Bat Emergence Activity Survey Report

Land at Keepers Cottages, Coolham

September 2024

www.phlorum.com

Bat Emergence Activity Survey Report

Land at Keepers Cottages, Coolham

26/09/2024

Savills UK
Runway East- York & Elder
50 New England Street
Brighton
BN1 4AW

Document Control:

Project no.:		Project name:		
13086		Land at Keepers Cottages, Coolham		
Version:	**Written by:**	**Checked by:**	**Authorised by:**	**Date:**
V1	Amber Howie	Richard Schofield	Richard Schofield	20 September 2024
V2	Amber Howie	Richard Schofield	Richard Schofield	26 September 2024

This report has been prepared for the exclusive use of the commissioning party and may not be reproduced without prior written permission from Phlorum Limited.

All work has been carried out within the terms of the brief using all reasonable skill, care, and diligence.

No liability is accepted by Phlorum for the accuracy of data or opinions provided by others in the preparation of this report, or for any use of this report other than for the purpose for which it was produced.

Phlorum Limited

Southern Office: Unit 12, Hunns Mere Way, Brighton, BN2 6AH

T: 01273 307 167 E: info@phlorum.com W: www.phlorum.com

Contents

1. Introduction 1
2. Methodology 2
3. Results 5
4. Discussion and Recommendations 9
5. Conclusions 15
6. References 16

Appendix A – Bat Survey Map

Appendix B – Legislation

Appendix C – Bat Survey Data

Non-technical Summary

Phlorum was commissioned by Savils UK to carry out a series of three bat activity (emergence/re-entry) surveys which were carried out at Keppers Cottages, Coolham Road, Coolham, RH13 8GP on the 17th June 2024, 23rd July 2024 and 02nd September 2024 prior to development. The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the PEA report (Phlorum 2024).

Current proposals are for demolition of the existing buildings and construction of a new dwelling with associated landscaping and informal parking areas. The survey area extended over approximately 0.09 hectares (ha).

The main findings of the survey are as follows:

- The main building B1 was surveyed to assess whether bats were using the structure.
- Bats were seen emerging from the building B1 across all three of the surveys.
- Two soprano pipistrelles were seen emerging from the building during the first survey, two soprano pipistrelles (*Pipistrellus pygmaeus*) and one barn owl (*Tyto alba*) were seen emerging from the building during the second survey and one soprano pipistrelle and two barn owls were seen emerging from the building on the third survey.
- Overall, there was a high level of bat activity recorded at the site. A total of eight bat species were recorded emerging, foraging, socialising and commuting at the site which included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle, noctule (*Nyctalus noctule*), Leisler's *(Nyctalus leisleri),* serotine *(Eptesicus serotinus),* Daubentons myotis *(Myotis daubentonii)*, brown-long eared bat *(Plecotus auritus)* and western barbastelle *(Barbastella barbastellus).* Common pipistrelle was the most frequently recorded bat species.
- Soprano pipistrelles were observed entering and emerging from building 1 on all three survey visits. Therefore, it was determined that a bat roost is present within the roof space of Building 1 for soprano pipistrelles.
- Based on the results of the surveys and the conditions supported at the building, the building was considered to support either a feeding roost or a possible day or night roost which may be used by small numbers of **soprano pipistrelles.**

- Based on the results of this surveys undertaken, it is considered likely that one roost is present in the building and are of low to medium conservation importance. The structure was not considered to provide features suitable for a roost of high conservation importance, such as a maternity or hibernation roost.
- Due to the presence of a roost in the roof of the building, a Bat Mitigation Class License (BMCL) or Natural England European Protected Species Mitigation (EPSM) licence in regard to common pipistrelles will be required before any works take place on the building.
- During the bat activity surveys, barn owls were observed emerging from and recorded within the roof structure. One barn owl was observed emerging on the second survey and two were observed emerging on the third survey. Therefore, all works to the building must be undertaken outside of the main nesting season for this species which runs from march to august, and compensatory habitat must be in place prior to works commencing and for the duration of works at site. Post development the compensatory habitat must be provided and maintained.

This version (V2) has been produced to amend minor typos within the text.

Further information regarding mitigation and site enhancement is provided in the recommendations section of the report.

1. Introduction

Background

1.1 Phlorum Limited was commissioned by Savills UK to carry out a bat activity (emergence/re-entry) survey in relation to Keepers Cottages, Coolham Road, Coolham, RH13 8GP (hereafter referred to as "the site") prior to development.

1.2 The bat survey follows on from a Preliminary Ecological Appraisal (PEA) and concurrent preliminary roost assessment for bats and this report should be read in conjunction with the previous PEA report (Phlorum, 2024).

1.3 It is understood that current proposals are for demolition of the existing buildings and construction of a new dwelling with associated landscaping and informal parking areas.

1.4 During the initial preliminary roost assessment, the main building was considered to offer **high** potential for roosting bats due to the presence of multiple ingress/egress points across the entire building and the rural location of the site. It was therefore recommended that a series of three activity surveys be undertaken to assess whether or not bats are using the structure.

1.5 This report provides an assessment of the status of bats within the site, providing information on their presence/likely absence and distribution. Potential impacts of the proposed development are identified and measures to mitigate the effects of the proposed development on bats are discussed in outline.

Site Description

1.6 The site is in a rural location, accessed by private road off a minor country road. There is no other housing within 500m of the site, and the immediate surroundings include priority habitat, such as the hedgerows across the surroundings, streams to the east within the woodland and north, and ancient woodland and deciduous woodland habitats. In the wider surroundings are minor and major roads, towns and rural residential homes.

1.7 The site comprised buildings (u1b5), ruderal vegetation (g 81), bare ground (g 510), native hedges (h2a), and native hedgerow with trees (h2 11).

1.8 The National Grid Reference for the centre of the site is TQ11132411. The survey area extended over approximately 0.09 hectares (ha).

2. Methodology

Data Search

2.1 Records for bats within a 2km radius of the site were obtained from the Local Records Centre (SxBRC, 2024) as part of the Preliminary Ecological Appraisal.

Review of Bat Building Inspection (Preliminary Roost Assessment)

2.2 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum, 2024). A review of this document was carried out to guide the activity surveys and ensure appropriate coverage.

Personnel

2.3 The survey was led by Amber Howie an ecological consultant with over 2 years' survey experience. The survey results and assessment was reviewed by Paul Carter (BSc (Hons), MBA, MCIEEM), an ecologist with over 20 years of experience of managing ecological and landscaping projects and holder of a Bat Class Licence Level 1 CL17 (Ref: 2020-44978-CLS-CLS), and by the project director Richard Schofield (BSc (Hons), MSc, CSJK, MCIEEM, MIEMA, CEnv), with over twenty years of experience in managing projects and holder of a Bat Class Licence Level 1 CL17 (Ref: 2021-51095-CLS-CLS).

Dusk Emergence Survey(s)

2.4 An activity survey was carried out on the 17th June 2024, 23rd July 2024 and 02nd September 2024. Four surveyors were used to assess the site for roosting, foraging and commuting activity. Echo Meter Touch 2 Bat Detector were used for the survey. Night vision aids (NVAs) were used for the survey. These comprised Sony FDR-AX53 camcorders partnered with infrared LED lights, to enable the buildings to be viewed with clarity despite low light levels. Continuous video was recorded for the duration of the surveys, allowing footage to subsequently be analysed for details. Due to the use of NVAs, which both enable surveyors to identify emergences at very low light levels and roost locations to be accurately pinpointed through review of the footage, it was considered that carrying out a series of dusk emergence surveys, as opposed to incorporating dawn re-entry surveys, would provide sufficient survey effort to reliably assess the roosting status of the buildings.

2.5 The survey focused on the onsite main building B1. During the survey the lead surveyor was positioned to the south of the site with a view of the southern aspect of B1. The assistant surveyors were positioned around the site at the north, east and west of the site in order to provide adequate coverage of the buildings, where PRFs had been identified.

2.6 The evening surveys commenced at least 15 minutes before sunset and lasted for at least two hours after sunset.

2.7 All surveys followed standard protocols and accepted standards (Mitchell-Jones and McLeish, 2004; Collins, 2023 and Reason, 2023).

Roost Characterisation

2.8 Where a potential bat roosting feature or confirmed roost was identified, the surveyor assessed how these could be used by bats throughout the year, in accordance with Natural England (2015):

- day roost - where individual bats, or small groups of males, rest or shelter in the day, but rarely on summer nights;
- night roost - where bats rest or shelter at night, but rarely during the day;
- feeding roost - where bats rest at night between feeding sessions, but rarely during the day;
- hibernation roost - where bats are found during winter;
- transitional or occasional roost - where bats gather at a temporary site before and after hibernation;
- mating site - where males and females gather from late summer to early winter;
- maternity roost - where babies are born and raised until they're independent;
- satellite roost - where breeding females roost close to the main nursery colony in the breeding season; and
- swarming site - where bats gather in large numbers from late summer to autumn.

Constraints

Data Search Constraints

2.9 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Bat Survey Constraints

2.10 Bats are mobile animals which can move roost sites both within and between years. It is possible that surveys carried out in June, July and September may miss roosts occupied earlier in the year.

3. Results

Data Search

3.1 The data search returned records (post 2004) for at least seven different species of bat within 2km of the site, including the genera pipistrelle (*Pipistrellus*), long eared (*Plecotus*), myotis (*Myotis*), serotine (*Eptesicus*), Noctule/Leisler's (*Nyctalus*), within the past 15 years. The data search returned records of common pipistrelle maternity roosts within 1.5km of the search radius. The closest EPSL for bats is located approximately 1.6km to the southeast.

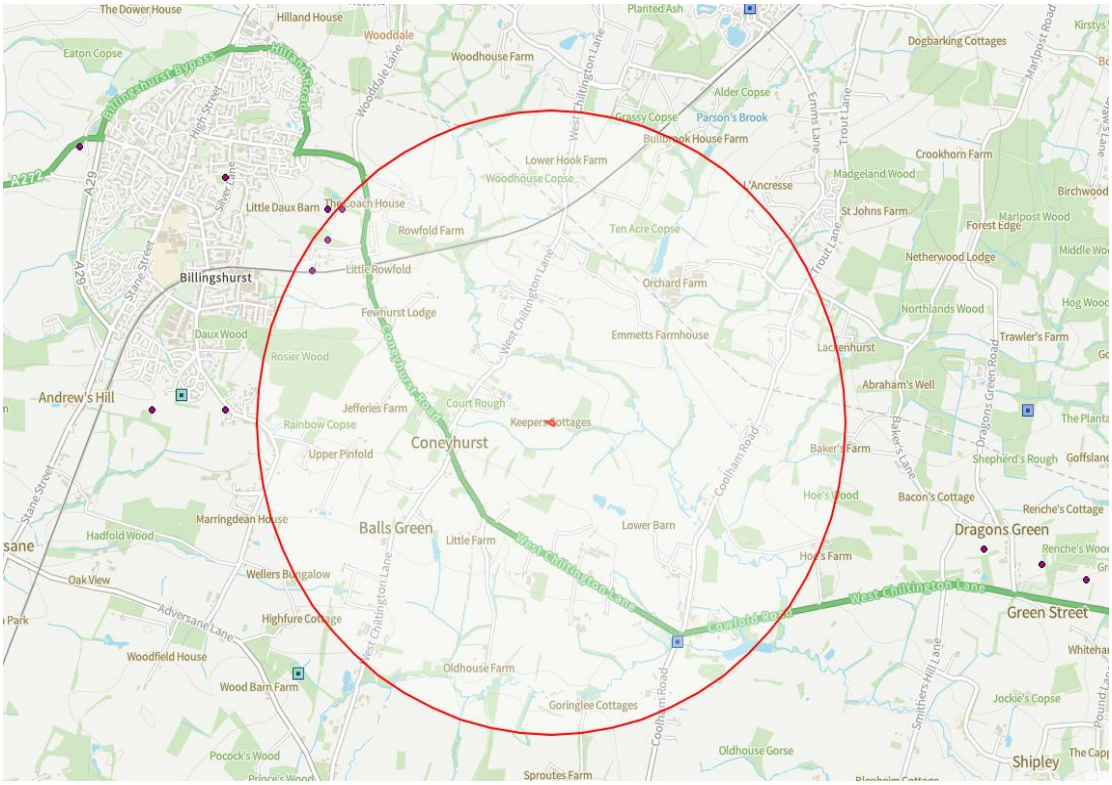


Image 1: Granted European Protected Species Licences (EPSLs) for bats within a 2km search radius. The site is shown as the central red pin. There are several granted EPSLs within the wider surroundings. The closest EPSLs granted within the 2km search radius are for bats shown as the blue pins (Magic, 2024).

3.2 The international statutory designated site The Mens Special Area of Conservation (SAC) is approximately 7.4km to the west of the site boundary. The site is designated for Annex II species, Barbastelle (*Barbastella barbastellus*),which are present as a qualifying feature, but not a primary reason for site selection.

Review of Bat Building Inspection (Preliminary Roost Assessment)

3.3 A bat building inspection (Preliminary Roost Assessment) was carried out as part of the Preliminary Ecological Appraisal (Phlorum, 2024). This discovered the following potential roost features:

Summary of PRA

3.4 The main house was a large dilapidated residential house. The walls were brick and were worn with several areas buckling around the window and door frames. The roof is in a state of disrepair, the timber frame was exposed across the entire roof with the roof lining exposed and several bare areas of lining. There are two intact chimneys which had gaps in the brickwork.

3.5 Internally the structure was timber built, the interior was inaccessible due to its condition. Aspects of the internal structure were viewed from the windows where possible, the internal ceilings had collapsed and were stripped of materials. There are multiple access points for bats across the entire building.

3.6 No bats or secondary evidence of bats were found during the initial inspection.

3.7 Ingress opportunities were present across the entire roof, with access also possible through the window and door frames. As these features were located in a dilapidated building this would likely create extreme temperature fluctuations throughout the year, so it is considered the structure is only likely to provide habitats for temporary roosts or feeding/night roosts for a small number of bats rather than larger and more significant maternity and hibernation roosts.

3.8 Overall, the main house was assessed as having **high** potential to support roosting bats.

First Dusk Emergence Survey

17th June 2024

3.9 Sunset was at 21:19hrs and the temperature at the start of the survey was 16°C, falling to 14°C at the end of the survey. The weather was warm and dry with no wind.

3.10 In total seven bat species were recorded during the survey. These were common and soprano pipistrelle, noctule, Liesler's, brown long eared bat, and western barbastelle.

3.11 Two soprano pipistrelles were seen emerging from the northeastern corner of the roof during the survey.

3.12 The first bat pass was recorded at 21:15hrs which was a noctule that was heard not seen. Based on the time of the first passes, it can be assumed that [roosts are close by for these species. Foraging pipistrelles were observed, and the highest level of activity was recorded from 21:56hrs which continued until 22:59hrs. The last pass was recorded at 23:04hrs which was a common pipistrelle that was heard but not seen.

3.13 The full survey data can be found in Appendix C.

Second Dusk Emergence Survey

23rd July 2024

3.14 Sunset was at 21:00hrs and the temperature at the start of the survey was 20°C, falling to 18°C at the end of the survey. The weather was warm and dry, overcast with no wind.

3.15 In total seven bat species were recorded during the survey. These were common and soprano pipistrelle, noctule, Liesler's, brown long eared bat, serotine and western barbastelle.

3.16 Two soprano pipistrelles were seen emerging from the northeastern corner of the roof during the survey. One barn owl was seen emerging from the centre of the building.

3.17 The first bat pass was recorded at 20:49hrs which was a noctule that was heard not seen. Based on the time of the first passes, it can be assumed that [roosts are close by for these species. A high level of foraging was observed during the survey with a moderate level of activity was recorded from 21:21hrs until 22:51. The last pass was recorded at 22:59hrs which was a noctule that was heard but not seen.

Final Dusk Emergence Survey

2nd September 2024

3.18 Sunset was at 19:44hrs and the temperature at the start of the survey was 18°C, falling to 17°C at the end of the survey. The weather was warm dry and overcast.

3.19 In total seven bat species were recorded during the survey. These were common and soprano pipistrelle, noctule, Liesler's, brown long eared bat, Daubentons myotis and western barbastelle.

3.20 One soprano pipistrelle was seen emerging from the northeastern corner of the roof during the survey. Two barn owls were seen emerging from the southeastern side of the building.

3.21 The first bat pass was recorded at 19:54hrs which was a noctule that was heard not seen. Based on the time of the first passes, it can be assumed that [roosts are close by for these species. Foraging pipistrelles were observed with the highest level of activity recorded between 19:59 until 21:06. The last pass was recorded at 21:41 which was a common pipistrelle which was seen and heard commuting.

Survey Overview

3.22 The survey concentrated on all faces of the building and the roof. The area surveyed is illustrated in the Map in Appendix A.

3.23 Soprano pipistrelles were observed entering and emerging from building B1 on all three survey visits. Barn owls were seen emerging from the building on surveys two and three.

3.24 Overall, there was a high level of bat activity recorded at the site. A total of eight bat species were recorded foraging and commuting at the site which included common and soprano pipistrelle, noctule, Liesler's, serotine, brown long eared bat, Daubentons myotis and western barbastelle. Individuals were mainly observed emerging, foraging, socialising and commuting. Common and soprano pipistrelle was the most frequently recorded bat species.

3.25 The survey data is provide in Appendix C. A summary of the results from the three surveys is shown below:

Species	No of passes	% of passes	No of emergences
Soprano Pipistrelle	174	26.9%	3
Common Pipistrelle	326	50.3%	0
Noctule	66	10.2%	0
Western barbastelle	49	7.6%	0
Serotine	13	2.0	0
Leisler's	13	2.0	0
Brown long-eared	5	0.8	0
Daubentons	2	0.3	0

4. Discussion and Recommendations

Discussion

4.1 Overall, there was a **high** level of bat activity recorded at the site. A total of seven bat species were recorded foraging, socialising and commuting at the site.

4.2 Soprano pipistrelles were observed emerging from the building during all three surveys. The roost was considered to be either a feeding roost or a possible day or night roost. Reviewing the data it is considered that this is a single roost present in building (B1). This has been assessed as a roost of low/medium conservation importance.

4.3 Based on the findings of this survey Bat Mitigation Class Licence (BMCL) or a European Protected Species Mitigation (EPSM) licence **will be required**.

4.4 During the bat activity surveys, barn owls were observed emerging from and recorded within the roof structure. One barn owl was observed emerging on the second survey and two were observed emerging on the third survey. Therefore, all works to the building must be undertaken outside of the main nesting season for this species which runs from march to august, and compensatory habitat must be in place prior to works commencing and for the duration of works at site. Post development compensatory habitat must be provided and maintained.

4.5 The site is 7.4Km away from The Mens SAC, which has barbastelle bats as one of its qualifying species. The core sustenance distance for barbastelle bats is 6km to 6.5km (Collins, 2023). Barbatselle bats forage among woodland, hedgerows, unimproved grassland, field margins, riparian zones.

Recommendations

License Required

4.6 Based on the results of the surveys and the conditions supported at the building, the building is considered to support a feeding roost and a possible day or night roost which may be used by small numbers of soprano pipistrelle bats. Based on the results of the surveys undertaken, it is considered likely that the roost is of low to medium conservation importance. The structure was not considered to provide features suitable for a roost of high conservation importance, such as a maternity or hibernation roost.

4.7 A Bat Mitigation Class Licence (BMCL) or Natural England European Protected Species Mitigation (EPSM) licence in regard to soprano pipistrelles **will be required** before any works take place; a licence can only be applied for once planning permission has been granted, it is required for permitted development rights projects.

4.8 A visit to the site must be carried out by an ecologist within three months of applying for the licence to check that there have been no alterations to the site since the last visit. Once the licence application is submitted to Natural England, they take 30 working days to assess the application and either approve, reject or query the application. If a query is made, the application may be re-submitted and Natural England will take another 30 working days to re-assess the application.

4.9 In order to gain a licence, appropriate mitigation and compensation must be carried out and monitoring surveys may be required post-development.

4.10 Outline mitigation will include the following and this will be detailed fully in a method statement as part of the licence:

- Appropriate timing of the works;
- A suitably experienced bat ecologist will oversee certain phases of the demolition;
- Compensatory roosting opportunities on a like for like basis will be included and intermediary roosting opportunities for bats provided whilst the construction work is taking place;
- Features will either need to be integrated into the new building design to ensure roosting provision for long-eared bats is maintained in the long term or a purpose-built bat house will need to be constructed. This will include availability of timber beams for roosting and a suitable flying area within the roof space; and
- Breathable membranes should not be used as part of the new building design.

4.11 It is considered that the roost observed is a day or night roost, of low conservation importance. Feeding, day, night and transition roosts are all considered '*low conservation status roosts'* for the common and widespread species of bats in the UK.

Bat Mitigation Class Licence (BMCL) Route

4.12 A **Bat Mitigation Class Licence (BMCL)** can be used when:

- Up to three '*common or widespread'* bat species are disturbed;
- Up to three '*low conservation status roosts'* are damaged/destroyed;
- If your action has a low or temporary impact on bats and their roost; or
- If the site is registered before works start, and a registered ecological consultant is used.

4.13 If the roosts are considered to be of low conservation status, and only three roosts were found, a Bat Mitigation Class licence (BMCL)/low impact licence can be considered for the building.

4.14 This can be applied for 3 weeks before works affecting bats are undertaken. The licence is then valid for 6 months after issue.

4.15 Under this licence, the demolition works will need to be guided and supervised by a licenced ecologist, until all potential roosting features have been removed.

4.16 If a Bat Mitigation Class Licence (BMCL) is used, an ecologist with this class licence will need to register the site with Natural England at least 3 weeks prior to the start of the works.

4.17 A visit to the site must be carried out by an ecologist within three months of applying for the licence to check that there have been no alterations to the site since the last visit.

EPSM Route

4.18 A licence can only be applied for once planning permission has been granted. Once the application is submitted, Natural England take up to 30 working days to assess the application and either approve, reject, or query the application. If a query is made, the application may be re-submitted and Natural England will take up to another 30 working days to re-assess the application. As part of the licence a detailed method statement would be required.

4.19 A visit to the site must be carried out by an ecologist within three months of applying for the licence to check that there have been no alterations to the site since the last visit. Once the licence application is submitted to Natural England, they take 30 working days to assess the application and either approve, reject or query the application. If a query is made, the application may be re-submitted and Natural England will take another 30 working days to re-assess the application.

4.20 In order to gain a licence, appropriate mitigation (such as the items listed in Section 4.9) and compensation must be carried out and monitoring surveys may be required post-development.

4.21 It is recommended that the demolition works are carried out outside of the hibernation period, taken to run from mid-late November until late March/early April (weather-dependent), when bats are active and least vulnerable.

Habitat Enhancement/Retention

4.22 Boundary trees adjacent to the northwest site boundary should be retained. This linear feature provides habitat connectivity to the wider landscape.

4.23 Additional roosting opportunities could be incorporated into the final design to enhance the site for roosting bats post works. This could include the installation of at **least three** bat boxes such as the Schwegler 1FF bat box located on the surrounding mature trees along the northwest site boundary. These should be orientated with a south east or south west aspect and located at least 3m from ground level.

Bats and Lighting

4.24 Different species of bat have been found to react differently to night-time lighting however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).

4.25 The current site is not well lit at night and therefore the development should serve to maintain the site's value for foraging bats and to minimise indirect impacts from lighting associated with the new building. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018, 2023, and Bat Conservation Trust, 2014):

- The level of any artificial lighting including flood lighting should be kept to a minimum, particularly around the site boundaries;
- LED lights are a preferred option to low pressure sodium lights or high pressure sodium or mercury lamps. LED lights do not emit UV radiation, towards which some insects are attracted, drawing them away from bat foraging areas in the surrounding landscape;
- all lights should be directed at a low angle with minimal light spillage wherever possible;
- ideally the site boundaries should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise);
- Artificial lighting should not directly illuminate any potential bat commuting areas such as boundary features. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit; and
- If security lights are required, then they will be set on a Passive Infrared (PIR) sensor and timer so that the light is only emitted for the short time period required.

Barn Owls

4.1 Barn owls (*Tyto alba)* were very common in the British countryside but their numbers have significantly declined, as a result of loss of nesting sites, loss of hunting grounds and an increase in man-made hazards.

4.2 Barn owls are protected under Schedule 1 of the Wildlife and Countryside Act 1981, which protects the birds and their young. It is an offence to intentionally or recklessly disturb them. As a result, they are protected from being killed, injured or taken, or taking, destroying or damaging their nest, or taking or destroying their egg. As a result, the buildings or trees they nest in are also protected.

4.3 Due to the site's suitability to support breeding barn owls, it is recommended that in order to avoid any potential impact on breeding birds, the demolition of buildings should be undertaken outside the main bird nesting season which runs from March to August inclusive[1], with clearance works possible between September and February. Where this is not possible, an ecologist would need to check the vegetation for active nests and signs of bird breeding activity.

4.4 In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

Barn Owl Boxes

4.5 A permanent accessible roosting and nesting place for Barn Owls must be created inside (i.e. within) the development: typically in a roof void or within the structure of a roof or wall at least 3 metres above ground level. The owls' access should replicate the existing owl access point. If there is no existing access, face the access towards open countryside[2].

4.6 The compensatory habitat must be in place prior to works commencing and for the duration of works at site. Post development compensatory habitat must be provided and maintained.

4.7 Compensatory barn owl roosting provision must be incorporated into new design proposals. These could either be installed on trees or incorporated into the new building design. Some recommendations are made below as a guide.

4.8 Ideal Barn Owl boxes would be up to: a full 1 metre from the bottom of the entrance hole to the bottom of the box and with a floor area of at least 1m x 1m.

4.9 When installing barn owl boxes to trees, Barn Owls are interested in **holes** rather than boxes. Face the access hole towards open ground but avoid the prevailing weather if possible. Trees with low branches/leaves and trees screened by other trees/buildings are not suitable because the access hole will be hidden.

4.10 Tree boxes within mature woodland are very unlikely to attract Barn Owls.

4.11 Trees fitting the below criteria must be selected;

- a mature tree with a thick trunk;
- isolated, in a hedgerow or on the woodland edge;
- with a high canopy;
- with few or no low branches;
- where a nestbox can be placed at least 3 metres above ground level;

[1] It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

[2] https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/
https://www.barnowltrust.org.uk/wp-content/uploads/Barn-Owls-and-Rural-Planning-Applications-a-Guide-2015.pdf

- where the nestbox access hole would be visible to a passing owl, even when the tree is in full leaf and seen from a distance;
- quite close to strips or patches of rough grassland; and
- if the box hanging system involves screwing or nailing into a tree, then please choose a dead tree, where possible [2].

4.12 It is not recommended to install barn owl boxes on tree poles or on the outside walls of buildings. On a live tree, owls benefit from additional shelter. On a pole they are far more exposed.

4.13 A tree box with an internal depth of 450mm reduces the chance of owlets falling (before they are ready to fly) but it does not eliminate the danger entirely. With a well designed tree-mounted box, a fallen owlet might be able to scramble up the tree trunk and re-enter the box. In the case of a tree box mounted on a pole, this is impossible.

4.14 A well designed pole box is much bigger and much deeper than one designed for fixing to a tree. This eliminates the danger of owlets falling because they cannot get out until they are able to fly.

4.15 Rather than erect a tree box on an outside wall, it's much better to create an entrance hole and erect a modified interior nestbox on the inside (up against that hole) if owls cannot be given access to the building interior.

4.16 Nest Boxes should be located out of prevailing wind, rain, and strong sunlight, ideally with a clear flight path to the entrance. Ideally, they should be installed two to four metres from the ground facing north or north-east.

Long Term Monitoring and Maintenance

4.17 The internal depth of nest boxes must be maintained to reduce the chances of nesting owls falling. The box depth must be maintained by clearing out the box once it has accumulated more than 75mm of nest debris and must be cleared annually by a suitably qualified ecologist. Boxes used by breeding barn owls must be cleaned every 2-3 years.

4.18 Disturbance of breeding barn owls is an offence under the Wildlife and Countryside Act 1981, therefore clearing of nest boxes should be undertaken outside of the main breeding season between November and January only, in dry calm weather.

5. Conclusions

Conclusions

5.1 The site is located at Keepers Cottages, Coolham Road, Coolham, RH13 8GP. The site is rural, with no other housing within 500m of the site, and is surrounded by woodland, agricultural land, which together with a network of treelines, hedgerows and woodland blocks provide potential roosting, foraging and commuting opportunities for bats in the wider landscape.

5.2 The site comprised buildings (u1b5), ruderal vegetation (g 81), bare ground (g 510), native hedges (h2a), and native hedgerow with trees (h2 11). Current proposals are for demolition of the existing buildings and construction of a new dwelling with associated landscaping and informal parking areas. The survey area extended over approximately 0.09 hectares (ha).

5.3 During the initial preliminary roost assessment undertaken on 05th June 2024 (Phlorum 2024) the site was considered to offer high potential for roosting bats, determined by the condition of the main building onsite which had multiple areas of ingress and egress, and the rural location of the site offering high potential for foraging and commuting bats.

5.4 Overall, there was a high level of bat activity recorded at the site. A total of eight bat species were recorded foraging and commuting at the site which included common and soprano pipistrelle, Noctule, Lieslers Noctule, serotine, brown long eared bat, Daubentons myotis and western barbastelle. Individuals were mainly observed emerging, foraging, socialising and commuting. Common and soprano pipistrelle was the most frequently recorded bat species.

5.5 Soprano pipistrelles were seen and recorded emerging from the building (B1) during all three activity surveys.

5.6 It is believed that a soprano pipistrelle bat roost (probably a feeding roost or possible day or night roost) is present within the building.

5.7 Due to the presence of a roost, the site will need to be registered under a Bat Mitigation Class Licence (BMCL) or a European Protected Species Mitigation (EPSM) licence will need to be obtained before any works start on the building.

5.8 During the bat activity surveys, barn owls were observed emerging from and recorded within the roof structure. One barn owl was observed emerging on the second survey and two were observed emerging on the third survey. Therefore, all works to the building must be undertaken outside of the main nesting season for this species which runs from march to august, and compensatory habitat must be in place prior to works commencing and for the duration of works at site. Post development compensatory habitat must be provided and maintained

6. References

- Barn Owl Conservation Trust (2015) https://www.barnowltrust.org.uk/wp-content/uploads/Barn-Owls-and-Rural-Planning-Applications-a-Guide-2015.pdf
- Barn Owl Conservation Trust (2015) https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/
- BCT and ILP. (2018). *Bats and Artificial Lighting in the UK, Bats and the Built Environment Series.* Guidance Note 8/18. Institute of Lighting Professionals and the Bat Conservation Trust
- BCT and ILP. (2023). *Bats and artificial lighting at night.* Guidance Note 08/23. Institute of Lighting Professionals and the Bat Conservation Trust.
- Bat Conservation Trust (2014). *Interim Guidance: Artificial lighting and* wildlife - *Recommendations to help minimise the impact of artificial lighting*
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.
- Fure, A. (2006) *Bats and lighting*. The London Naturalist, No. 85.
- IEEM - Institute of Ecology and Environmental Management (2006). *Bats and Lighting*. Winchester: IEEM.
- Jones, J. (2000). *Impact of Lighting on Bats.* Bat Conservation Trust.
- Mitchell-Jones, T. & McLeish, A.P (2004). *The Bat Workers' Manual* (3rd Ed). Joint Nature Conservation Committee, Peterborough, UK.
- Natural England (2015). *Standing advice for local planning authorities to assess impacts of development on bats: Survey and Mitigation for development projects.*
- Phlorum (2024) *Preliminary Ecological Appraisal and Bat Building Inspection Report for Land at Keepers Cottages, Coolham*. Unpublished report
- Reason, P.F and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management (CIEEM), Ampfield.
- Schwegler (2024). *Bats Conservation Products* [on-line]. Available from http://www.schwegler-natur.de
- SxBRC (2024) Ecological Data Search for Land at Keepers Cottages, Coolham. Unpublished report for Phlorum

Appendix A
Bat Survey Map



Figure 1: Land at Keepers Cottages Bat Survey Map

Drawn by: AH
On the: 19/09/2024
Not to Scale
Ref: 13086

Phlorum Limited, 12 Hunns Mere Way,
Woodingdean, Brighton, East Sussex,
BN2 6AH
Tel: +44(0)1273 307167
Web: www.phlorum.com
Email: info@phlorum.com

Appendix B
Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive2 is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

- Countryside and Rights of Way (CRoW) Act 2000;
- Deer Act 1991;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and

[2] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

- selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:

  (i) to survive, breed, or reproduce, or to rear or nurture young; and

  (ii) to hibernate or migrate.
- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Appendix C
Bat Survey Data

Bat Survey Data

First Dusk Emergence Survey on 17 June 2024

Number of Surveyors	Site and Job no:	Start Time	Sunset Time	Finish Time	Temperature (°C) at start	Temperature (°C) at end	Cloud Cover (Oktas 1-8)	Windspeed (Beauforts 1-12)	Rain
4	**Keepers Cottages 13086**	**21:04**	**21:19**	**23:19**	**16**	**14**	**1**	**0**	**0**

Surveyor 1: AH	**Bat Detector Used: Echo Meter Touch 2 Pro (Blue). NVA red**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Heard	31%	27
Noctule	Heard	30%	26
Western Barbastelle	Heard	19%	17
Soprano Pipistrelle	Seen and heard- foraging	17%	15
Brown Long-eared	Heard	3%	3
		Total bat passes:	**88**

Surveyor 2: GS	Bat Detector Used: Echo Meter Touch 2 Pro (Green). NVA Green & yellow		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard- foraging	65%	17
Soprano Pipistrelle	Seen and heard- foraging & emerging	31%	8
Noctule	Heard	4%	1
		Total bat passes:	**26**

Surveyor 3: LE	Bat Detector Used: Echo Meter Touch 2 Pro (Pink). NVA Brown		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard - foraging	54%	13
Soprano Pipistrelle	Seen and heard – foraging & emerging	42%	10
Noctule	Heard	4%	1
		Total bat passes:	**24**

Surveyor 4: JSM	Bat Detector Used: Echo Meter Touch 2 Pro (Red). NVA Blue		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Soprano Pipistrelle	Seen and heard - foraging	44%	25
Common Pipistrelle	Seen and heard - foraging and commuting	39%	23
Noctule	Heard	7%	4

Liesler's	Heard	4%	2
Western Barbastelle	Heard	4%	2
Brown Long-eared	Heard	2%	1
		Total bat passes:	**57**

Second Dusk Emergence Survey on 23 July 2024

Number of Surveyors	Site and Job no:	Start Time	Sunset Time	Finish Time	Temperature (°C) at start	Temperature (°C) at end	Cloud Cover (Oktas 1-8)	Windspeed (Beauforts 1-12)	Rain
4	**Keepers Cottages 13086**	**20:45**	**21:00**	**23:00**	**19**	**18**	**7**	**0**	**0**

Surveyor 1: AH	**Bat Detector Used: Echo Meter Touch 2 Pro (Pink)**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging & commuting	50%	14
Soprano Pipistrelle	Seen and heard – foraging & commuting	32%	9
Serotine	Heard	11%	3
Noctule	Heard	7%	2
		Total bat passes:	**28**

Surveyor 2: GS	Bat Detector Used: Echo Meter Touch 2 Pro (Green). NVA Yellow		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging and commuting	44%	21
Soprano Pipistrelle	Seen and heard – emerging,	27%	13
Noctule	Heard	13%	6
Liesler's	Heard	8%	4
Serotine	Heard	6%	3
Western Barbastelle	Heard	2	1
		Total bat passes:	**48**

Surveyor 3: IG	Bat Detector Used: Echo Meter Touch 2 Pro (Blue). NVA Red		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Noctule	Heard	31%	11
Common Pipistrelle	Seen and heard – foraging and commuting	15%	5
Serotine	Heard	15%	5
Liesler's	Heard	15%	5
Soprano Pipistrelle	Seen and heard – emerging,	12%	4
Western Barbastelle	Heard	12%	4
		Total bat passes:	**34**

Surveyor 4: LU	Bat Detector Used: Echo Meter Touch 2 Pro (Blue). NVA Brown		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging and commuting	60%	28
Soprano Pipistrelle	Seen and heard – foraging and commuting	17%	8
Western Barbastelle	Heard	17%	8
Serotine	Heard	4%	2
Noctule	Heard	2%	1
		Total bat passes:	**47**

Final Dusk Emergence Survey on 02 September 2024

Number of Surveyors	Site and Job no:	Start Time	Sunset Time	Finish Time	Temperature (°C) at start	Temperature (°C) at end	Cloud Cover (Oktas 1-8)	Windspeed (Beauforts 1-12)	Rain
4	**Blandford Brewery, 12447**	**20:59**	**21:14**	**23:14**	**16**	**14**	**5**	**2**	**0**

Surveyor 1: AH	Bat Detector Used: Echo Meter Touch 2 Pro (Green)		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging and commuting	68%	36
Soprano Pipistrelle	Seen and heard – foraging and commuting	22%	12
Noctule	Heard	4%	2
Daubentons Myotis	Heard	4%	2
Liesler's	Heard	2%	1
		Total bat passes:	**53**
Surveyor 2: RA	**Bat Detector Used: Echo Meter Touch 2 Pro (Pink). NVA Brown**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging and commuting	57%	65
Soprano Pipistrelle	Seen and heard – foraging and commuting	24%	27
Western Barbastelle	Heard	15%	17
Noctule	Heard	3%	4
Brown Long-eared	Heard	1%	1
		Total bat passes:	**114**
Surveyor 3: PL	**Bat Detector Used: Echo Meter Touch 2 Pro (Blue). NVA Green & Yellow**		

Species	Activity observed	% of Total Passes	Number of Passes
Common Pipistrelle	Seen and heard – foraging and commuting	64%	45
Soprano Pipistrelle	Seen and heard –emerging, foraging and commuting	26%	18
Noctule	Heard	10%	7
		Total bat passes:	**70**

Surveyor 4: LU	**Bat Detector Used: Echo Meter Touch 2 Pro (Light blue). NVA Blue**		
Species	**Activity observed**	**% of Total Passes**	**Number of Passes**
Common Pipistrelle	Seen and heard – foraging and commuting	54%	32
Soprano Pipistrelle	Seen and heard – foraging and commuting	42%	25
Noctule	Heard	2%	1
Lieslers	Heard	2%	1
		Total bat passes:	**59**



Phlorum Limited

Head Office & Registered Office:
Unit 12
Hunns Mere Way
Woodingdean
Brighton
East Sussex
BN2 6AH
T: 01273 307 167

Northern Office:
Ground Floor
Adamson House
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2YY
T: 0161 955 4250

Western Office:
One Caspian Point
Pierhead Street
Cardiff Bay
Cardiff
CF10 4DQ
T: 029 2092 0820

info@phlorum.com
www.phlorum.com

Registered in England & Wales. Reg No. 4967256