

Bat Activity Surveys

The Cottage, Shripney Road
Bognor Regis, West Sussex

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

- 1.1 The Ecology Partnership was commissioned by Castle Property Developments to undertake a preliminary ecological appraisal for land at The Cottage, Shripney Road, Bognor Regis, West Sussex, PO22 9PA. Following the Preliminary Ecological Appraisal, further survey work for roosting bats were recommended, the results and conclusions of these surveys are documented within this report.
- 1.2 Section 2 of this report sets out the methodologies of the Ecology Partnership's surveys. In section 3 the results of the surveys are presented. Discussions and implications for development are found in section 4, including mitigation and enhancements. Conclusions drawn from the report are presented in section 5.

Site Context and Status

- 1.3 The site is located on land at The Cottage on Shripney Road in Bognor Regis, West Sussex (SU 93834 02327). The site covers approximately 0.86ha and includes a house and garden with a glasshouse and a boundary of trees and hedgerows. The site is directly adjacent to a public house and hotel. The site is surrounded by a mosaic of agricultural fields and medium-density housing. There is one statutory designation, a Local Nature Reserve (LNR) within 2km of the site.
- 1.4 The aerial photograph below (Figure 1) shows the site and its immediate surroundings. The red line depicts the approximate site boundary and survey area.



Figure 1: Approximate location of the red line boundary (Blue line indicated public footpath which is outside the development site)

Description of Proposed Development

- 1.5 The proposed planning application will involve: Outline planning application for 20 new houses and flats, plus a replacement dwelling (21 units in total) following the demolition of the existing dwelling and outbuildings. Although the plans are indicative in their nature, the proposals provide for car parking, landscaping and associated infrastructure, with access to be provided from Shripney Road (A29). Aside from access, all other matters are reserved at this stage.

Legislation

- 1.6 Under the Natural Environment and Rural Communities (NERC) Act 2006, it is now the duty of every Government department in carrying out its functions *“to have regard, so far as it is consistent with the proper exercise of those functions, to the purpose of conserving biological diversity in accordance with the Convention”*. Seven species of bat (Barbastelle, Bechstein’s, Noctule, Soprano pipistrelle, Brown long-eared, Greater horseshoe and Lesser horseshoe) are listed as Species of Principal Importance in England under Section 41 of the NERC Act.
- 1.7 All bats are covered by the following relevant legislation: the Wildlife and Countryside Act (WCA) 1981 (as amended); the Countryside and Rights of Way Act 2000; the Natural Environment and Rural Communities Act 2006; and by the Conservation of Habitats and Species Regulations (CHSR) 2010.

Under the WCA 1981 it is an offence to:

- intentionally, recklessly or deliberately disturb a roosting or hibernating bat i.e. disturbing it whilst it is occupying a structure or place used for shelter or protection)
- intentionally or recklessly obstruct access to a roost (i.e. a structure or place used for shelter or protection).

Under the CHSR 2010 it is an offence to:

- deliberately capture (or take), injure or kill a bat
- intentionally, recklessly or deliberately disturb a bat, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability in the case of hibernating or migratory species, to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong
- damage or destroy a breeding site or resting place (roost) of a bat.

2.0 Methodology

Bat Emergence Surveys and Re-Entry Surveys

- 2.1 A Dusk emergence survey was carried out on the 19th September 2016 and a dawn return to roost survey was carried out on 23rd September 2016. The survey work was undertaken by Chris Jennings BSc (Hons) MSc MCIEEM, Tom Rothero BSc (Hons) MSc MCIEEM, Dr Jonty Denton BSc (Hons) D(Phil) FRES FLS CEcol MCIEEM and Emma Baggluey BSc (Hons) MSc. Two further surveys were undertaken in 2017 with a dusk emergence survey undertaken on 4th May 2017 and a dawn emergence survey undertaken on 1st June 2017. This survey work was undertaken by Chris Jennings BSc (Hons) MSc MCIEEM, Tom Rothero BSc (Hons) MSc MCIEEM, Vicky Hale BSc (Hons) CEnv MCIEEM, Olly Edmunds BSc MSc, Nick Symons MA Cantab PGCE and Jess Smith BSc GradCIEEM. During the surveys all activity including emergence points from the building were recorded. The surveys followed BCT guidelines (2016). Prior to the surveys the building was inspected externally in order to assess features of interest and all potential exit locations. Surveyors were positioned in such a way in order to cover areas of interest and record any flyovers and activity around the building. In addition several trees with potential roosting features were also monitored.
- 2.2 Dusk surveys started 30 minutes before sunset and observations were maintained up to 2 hours after sunset. Bats usually emerge about twenty minutes after sunset depending on the species, light level, weather conditions and time of year. Peak activity will normally last for about two hours after sunset, during times of peak insect activity.
- 2.3 A dawn survey can increase the chance of surveyors visually assessing bat behaviour and movement as well as providing good opportunities for recording. This is especially true if the roost is a maternity roost and the young bats are returning to roost. The dawn surveys started 1.5 hours before dawn and was completed at dawn. All surveyors were equipped with heterodyne and frequency division detectors.

3.0 Results



Figure 4: Buildings subject to survey in red, Trees with potential bat roosting features in green

Bat Activity Surveys

- 3.1 Due to the presence of suitable features within buildings 1 and 3 on site as well as suitable roosting features within mature trees on site, emergence surveys were undertaken at site to assess the whether these features were in use by roosting bats.

2016 Surveys

- 3.2 The first emergence survey was conducted on the 19th September 2016. This survey focused on the main house (building 1) and its associated outbuilding (building 3), which were identified as having suitable roosting features for crevice dwelling bats within their roof structures, as well as trees 1 & 2 situated in the north eastern corner of site. Dusk was at 19:05 and the surveyors were present on site 30 minutes before hand the weather the survey was preceded with rainfall, however the rainfall had stopped by the time the survey was started. Temperatures of 16.7°C at the start of the survey, dropping to 15.8°C by the surveys conclusion.
- 3.3 The first bat passes were recorded at 19:19 and 19:21 by a noctule (*Nyctalus noctula*) at the north western corner of the site and near the northern boundary. Noctules were again heard at 19:27, 19:28 and 19:30 at all the surveying posts across site. A common pipistrelle was recorded flying across the garden at 19:28. At 19:29 a common pipistrelle was recorded emerging from under the tiles at southern side of the house (building 1) very close to the eastern gable end of the building. The bat dropped from the building to almost floor height before flying off. Common pipistrelle were recorded foraging to the south of the main house at 19:30 and 19:32 making eight passes. Common pipistrelle were recorded within the north eastern corner between 19:30 and 19:40 making approximately eight passes. Common pipistrelle were recorded to the north of the house at making five brief passes between 19:34 and 20:11, which was the last soprano pipistrelle were recorded foraging around the garden to the south of building 1 making four passes between 19:38 and 19:51, with a noctule recorded at 19:58. A soprano pipistrelle was recorded to the north of building 1 at 19:53. Nothing was seen to emerge from tree 1 and 2 or building 3, with one common pipistrelle seen to emerge from building 1.
- 3.4 A dawn survey was undertaken on the morning of the 23rd September 2016. Dawn was at 06:51 and the surveyors were present on-site 1.5 hours prior to sunrise. This survey again focused on buildings 1 and 3, with potential roosting features within trees 3,4 and 5 also covered. The weather was calm with clear skies, the temperature at the beginning of the survey was 10.2°C and dropped to 9.1°C by the end of the survey.

- 3.5 The first bat to be recorded was at 05:54 when a soprano pipistrelle was recorded to the south of the building 1, making 2 passes foraging around the garden. Soprano pipistrelle were again recorded at 06:05, 06:08 and 06:27 along the western boundary of site, by trees 4 & 5. Common pipistrelle were recorded at 06:02 and 06:05, a myotis sp. at 06:06 and a noctule at 06:27 again along the western boundary of the site. The last bat of the survey was a long-eared bat recorded very briefly towards the western boundary of site at 06:30.

2017 Surveys

- 3.6 The next emergence survey was conducted on the 4th May 2017. This survey again focused on the main house (building 1) and its associated outbuilding (building 3), as well as trees 1, 2, 4 & 5. Dusk was at 20:28, the surveyors were present on site 30 minutes before hand. The weather was overcast but dry with a light breeze. Temperatures of 12.7°C at the start of the survey, dropping to 11.2°C by the surveys conclusion.
- 3.7 The first bat passes were recorded at 20:36 when a common pipistrelle was recorded to the south east of the building 1, foraging around the tree line along Shripney Road, this bat foraged continuously until 20:43. Two common pipistrelles as well as one soprano pipistrelle were then recorded foraging around the same tree line from 20:45 to 20:50, with a single common pipistrelle continuing foraging behaviour in this locality until 20:59 with continuous passes made. A common pipistrelle was recorded around the northern side of building 1 and west of trees 1 and 2 at 20:44, this bat was foraging around the northern boundary until 20:50. A soprano pipistrelle was recorded in this locality at 20:50, 20:55 and 21:03 again foraging, with feeding buzzes recorded. A noctule was briefly recorded at 20:57 and Leislars at 21:08 to the west of the site around trees 1 and 2, both making a single pass, these were thought to be commuting across the agricultural land to the east. Further common pipistrelle activity was recorded along the north and to the east of the site at 21:03 and between and multiple passes recorded between 21:17 and 21:36 with foraging activity observed. Common pipistrelles were also recorded to the south of building 1 at 21:03 and 21:13 with a brief pass recorded on each occasion. Foraging activity from common pipistrelles was also recorded to the east of building 1 and around trees 4 & 5 at 21:18 and 21:37 at which point bat activity on site appeared to halt with no further passes recorded for the remainder of the survey. No

bats were seen to emerge from either building (buildings 1 and 3) or any of the trees (1, 2, 4 & 5) during the survey.

- 3.8 A further dawn survey was undertaken on the morning of the 1st June 2017. Dawn was at 03:25 and the surveyors were present on-site 1.5 hours prior to sunrise. This survey again focused on buildings 1 and 3. The weather was calm, dry with clear skies. The temperature at the beginning of the survey was 11.4°C and dropped to the lowest point of 10.3°C, however the temperature was back up to 11.2°C by the end of the survey.
- 3.9 The first bat to be recorded was at 03:36 when a common pipistrelle was recorded to the south of the building 1, making a brief single pass around the garden. Common pipistrelles were recorded to the west of building 1 at 03:41 and also picked up south of the house at 03:42, with the same bat recorded foraging around the trees on the western boundary. Foraging activity from common pipistrelle were recorded at 03:52, 03:59 04:04 and 04:06 to the south and west of building 1. To the north of the house, common pipistrelle were recorded at 03:50 to 04:08 with a total of 7 passes recorded, these bats were not seen visually but were considered to be briefly foraging around the trees on the northern boundary. A possible faint brown long-eared call was recorded to the west of the site at 03:52 and a single soprano pipistrelle was recorded to the south of building 1 at 04:05. No other bats were recorded with the last pass being a common pipistrelle to the north of the site at 04:08. No bats were seen to return to roost within buildings 1 or 3.
- 3.10 In addition to the activity surveys an Anabat Express was deployed in the main roof space of building 1 between 4th – 18th May. Following analysis, no bat calls were recorded from within the void.

4.0 Discussion

- 4.1 There are a number of buildings on site, the vast majority are greenhouses and sheds which are not considered suitable for roosting bats. However, building 1, the main house and building 3 a small out building, were considered to have potential for roosting bats within their external features.
- 4.2 No evidence was found within the buildings during internal inspections and it is considered unlikely that the internal environment is being utilised by bats within these buildings, including two roof voids within building 1. Indeed an Anabat Express was deployed within the large roof main void within building 1 from 4th-18th May 2017, with no bat calls recorded during this period. It is concluded that bats are not using this feature, the most suitable internal feature on site.
- 4.3 Both buildings had pitched roofs with clay tiles, many of which have broken, slipped or have been removed over the years. The crevices underneath provide suitable potential roosting features for bats such as pipistrelle species. Further survey work was recommended within the Preliminary Ecological Assessment to establish whether external features of these structures were in use by roosting bats.
- 4.4 In addition, five trees were identified as having some potential to support roosting bats. It was recommended that further work is undertaken on these trees to establish whether they are used as roost sites by bat species.
- 4.5 The tree lines and hedgerows on site are likely to provide some opportunities for foraging and commuting bats. These features also provide some habitat connectivity to the wider landscape. It is recommended that these features are retained where possible.

Activity Surveys

- 4.6 Two activity surveys, a dusk and a dawn survey were undertaken at the property within September 2016. Buildings 1 and 3, which were identified as having potential for roosting bats within external features of the building were subject to a dusk emergence and a dawn return to roost survey. No bats were seen to be using building 3, the

outbuilding on the northern boundary, with the tiled pitched roof during the surveys. However, one common pipistrelle was seen to emerge from the main house (building 1) on the dusk survey on the 19th September at 19:29, approximately 25 minutes after sunset.

- 4.7 As the first two activity surveys were undertaken in September, which is classed under Bat Conservation Trust guidance as a “Sub-optimal month” for surveying, two more activity surveys were recommended within peak activity months to establish the full extent of bat roosting on site. A further emergence survey was undertaken on 4th May 2017 and a further dawn return to roost on 1st June 2017. Again, no bat roosting behaviour was recorded at building 3, and no additional bat roosting behaviour was observed at building 1.
- 4.8 No evidence of bats using building 1 were identified within the internal survey or after an extensive period of monitoring using a static recording device. It is not considered that the roof voids were in use. The common pipistrelle seen to emerge during the September 2016 dusk, emerged from the tiles on the southern side of the building close to the eastern gable end. This section of the roof contained clay tiles, which were lined internally by wooden sarking and it is considered that the bat is likely to be roosting in the crevice created between the clay tiles and wooden sarking.
- 4.9 Demolition of building 1 will need to be undertaken under a Natural England low impact licence. Mitigation for crevice dwelling bats should be included within the scheme in site. Once planning has been granted and the update surveys undertaken then the Natural England licence can be applied for.
- 4.10 No evidence of building 3 was recorded during the four activity surveys on site. It is considered that due to a lack of evidence and a reasonable survey effort, no licence will be needed for demolition. However it is recommended that a sensitive demolition is undertaken as a precautionary approach as the building displays suitable roosting features. It is recommended that the tiles of the building are removed by hand along with any other suitable features such as lead flashing and soffit boards, prior to full demolition. If a bat is recorded during this soft strip then, then works will need to stop

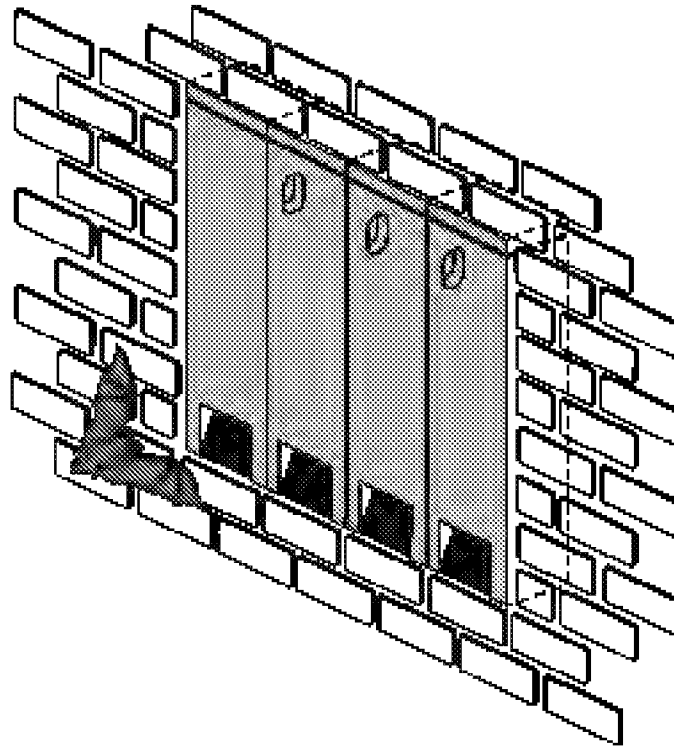
immediately and an application should be made to demolish the building under Natural England licence.

- 4.11 No evidence of bats were recorded using trees 1 – 5. It is understood that tree 3 is to be retained so this tree was not subject to further survey effort in 2017. It is recommended that as no roost has been identified with any of the trees, that if they are to be removed they should be soft felled in sections. It was considered after survey work that trees 4 and 5 should be downgraded to negligible potential as they are no longer considered to support potential to support roosting bats.
- 4.12 It is recommended that if a period of up to a year has elapsed since the last activity survey on trees 1 & 2 (May 2017) that prior to removal that each tree is aerially inspected (either by cherry picker or climbed) or is subject to an emergence survey. This further work will need to be undertaken no more than 48hrs prior to the felling of the tree. If a bat roost is recorded then a Natural England licence will need to be applied for. If trees 1 or 2 are to be removed then a compensatory bat box for each tree should be erected on a retained mature tree elsewhere on site. These bat boxes should be a Schwegler 2FN bat box.

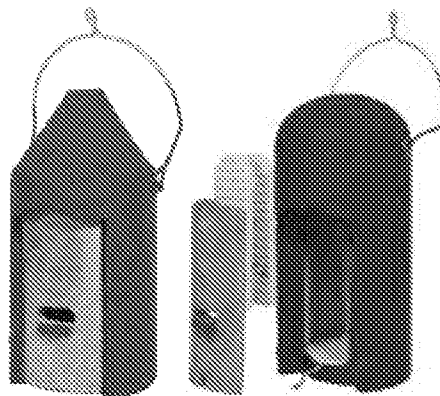
Building Mitigation

- 4.13 The development will include suitable mitigation measures in order to alleviate the loss of the bat roost within building 1. Common pipistrelle bats are a crevice dwelling species which require small access hole and features to roost within. The following will need to be undertaken within a mitigation strategy:
- Demolition works will only be undertaken when a licence has been issued.
 - Demolition works to the roof, external panels and the gable ends to be undertaken under Ecological Clerk of Works (by the Registered Consultant (RC) registered if under Natural England Low Impact Licence.
 - Four bat tubes will be incorporated into the south facing external wall of the of one of the new buildings on site, this will provide a similar roosting feature

within the new development, to replicate the small roost that is being lost due to redevelopment. (Please see information below)



- Bat boxes will be erected as mitigation. Two Schwegler 2F Bat box (general purpose bat boxes and attract a wide variety of species) and two Schwegler 1FD Bat Box (developed specifically for smaller bats including pipistrelle species) will be erected within mature trees in the garden. (See boxes below)



<http://www.schwegler-natur.de>

4.14 It is also recommended that a sympathetic lighting scheme to be designed in order to reduce impacts on commuting or foraging habitat across the site, For example:

- No potential bat roost be illuminated by artificial lighting, lighting should be positioned to point away from any roosting site, leaving the entrance and exit points in darkness;
- Lighting only be installed if there is a significant need;
- Light levels be kept low, the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its uv filtration characteristics;
- Lighting be avoided near treelines or hedgerows and the pond area, with light angled away from these areas, bats use linear features such as treelines to commute across the landscape to forage;
- Lights have focussed luminance on their target area, preventing light spill and pollution into other areas of the site and local area.

4.15 The demolition of the buildings on site is not considered to be significant in terms of bats, however, as there is a bat roost within building 1, the demolition will occur under a licence. With regards to the licence, the following methods are considered to be implemented under licence:

- Establish two Schwegler 2F bat boxes on mature trees within the red line boundary prior to works on site;
- Conduct a Tool Box Talk to all team members on site with regards to the presence of bats using the building, bats legal protection, measures that will be undertaken to ensure that bats are not harmed, good working practises, licensable activities and what to do if a bat is found;
- Once this TBT has been conducted then works to the building can commence under direct supervision of a licenced ecologist, accredited agent or registered consultant (RC) if under a low impact licence;
- The tiles of the building will be hand removed. All tiles will be removed by hand individually, with the tiles being turned prior to stacking. If a bat is found then the RC will gently move the bat to a bat box on site;
- Once the tiles of the building have been removed, other features such as the bitumen felt lining will be removed, again under direct supervision from the RC;

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- The soffit boards will finally be removed using hand tools and checked gently before final removal. All works to be supervised by the RC;
 - Once the RC has rechecked the whole of the building and is happy that all licensable activities to the building have occurred (i.e. the features which bats are using for roosting have been removed), then demolition of the building can occur without further supervision;
 - It is considered that this process is likely to take between 1 or 2 days.

4.16 Compensation for the loss of this roost is through the use of the two Schwegler 2F bat boxes. Enhancements include the use of the bat tubes within the building designs. The bat boxes will be established prior to any site works on the mature trees on site. It is expected that these will be retained for a minimum of five years.

Licence Application

- 4.15 The timing of the works with regards to the licence requirements is as follows.
- A licence application will be made following full planning permission being granted;
 - Furthermore, any conditions which are pertinent to ecology will be discharged before the low impact bat licence will be applied for. An update survey must occur (walk over or internal survey) in the last 3 months prior to demolition works;
 - The four Schwegler boxes will be established on the trees on site;
 - Once the licence is issued (the licence should take 10 working days for issue), all licensable works can commence (if weather conditions appropriate). All licensable works (removal of tiles etc) should take in the region of 1 or 2 days.
 - The registered low impact bat licence consultant (the RC) will be on site for all of the licensable works, if the work is undertaken under a low impact licence
 - Once the licensable works are complete and the RC or suitably qualified is satisfied that the structure is free of bats the building can then be demolished.
 - The enhancement bat tubes will be included within the development build programme. The bat tubes will be checked to ensure they are fitted during the build process.

5.0 Conclusions

- 5.1 The habitats on site are common and widespread throughout the local area and the UK as a whole. The site is dominated by buildings, short amenity grassland, ornamental planting and scattered trees.
- 5.2 The majority of the buildings onsite were considered unsuitable for roosting bats. However the main house (building 1) and building 3 a small outhouse, were considered to have suitable external roosting features for crevice dwelling bat species. No evidence was found internally within any of the buildings and it is considered that no internal features within the buildings such as loft space are being used by roosting bats. Further survey work on these buildings were recommended.
- 5.3 Four bat activity surveys were undertaken on buildings 1 and 3, with one common pipistrelle seen to emerge from building 1 on the dusk survey in September 2016. It is therefore considered that the demolition of the building should be undertaken under Natural England licence. A mitigation strategy has been included within this report. A Natural England low impact licence will be applied for, for the demolition of building 1, once planning has been secured. It is concluded that bats are only using external features. An extensive period of static recording within the main loft void of building 1 during May 2017, confirmed that bats are not using the internal features.
- 5.4 No evidence of bats were recorded within building 3 during the activity surveys or internal and external inspection. It is recommended that the building is soft stripped prior to demolition, with roof tiles and other external features such as lead flashing and soffit boards removed by hand. If a bat is discovered during these works, then work should stop immediately and further advice from a suitably qualified ecologist should be sought, with a licence application made for the remainder of the demolition work.
- 5.5 Five potential bat trees were also subject to an activity survey. None of these trees were in use by roosting bats at the time of surveys. Tree 3 is to be retained as part of proposals, trees 4 & 5 have been downgraded to negligible as they are considered to no longer support roosting features. It is considered that if a period of a year passes from the last survey, that trees 1 & 2 should be subject to inspection by a suitably qualified ecologist,

either by way of an aerial inspection or by undertaking an activity survey no more than 48hrs before felling.

- 5.6 Recommendations for mitigation and enhancements have been made within this report, aimed at improving the ecological value of the site post development.

6.0 References

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

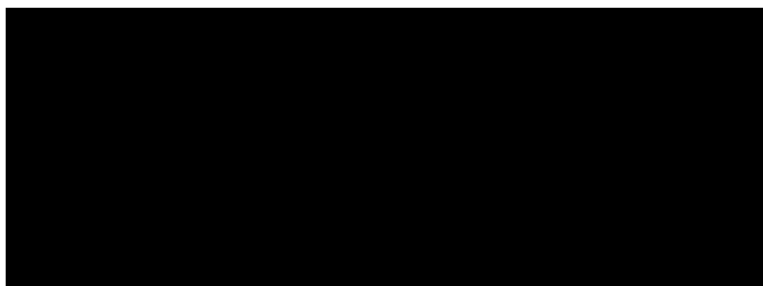
Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

Internet resources:

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

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