removed and placed in a purpose-built bat box. If more than 5 bats are found work must cease and SNH should be contacted.</li> <li>• Contractors to be briefed about the likelihood of bats being found on site, and on what to do if a bat is found.</li> <li>• Roofing materials to be removed carefully by hand within five metres of a known bat roost or other potentially suitable roosting location (eg. loose flashing). A licensed bat worker present on site at the start of works for the roost destruction.</li> </ul>
Medium term impact	<ul style="list-style-type: none"> <li>• Retain bat box in tree or structure.</li> <li>• Install a bat roost in the roof on the south elevation eg. bat slate, raised section roof ridge.</li> </ul>
Long-term impact	<ul style="list-style-type: none"> <li>• If the above is followed there will not be a long-lasting negative impact on the bat population and no further mitigation measures will be required.</li> </ul>

### **7.1 Species Protection Plan Summary**

1. A SNH bat mitigation licence will be required before work can commence.
2. Within 100m of the site the erection of 1 suitable bat box (eg. Schwegler 2F Bat Box (general purpose) or equivalent) in adjacent tree or structure before work commences, so that should any bats be found during work they can be safely relocated.
3. Contractors should be made aware of the potential for the presence of bats and what to do in the event a bat is found.
4. Work carried out carefully and by hand within five metres of known bat roost. A licensed bat worker present on site at the start of works for the roost destruction.
5. Bat box to be retained as alternative roost and replacement roost provided on south elevation eg. bat slate or raised section of roof ridge.
6. There is always the possibility that bats can be found unexpectedly once building work commences. If this is the case a bat ecologist and Scottish Natural Heritage should be contacted immediately.

## **8. REFERENCES**

Collins, J (2016) Bat Conservation Trust, Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition.

## **9. APPENDICES**

Appendix 1 Site Location

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