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Bat Scoping Report

No. 40 Little Paddocks, Worthing

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Report Summary

1. The Ecology Co-op was commissioned by Paul Bridgewater to undertake a Preliminary Ecological Appraisal and Bat Scoping Assessment at the No. 40 Little Paddocks property in Worthing. The purpose of this report is to present the findings of the appraisal and identify potential ecological constraints and opportunities in relation to a proposal to demolish this property and built two new residential dwellings.
2. An assessment of the site was carried out by Paul Whitby BSc, MSc ACIEEM and Natural England Level 2 class bat licence holder on the 15th May 2020. This included a ground-based external inspection of the property and an associated garage, internal inspection of enclosed loft spaces where possible and an appraisal of the surrounding habitats, to evaluate the site for its potential to support roosting bats. All bat species are European Protected Species (Annex IV, 'Habitats Directive').
3. This site is situated in a residential area within Worthing, with adjacent properties bordering it on all sides. It comprises of the No. 40 bungalow and a detached garage, set within a mown lawn garden, with herbaceous shrub borders.
4. The property and garage were assessed as having 'negligible' bat roost potential with both buildings found to be in good condition. No further surveys are considered necessary for bats and the buildings can be demolished without the need for any further assessment, within 18 months of the date of this survey.
5. The herbaceous shrub borders within the gardens of the property have the potential to support a variety of common nesting bird species and the removal of any vegetation should only take place either outside the nesting bird season (1st March to 31st August), or following a hand search by a suitably qualified ecologist that confirms the absence of any active birds nests.

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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1 INTRODUCTION

1.1 Purpose of the Report

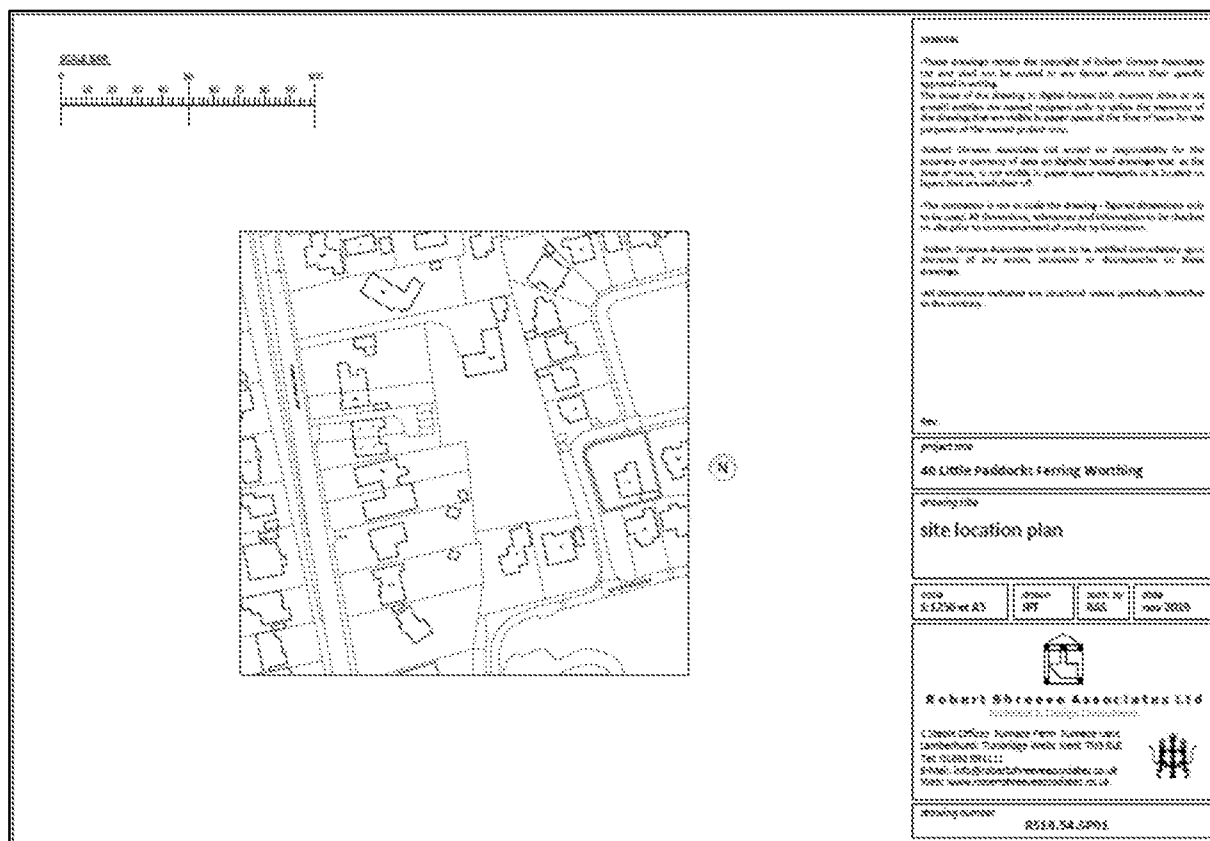
The Ecology Co-op has been commissioned to undertake a bat scoping assessment of No. 40 Little Paddocks in Worthing by Paul Bridgewater. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Paul Whitby BSc (Hons), MCIEEM, CEcol and Natural England Level 2 bat survey class licence holder on the 15th May 2020. It provides details of the potential for any protected species and/or habitats to be present at the site and an assessment of the potential ecological constraints to the proposal to demolish the property and a detached garage to make way for the construction of two new properties. Recommendations for further surveys that are likely to be required to inform a planning application are provided, if necessary. Where appropriate, measures to avoid, mitigate and/or compensate for impacts are outlined.

1.2 Background

The site is located at No. 40 Little Paddocks, Ferring, Worthing, BN12 5NJ. The central grid reference for the site is TQ09420221.

The site comprises of the No. 40 property, a detached bungalow, with a small detached garage, set within a mown lawn garden, bordered by herbaceous shrubs and hedging. The property was vacant and unoccupied at the time of this assessment.

The assessment has been based on a site plan provided by the client (provided in Figure 1), though a proposed development layout plan was not available prior to the assessment. The proposed development includes the demolition of the existing dwelling and garage followed by the construction of two replacement residential properties.





1.3 Policy and Legislation

Legal protection applying to all bat species in the UK is outlined in Appendix 1 of this report.

The results of this survey will be used to determine the need for further surveys, impact avoidance measures and/or an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.



2 METHODOLOGY

The methodology used for this survey are in accordance with the bat survey guidelines produced by the Bat Conservation Trust¹.

2.1 Desk Study

A search of on-line mapping resources was undertaken to characterise the local context of the site with respect to semi-natural habitats and linear features of value to foraging and commuting bats.

The MAGIC website resource (www.magic.gov.uk) was used to identify the location of designated sites for nature conservation within 2km and EPS licences granted within a 1km radius of the survey site. Priority habitats and ancient woodland sites upon or adjacent to the site have also been identified, due to their ecological value and potential to act as important foraging resources for bats.

Priority habitats and ancient woodland are classified as habitats of principal importance. Habitats of principal importance are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006², which places a duty on Local Planning Authorities to have due regard to biodiversity.

2.2 Field Survey

2.2.1 Roosting Potential

Bats can use a wide range of features including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

A detailed building inspection was carried out, looking for potential access points and 'potential roosting features (PRFs)' that bats could use and any evidence indicating the presence of bats using the building, such as rub marks, feeding remains, staining or droppings. This included a ground-based external inspection around the building and internal inspection of any enclosed loft spaces or roof voids, where safe access was possible. A high-powered torch was used for the internal and external assessment.

The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with best practice. Any evidence confirming the presence of bats that was found was clearly recorded including photos and samples taken (e.g. droppings) where appropriate. Further surveys were recommended as appropriate.

2.2.2 Hibernation Potential

The structure and its associated features were assessed for their suitability to be used by hibernating

¹ Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

² HM Government (2006). Natural Environment and Rural Communities Act 2006. Available online at: <https://www.legislation.gov.uk/ukpga/2006/16/section/41>.



bats. The assessment was carried out in accordance with guidelines produced by BatAbility³ and the bat survey guidelines produced by the Bat Conservation Trust¹. To determine the potential for features to support hibernating bats the following aspects were considered:

- The suitability of features to support roosting bats or to allow access for roosting bats;
- The temperature and humidity conditions likely to be present within the feature during the winter period and the suitability in this respect for it to be used by bats for hibernating;
- The surrounding habitat, in terms of its potential for use by bats outside of the hibernation period for commuting and/or foraging purposes; and
- The presence of known roosts within the structure, or adjacent structures, or surrounding area during the active season.

2.2.3 Foraging and Commuting Suitability

The habitats surrounding the site and wider landscape were broadly assessed for their potential to support foraging and commuting bats.

2.3 Other Protected and/or Notable Species

Any birds identified, or evidence of nesting birds discovered during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton et al. 2015) and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981).

Whilst this survey focussed on bats and no specific searches were made with respect to other protected species, any evidence of other protected species that was encountered during the site visit was also recorded.

3 RESULTS/OBSERVATIONS

3.1 Desk Study and Granted EPS Licences

There are no designated sites that include bats as a designated feature within the zone of influence from the site. There is no ancient woodland (a high-value habitat for bats) within 2km of the site.

There are no EPS licences granted for mitigation projects concerning bats, dormice or great crested newts within 2km of the site shown on the Magic Maps website.

3.2 Site Context and Surrounding Habitats

This site is located in a residential area situated centrally within Ferring and is bordered on all sides by neighbouring residential properties. The closest open green spaces include farmland comprising large

³ Middleton. N. (2019). Assessing Sites for Hibernation Potential. A Practical Approach, including a Proposed Method & Supporting Notes. Version' Draft/V2.2019. BatAbility.



arable fields located approximately 380 metres to the east and 400 metres to the west. The farmland to the west is however fringed by the Ferring Rife, which may provide a valuable source of invertebrate prey for bats species such as daubentons *Myotis daubentonii* and soprano pipistrelle *Pipistrellus pygmaeus*. The immediate surrounds of the site are formed by residential gardens and some public open spaces, which are likely to have a low/moderate value for foraging bats and due to sources of artificial light pollution (from properties and street lamps etc) and are only likely to support some of the more common light tolerant bat species.

The garden space associated with the property includes mown lawn, herbaceous shrub borders and a mixture of native and ornamental trees and shrubs along the site boundaries, including hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, privet *Ligustrum sp.* and cypress *Chamaecyparis sp.* The garden habitat represents a low-moderate value for foraging bats.

3.3 Building Inspection for Bats

3.3.1 Roosting Potential

The building inspection revealed that the No. 40 property is generally in good condition. The property is a bungalow with a gently sloping hipped roof that forms a large roof void. The internal inspection identified that the void space is insulated with rockwool with boarding over the top. The roof space measured approximately 11x10 metres in floor area and had an internal height of at least 2.5m. The timber sarking lining throughout that is in good condition, with no sign of rot that might indicate the presence of cracked or damaged roof tiles. The void space was cobweb and clutter free, with no stored items.

Around the eaves, rockwool insulation has been stuffed tight where the roof and joists meet and the only sign of any daylight gaps were at two locations on the western face of the property where ventilation pipes are present. A chimney also protrudes through the roof on the eastern elevation. No signs of bats could be found throughout the roof void, though some mouse droppings were evident.

The roof of the property is clad with close-fitting machine-made concrete roof tiles that lack any sufficient gaps that might be exploited by bats. The concrete hip tiles and the small number of ridge tiles are well mortared onto the roof, with no gaps present or signs of decay in the mortar. A single slipped tile was visible on the western face of the roof, however a visual inspection revealed the presence of cobwebbing around the entrance to this crevice, indicating that it has not recently been used by bats.

All of the soffits around the eaves of the roof are plastic and fit tightly to the walls, ensuring that there is not a crevice present that could be exploited by roosting bats. A small flat roof extension on the northern face of the property was also closely inspected and was found to have tightly sealed fascia boards around the sides of the roof, with no signs of potential access into the cavity underneath the bitumen lining that covers the roof.

The small detached garage was also inspected, though it was not possible to get inside the building. The garage is built from similar materials to the bungalow and was also found to be in a good condition. The single storey gable roof is covered in the same factory formed concrete roof tiles. A single cracked tile was identified on the northern face of the roof, though there was no crevice present, with the top of



the tile remaining wedged in position.

Overall, the bat roost potential at this site is considered to be 'negligible', considering only a single PRF was identified across both the property and detached garage and the context of the site for foraging bats is relatively poor, with no direct connectivity to any high value habitats.

There were no trees contained within the boundary of the site and tree roosting bats would therefore not be a constraint to development.

3.3.2 Hibernation Potential

With the absence of any notable PRF's at the property, the hibernation potential is considered to be negligible.

3.4 Other Protected and/or Notable Species

The hedging and herbaceous shrubs growing along the properties boundaries have potential to support the occasional nest of common bird species such as blackbird *Turdus merula* or chaffinch *Fringilla coelebs*. No evidence of past nesting by birds upon either building was identified.

The proposed zone of impact is comprised of buildings, mown amenity grassland and boundary hedging and herbaceous shrubs. There are no waterbodies present in the immediate surroundings of the site, which is set within a developed area. The habitats present at the site are not considered to have value for reptiles, amphibians, badgers, and any other protected species other than nesting birds.

3.5 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support bats, even where no direct evidence (such as droppings) has been found.

There were few access limitations encountered during the survey, however an internal inspection of the small detached garage was not possible. The very small size of this building does mean it would have a reduced suitability for void-dwelling bat species.



3.6 Photographs



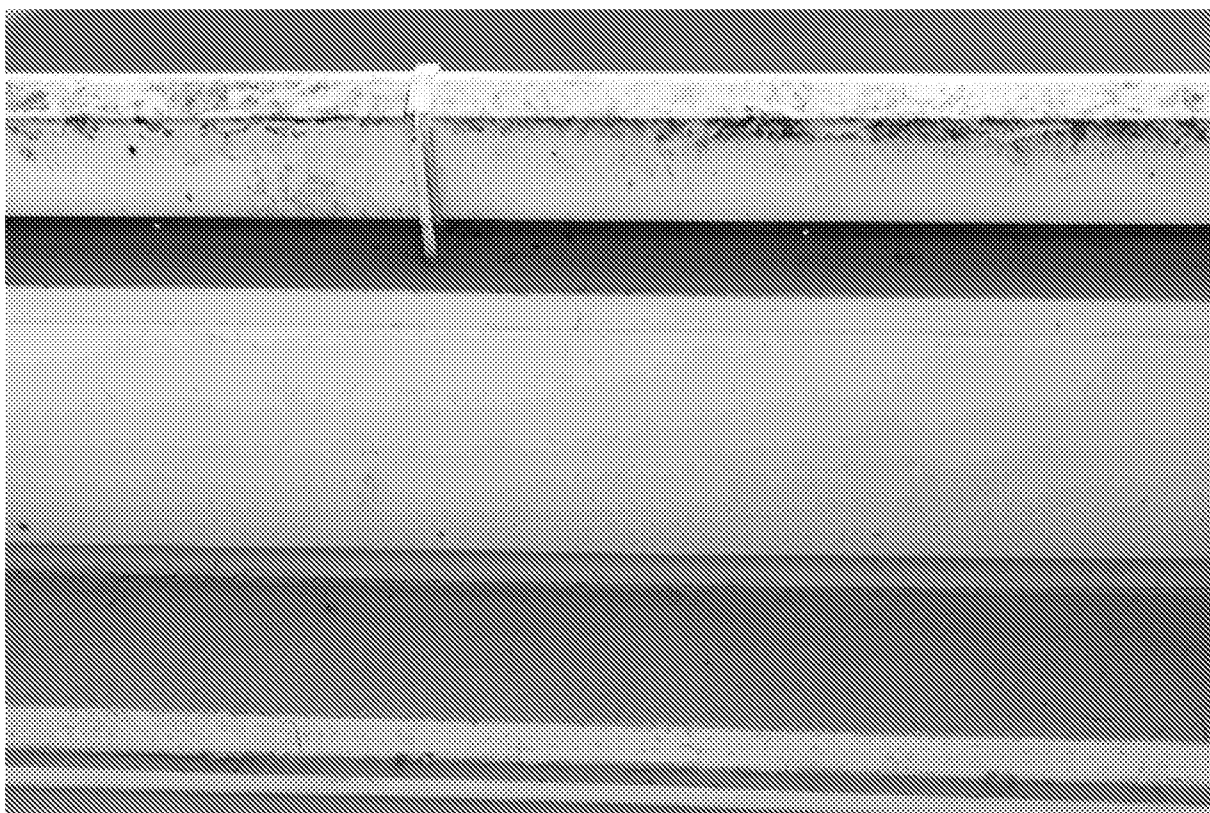
Photograph 1. The roof void off the property, with boarded floor space and timber sarking lining the roof.



Photograph 2. The hipped roof clad in concrete roof tiles that site flush to each other with no notable gaps present.



Photograph 3. The northern elevation of the property, with a flat roof extension.



Photograph 4. The tight-fitting soffits around the eaves of the roof.



Photograph 5. The northern elevation of the small garage, with a single cracked tile visible.

4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Bats

4.1.1 Roosting Potential

In accordance with the Bat Conservation Trust guidelines, the overall potential for the bungalow and garage to support roosting bats is rated as 'negligible'. The proposal to demolish both of these buildings poses a very low risk to roosting bats and it is therefore not considered necessary for any further surveys or precautionary mitigation to be implemented for the demolition of both structures to take place. As the condition of buildings can change over time as they age, it is however recommended that if these buildings have not been demolished within 18 months of this assessment, then a repeat inspection should be undertaken by a licensed bat surveyor prior to demolition, to establish if the suitability of the buildings to support roosting bats has changed.

In the highly unlikely event that a roosting bat or evidence of roosting bats are identified during site preparation or construction, work must stop immediately, and a licensed ecologist contacted to determine the appropriate course of action.

4.1.2 Foraging and Commuting Suitability

The context of the site for foraging and commuting bats is low/moderate. As there is some potential for the site to be used by foraging and commuting bats, it is important that the potential for disturbance from



artificial lights is considered. As with most new development, it is recommended that the development should consider an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 2).

4.2 Other Protected and/or Notable Species

Since the site comprises entirely buildings surrounded by mown lawn space, the risk of impacts on reptiles, amphibians, badgers, and any other protected species is considered negligible in this case and no other surveys are considered necessary.

Since the garden boundaries have the potential to support nesting birds such as blackbird and chaffinch, the removal/clearance of this habitat should be timed outside of the nesting bird season (1st March – 31st August) or following a hand search for nesting birds by a suitably qualified ecologist. If an active nest is identified, a minimum exclusion zone for all works within a safe radius (determined by the ecologist) of the nest must be established to protect it from disturbance until the young have fledged.

4.3 Biodiversity Enhancement Opportunities

The proposed development represents an opportunity for habitat enhancement to benefit insects, birds, and bats. Any planting scheme could include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of the NPPF and as such would be considered favourably when determining the planning application.

For example, it is recommended that two native trees are planted as part of the landscaping, which will create greater habitat for a variety of birds and invertebrates. Only specimens sourced only from UK stock should be planted. The following species are recommended in this location: wild cherry *Prunus avium*, wayfaring tree *Viburnum lantana*, hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, field maple *Acer campestre* or sea buckthorn *Hippophae rhamnoides*. Given the arrival of ash dieback, it is not recommended that any ash saplings are planted anywhere on the site.

If any protected species are found during the proposed work, work should be stopped immediately, and an ecologist must be contacted immediately for advice.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – Wildlife Legislation and National Planning Policy

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to bats.

All bat species in the UK are included in Schedule II of the Habitats Regulations 2017, which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("The EC Habitats Directive"). As such all bat species in the UK are defined as 'European Protected Species (EPS).

Four species of bat (Bechstein's bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus*, greater and lesser horseshoe bats, *Rhinolophus ferrumequinum* and *R. hipposideros*) are also listed on Annex IV of the EC Habitats Directive. This requires the designation of a series of sites which contain important populations of these species as Special Areas of Conservation (SACs).

All species of British bat are also fully protected under the Wildlife and Countryside Act (1981), as amended, through inclusion in Schedule V.

All species of bat are listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Section 41 of the NERC Act lists the habitats and species of principle importance. This places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of habitats and species of principal importance for the conservation of biodiversity in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers.

Under the above legislation it is an offence to:

- Kill, injure or take any individual bat of any species;
- possess any part of an individual bat, either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by bats for shelter, rest, protection, or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberately disturb bats in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, to rear or nurture their young; to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring, or killing bats (for example a trap or poison), or knowingly cause or permit such an action. There is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of bats.

A European Protected Species License (EPSL) in relation to bats is required from Natural England for any work that would result in an otherwise unlawful activity (e.g. damage to a bat roost). A license can



only be issued to permit otherwise prohibited acts if Natural England are satisfied that all the following three tests are met:

- The proposal is for 'preserving public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- There is no satisfactory alternative; and
- The action authorised by the license will not be detrimental to the maintenance of bat populations at a favourable conservation status in their natural range.

A bat roost is defined by the Bat Conservation Trust's Bat Surveys—Good Practice Guidelines 3rd Edition as "the resting place of a bat". In general, the word roost is interpreted as "any structure or place, which any wild bat uses for shelter or protection."

Bats tend to re-use the same roosts; therefore, legal opinion is guided by recent case law precedents, that a roost is protected, whether or not the bats are present at the time. This includes summer roosts used for resting during the day and/or breeding; or winter roosts, used for hibernating.



APPENDIX 2 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust⁴ should be considered while designing the lighting scheme. A simple process which should be followed where the impact on bats is being considered as part of a proposed lighting scheme. It contains techniques which can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting on key habitats and features altogether

there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation. However, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results;

- Dark buffers, illuminance limits and zonation
- Sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill
- Consider the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- Screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding
- Glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features.
- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat

⁴ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development.

- Dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; It may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Further reading:

Buglife (2011) *A review of the impact of artificial light on invertebrates*.

Royal Commission on Environmental Pollution (2009) *Artificial light in the environment*. HMSO, London.
Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) *Ecological Consequences of Artificial Night Lighting*. Island Press.
ISBN 9781559631297.

CPRE (2014) *Shedding Light: A survey of local authority approaches to lighting in England*. Available at: <http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: <https://www.gov.uk/guidance/light-pollution>

Institution of Lighting Professionals (2011) *Guidance Notes for the Reduction of Obtrusive Light* GN01:2011. Available at: <https://www.theilp.org.uk/resources/free-resources/>