



Greene King Commercial Investments Limited

The Former George & Dragon, Reading

Bat Report

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RSK GENERAL NOTES

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Author	Eleanor Holloway BSc MSc	Update	Maya Griffin BSc (Hons)
Signature		Signature	
Date:	15/09/2022	Date:	27/09/22
Project manager	Eleanor Holloway BSc MSc	Technical and quality reviewer	Prof. Richard (Dez) Delahay PhD MCIEEM CEcol.
Signature		Signature	
Date:	15/09/2022	Date:	27/09/22

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Switchboard: +44 (0)330 223 1074 Company contact: Enquiries@biocensus.co.uk

EXECUTIVE SUMMARY

1. This report summarises the findings of the bat surveys carried out in connection with the proposed demolition of existing pub/ restaurant and erection of one Drive Thru retail / bakery unit (Class E) including erection of supporting structures, together with alterations to means of access, car parking, landscaping and associated works at the Former George and Dragon amenity restaurant / public house on Bath Road, Reading (RG30 2HA).
2. The site comprises a large amenity restaurant / public house building with hard-standing (car park), dense scrub and broadleaved trees around the margins, and a mix of tall ruderal vegetation and amenity grassland to the immediate north and east of the amenity restaurant / public house. The site is situated in an urban area approximately 3 km west of Reading city centre. There are large areas of agricultural land and coppiced broadleaved woodland to the south (1 km) and west (2.5 km).
3. A preliminary roost assessment (PRA) of the building was completed by RSK Biocensus in July 2022. The building was found to be suitable for roosting bats and required at least two emergence and/or re-entry surveys (RSK, 2022).
4. The dusk emergence survey and dawn re-entry survey were completed by RSK in August 2022. During the surveys, one common (*Pipistrellus pipistrellus*) and one possible soprano pipistrelle (*Pipistrellus pygmaeus*) were recorded emerging and re-entering the building, respectively. The common pipistrelle emerged from a roost in the southern aspect of the building and the soprano re-entered a roost in the western aspect. These were determined to be two separate roosts rather than multiple entrances to a single roost. As only one bat was observed per roost, they were considered to be day roosts.
5. Three species of bat were recorded foraging and commuting in the vicinity of the building during the dusk survey and two species were recorded during the dawn survey.
6. It was decided that no further information about the roosts could be gained from a third survey and so only two survey visits were made.
7. Due to the observed emergence and re-entry of the pipistrelles, the building is a confirmed bat roost; used by common and possibly soprano pipistrelles as two separate day roosts.
8. Any work on the building will therefore require a Natural England European Protected Species Mitigation Licence (EPSML). Appropriate mitigation and compensation options are discussed.
9. The results and recommendations in this report are valid for a maximum of two years. If the redevelopment works are to start after this period, then the surveys will need to be repeated to ensure contemporary information is available to support the development.

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1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 This report presents the results of dusk and dawn emergence and re-entry surveys carried out at the Former George and Dragon amenity restaurant / public house in Reading (*Figure 1*), on 8th August 2022 and 31st August 2022, respectively. The surveys were completed on behalf of Greene King Commercial Investments Limited.

1.2 Landscape context

1.2.1 The 0.25 ha site comprises a large amenity restaurant / public house building with hard-standing (carpark), dense scrub, broadleaved trees around the margins, and a mix of tall ruderal vegetation and amenity grassland to the immediate north and east of the amenity restaurant / public house. The site is situated in an urban area approximately 3 km west of Reading city centre. There are large areas of agricultural land and broadleaved woodland coppice to the south (1 km) and west (2.5 km) of the site.

1.3 Development proposals

1.3.1 The development proposals comprise the demolition of the Former George and Dragon amenity restaurant / public house to accommodate a new drive-thru, which will include one 186 m² brick building with adjacent outdoor dining areas and a 33-space car park including two disabled, two waiting bays and 10 electric vehicle charging bays. This development also involves the removal of several trees and the planting of ornamental flowers and shrubs around the margins of the site.

1.4 Background

1.4.1 A preliminary roost assessment (PRA) of the Former George and Dragon amenity restaurant / public house building was completed by RSK Biocensus on 26th July 2022. The building was found to have moderate to high bat roost potential owing to the presence of multiple suitable features (e.g. roost access points) and therefore required at least two emergence and/or re-entry surveys to be carried out between May-September to confirm (or otherwise) the presence of roosting bats. To ensure adequate coverage of the building a total of five surveyors were determined to be necessary for each survey visit (RSK, 2022).

2.0 METHODS

2.1 General

2.1.1 The surveys were carried out in accordance with the Bat Conservation Trust (BCT) good practice guidelines (Collins, 2016). Specifically, they followed the methodology described for undertaking bat emergence/re-entry surveys.

2.2 Emergence and re-entry surveys

2.2.1 Dusk emergence and dawn re-entry surveys were carried out by Daniel Fellman, John Daw, Bethany Turner, Steven Phillips, Charlotte Rose, Kathryn Skinner, Ruby Hill, Andrew Lewis, Louis Cartledge and Eleanor Holloway. All surveyors have experience in undertaking evening emergence and dawn re-entry surveys and are suitably qualified. They are all members of the Chartered Institute of Ecology and Environmental Management (CIEEM). Daniel holds class 2, 3 and 4 licences to survey for bats (licence references: 2015-10403-CLS-CLS, 2018-35857-CLS-CLS and 2018-35858-CLS-CLS) and John holds class 2, 3 and 4 licences to survey for bats (licence references: 2017-28491-CLS-CLS, 2017-28492-CLS-CLS and 2018-37686-CLS-CLS).

2.2.2 Surveyors were positioned in locations with a good view of potential roost access-points identified during the PRA (Figure 2). The dusk emergence survey started 15 minutes before sunset and continued for 90 minutes after, and the dawn re-entry survey started 90 minutes before sunrise and continued for 15 minutes after.

2.2.3 Electronic equipment capable of detecting and recording the ultrasonic echolocation calls of bats in flight was used to record bat activity (Elekon Batlogger M or Peersonic RPA3 bat detectors). Species were identified from the characteristics of their calls (including peak frequency, minimum and maximum frequency, call duration, and inter-pulse interval). In addition, an infra-red camera (Canon XA11 infra-red video camera with additional external infra-red spotlight) was used to monitor the most suitable bat roosting features on the dawn survey.

2.2.4 The surveys were carried out in weather suitable for bat activity (i.e. dry, no strong wind and sunset air temperature 10°C or above: see Table 1).

Table 1: Emergence and re-entry survey weather conditions

Date	Survey type	Sunset / sunrise time	Start / end time	Temperature (°C)	Wind (Beaufort)	Cloud (Octas)	Precipitation
08/08/22	Dusk emergence	20:41	20:26 / 22:11	21	0	0	None
31/08/22	Dawn re-entry	06:15	04:30 / 06:30	14	0	0	None

2.3 Survey constraints

- 2.3.1 The street lights along Bath Road remained on throughout both surveys. These lights run along the southern side of the building. Bath Road was also busy with traffic throughout the night. The noise and light disturbance may have interfered with the detectors and surveyors.

3.0 RESULTS

3.1 Emergence and re-entry surveys

3.1.1 The results of the surveys are presented in Table 2 below.

Table 2: Emergence and re-entry survey results

Survey Date	Notes
08/08/2022 (Emergence) Surveyors: John Daw Kathryn Skinner Stephen Phillips Charlotte Rose Louis Cartledge	At 21:26 a single bat was observed to emerge from the southern side of the building and fly south towards the trees across the road (Roost 1, Figure 3), based on the calls recorded at that time, the bat is most likely to have been a common pipistrelle (<i>Pipistrellus pipistrellus</i>). It was suspected to have emerged from the eave where a gap is present between the soffit and external wall, however the exact exit point could not be determined. Common pipistrelles, soprano pipistrelles (<i>Pipistrellus pygmaeus</i>) and noctules (<i>Nyctalus noctula</i>) were frequently recorded foraging and commuting around the pub gardens to the north of the building throughout the survey. The first bat recording was of a common pipistrelle observed foraging around the north-west of the site, 19 minutes after dusk (at 21:00). The first soprano pipistrelle was recorded foraging at 21:04. The first noctule was recorded flying high overhead at 21:24. The last bat was a common pipistrelle heard at 22:08.
31/08/2022 (Re-entry) Surveyors: Daniel Fellman Andrew Lewis Eleanor Holloway Bethany Turner Ruby Hill	At 05:33 a single bat was observed to fly south-west from the north-east, over the roof then circled east and entered a roost in the western side of the building (Roost 2, Figure 3), the exact entry point could not be determined. This bat was not picked up by any of the surveyor's detectors, therefore the species cannot be confirmed, but it was most likely to be a pipistrelle based on its re-entry within the hour of light before dawn, which may also explain why it didn't need to echolocate. From the acoustic data recorded around that time (± 10 min) by all the detectors present, the bat observed to re-enter the building is more likely to be soprano than common pipistrelle, but this is inconclusive. A total of four bats were recorded throughout the entire survey, all suspected to be pipistrelles. The first bat recording was of a common pipistrelle heard 72 minutes before dawn (at 05:03), and no other common pipistrelles were recorded during the survey. The first soprano pipistrelle was recorded at 05:22 and observed to fly from the east towards the southern side of the building, and another was heard at 05:27.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Emergence and re-entry surveys

- 4.1.1 Pipistrelle bats were found to be using the building as a day roost. One bat emerged from the southern aspect, most likely a common pipistrelle (Roost 1) and the other entered the western aspect of the main building, possibly a soprano pipistrelle (Roost 2) (Figure 3). From the structure of the building, it is clear that these are two separate roosts, each supporting at least one bat. Given the small number of bats recorded, they are thought to represent day roosts and are insufficient to be considered maternity roosts. The building therefore supports two confirmed pipistrelle roosts and the proposed demolition of the main building will require a Natural England European Protected Species Mitigation Licence (EPSML) for the destruction of the roosts.

4.2 Mitigation and compensation

- 4.2.1 An EPSML will be required for the demolition of the building to take place legally. The EPSML will require some form of mitigation and compensation measures to reduce the impact of the lost roosts on the local bat population. Three possible approaches are provided below, in order of preference:
- Bat boxes (e.g. Schwegler 1FF bat boxes) mounted onto the new building or integrated bat structures (e.g. Schwegler 1FR bat tubes) incorporated into the fabric of the new building. The new building would need to be made of suitable materials to support functional roosting structures; glass and metal do not provide landing areas with sufficient grip for bats to gain entry and have limited capacity for the incorporation of integrated bat structures. Although the development proposal indicates that the building will be brick, the presence of cladding or the size and placement of windows have yet to be specified.
 - Bat boxes mounted onto any suitable retained mature trees on site. Note that the use of mature trees close to the development but outside of the site boundary would require permission from the landowner (e.g. the local council).
 - Bat boxes mounted onto posts erected in the circumferential areas of scrub or hedgerow within the site boundary.
- 4.2.2 At least four such boxes/structures would be required to compensate for the loss of the two day roosts. The replacement structures should be at heights of at least 4 m and positioned on the southern and western aspects of the new building (two per side) to replicate the approximate positions of the destroyed roosts (Figure 3), to encourage re-occupation by the impacted bats.

4.2.3 The development proposals should include a lighting strategy that takes account of the bats and their commuting routes. This strategy should follow the guidance provided in Guidance Note 8 Bats and Artificial Lighting, issued by the Institute of Lighting Professionals (2018). The strategy should ensure that any lighting introduced during both the construction and operation of the new site does not surpass the current on-site levels of illumination by more than 1 lux. The following mitigation measures should be applied to minimise disturbance caused by artificial lighting:

- Avoid illumination of retained boundary features and buildings, including sections of the building not currently undergoing demolition, and the surrounding trees and scrub. Barriers may be required if lighting near these features cannot be avoided.
- No direct illumination of potential roosting features on buildings.
- Use light sources that emit minimal UV light and avoid white or blue wavelengths.
- Individual lamps should be hooded and directed where needed to avoid unnecessary light spillage.
- Night working should be avoided.

4.3 Validity of data

4.3.1 Unless the site changes significantly, the surveys carried out for this report should remain valid for at least 18 months, and potentially up to 3 years (CIEEM, 2019).

REFERENCES

Chartered Institute of Ecology and Environmental Management (2019), *Advice Note on the Lifespan of Ecological Reports & Surveys*. CIEEM, Winchester, Hampshire.

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

Institution of Lighting Professionals (2018), *Guidance Note 08/18 - Bats and artificial lighting in the UK*. Bats and the Built Environment series. Institution of Lighting Professionals, Rugby.

RSK (2022), *RSKBiocensus PEA report Former George and Dragon Reading Aug 2022 Final*.

FIGURES

Figure 1: Site Location Plan

Figure 2: Surveyor Positions

Figure 3: Roost Locations

APPENDIX – LEGISLATION

All species of British bat are protected by The Wildlife and Countryside Act 1981 (as amended) extended by the Countryside and Rights of Way Act 2000. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat while it occupies a bat roost.

Bats are also European Protected Species listed on Schedule 2 of The Conservation of Species and Habitats Regulations 2017 (as amended). This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong;
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.



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Registered office

Spring Lodge, 172, Chester Road, Helsby, Frodsham, England, WA6 0AR, UK

Registered in England No. 04364279

www.rsk.co.uk