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Bat Scoping Report and Preliminary Ecological Appraisal

Onslow Caravan Park, Ferring

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Report Summary

1. **Island Meadow Parks commissioned the Ecology Co-op to undertake a bat scoping survey at Onslow Caravan Park, Ferring. The purpose of this report is to present the findings of the appraisal and identify potential ecological constraints to the proposed demolition of a number of workshop buildings and continued construction on a large storage building.**
2. **An assessment of the site was carried out by Paul Whitby BSc MCIEEM CEcol and Georgia Vessey BSc (Hons) a Qualifying Member of CIEEM on 8th September 2020. This included a ground-based external inspection of the buildings, 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. **The site comprises three small workshop and storage buildings and a large open barn. The buildings are found on hardstanding within a caravan park. The caravan park is set in a mainly urban environment, on the western edge of the town of Worthing, surrounded by high density residential housing and agricultural land. There are no designated sites within 2km of the application site.**
4. **The buildings were assessed as having 'low-negligible' bat roost potential and no further surveys are required. Any low potential features were physically inspected during the survey visit. A precautionary approach should be taken with regards to the Building 4. A 'soft stripping' of the weatherboarding should be carried out in the presence of a suitable qualified Ecologist as a precautionary measure.**
5. **Opportunities to enhance site biodiversity are provided in section 4.3.**

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 Onslow Caravan Park, Ferring by Island Meadow Parks. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Paul Whitby BSc MCIEEM CEcol and Georgia Vessey BSc (Hons) a Qualifying Member of CIEEM on 8th September 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 proposed redevelopment of the site. 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 Onslow Caravan Park, Onslow Drive, Ferring, West Sussex, BN12 5RX. The central grid reference for the site is TQ 0920 0296. The location of the site is shown in Figure 1.

The site comprises three small workshop/storage buildings as well as a large open barn. The buildings are found on hardstanding within a caravan park. The site is mostly surrounded by high-density residential housing with agricultural land bordering the western boundary of the caravan park.

The survey area is based on the site plan provided by Bayside Architectural Design Ltd. which shows the boundary to the development site and is reproduced in Figure 2.

The proposed works include demolition of two of the workshop/storage buildings and continued construction on the large storage building.

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.

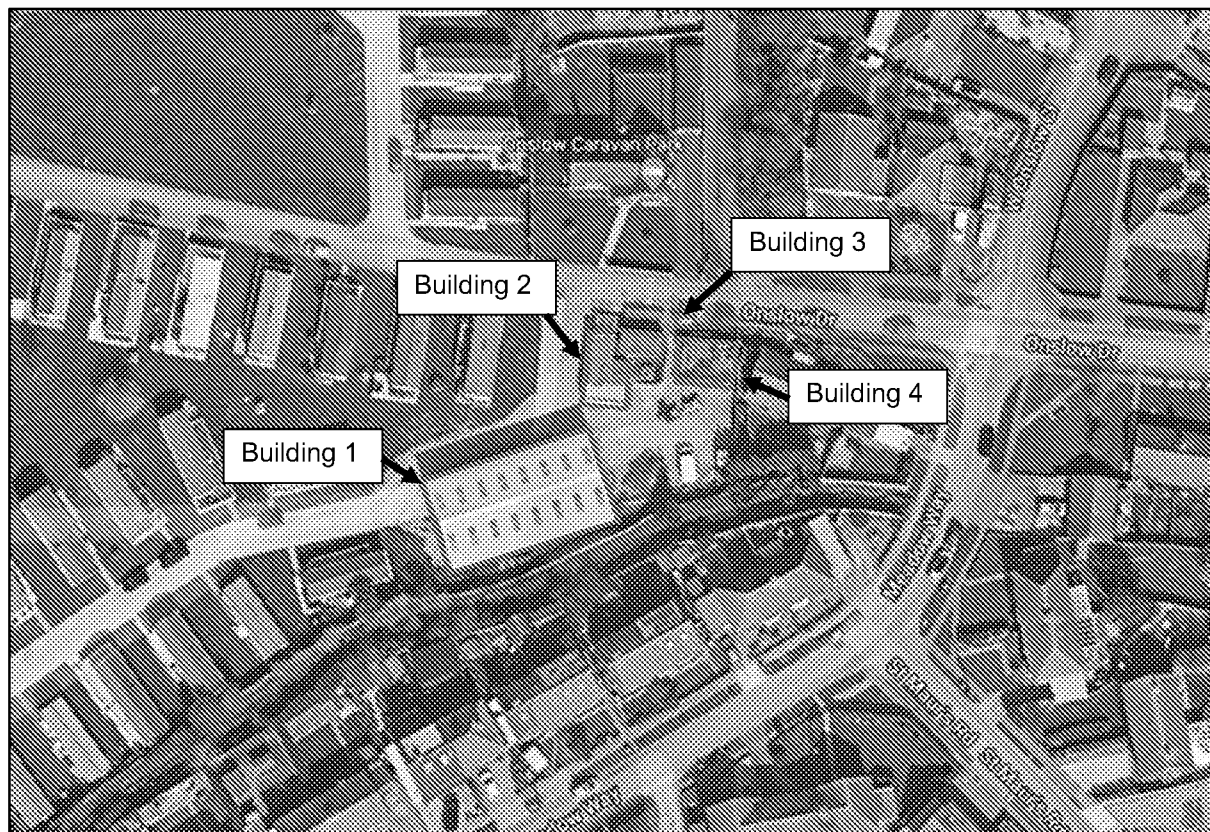


Figure 1. Site plan of the buildings surveyed at Onslow Caravan Park, Ferring. Image produced courtesy of Google maps (Map data ©2019 Google).

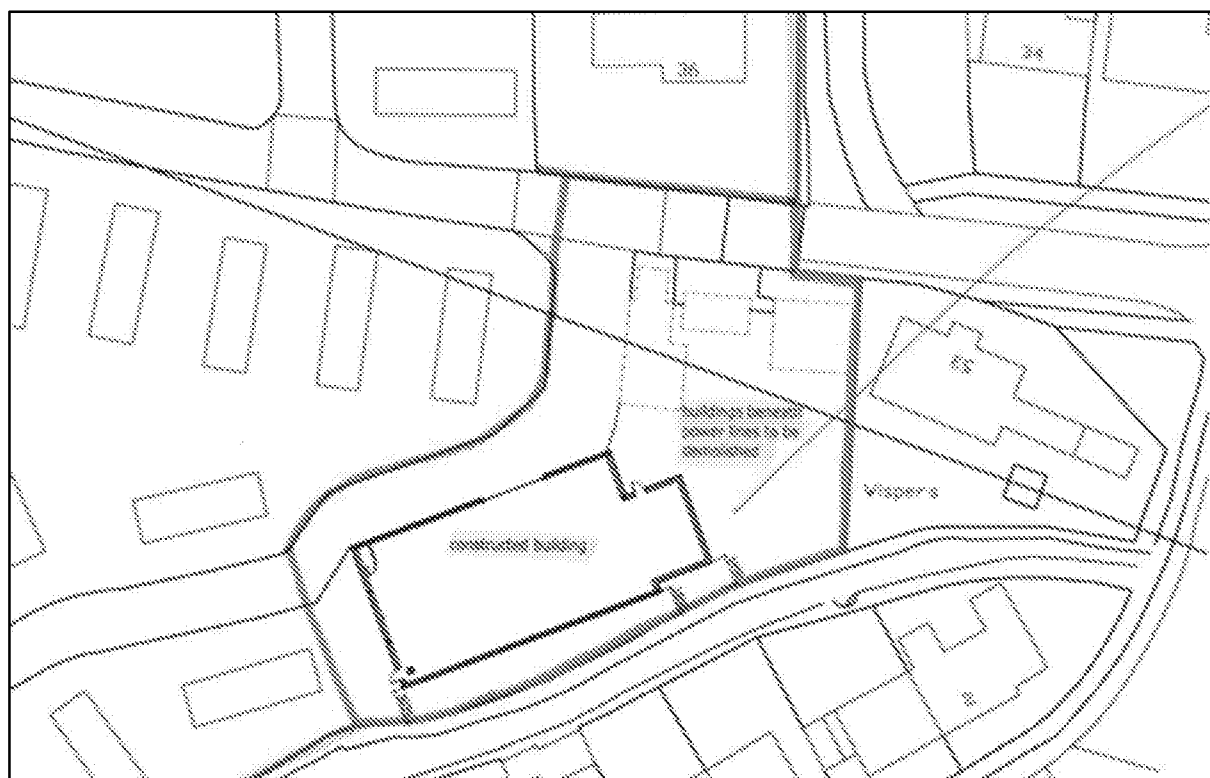


Figure 2. The existing site plan produced courtesy of Bayside Architectural Design Ltd.



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 online 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

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, 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 using a high powered torch.

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.

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

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>.



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

There are no designated sites within 2km of the application site. The closest designated site, Cissbury Ring Site of Special Scientific Interest (SSSI) is approximately 6.4km north-east of the site. There are no EPS licences granted for mitigation projects concerning bats within 1km of the site shown on the Magic Maps website.

3.2 Site Context and Surrounding Habitats

The site is situated in a mainly urban environment on the western edge of the town of Worthing. The site is surrounded by high-density residential housing on the eastern and southern boundary whilst the caravan park extends beyond the sites western and northern boundary. A defunct hedgerow with trees runs adjacent to the sites southern boundary. Agricultural land is found west of the caravan park.

3.3 Building Inspection for Bats

The inspection of the buildings revealed few opportunities for roosting bats. The buildings and their associated features are described in Table 1 below and illustrated in the following photographs section.

Table 1. Assessment of Potential Roost Features

Building section	Description of features	Assessment of potential (Collins 2016)
Building 1	A large open-sided barn, constructed of breezeblock walls with an unlined modern chrysotile roof and timber frame (Photograph 1a & 1b).	Negligible bat roost potential
Building 2	An 'L' shaped single-storey workshop/storage building constructed of large stone walls with a shallow, single pitch, chrysotile roof. Some overlap was present between the chrysotile roof sheets (Photograph 2), though the very shallow pitch of the roof made this feature unsuitable for bats.	Low-Negligible bat roost potential



	A gap was present above the door on the western elevation (Photograph 3a). On further physical inspection it was found to go straight through into the building and not form a crevice feature. The western section of the building could only be inspected internally through a window. The ceiling insulation was in poor condition, absent in many places and saturated with staining showing through the ceiling (Photograph 3b). A small crevice was found around a timber joint at the roof edge on the west face of the building. On further physical inspection no signs of droppings or rub marks were noted that might indicate the past use of this crevice by bats.	
Building 3	A very small brick building (Photograph 4a). A large crevice was present around the building where the roof overlaps the wall top (Photograph 4b). The feature was inspected and no signs of bat roosting activity were found. The low height of this crevice and its exposure mean it has very low suitability for roosting bats	Low-Negligible bat roost potential
Building 4	An open-sided lean-to constructed of single-skin wooden weatherboard walls. The timber roof sarking is in very poor condition and the external bitumen lining is absent in many places (Photograph 5). Numerous gaps were present under the weatherboards, with some heavy cobwebbing present. On further inspection the overlap was found to be shallow, reducing the suitability for roosting bats (Photograph 6a & 6b) and no signs of past use (such as rub marks or droppings) were identified. The height of the weatherboarding (no more than 2 metres) further reduced its suitability as a potential roost feature, though the potential for bats to use this roost feature in the future remains possible.	Low-Negligible bat roost potential

Overall, the bat roost potential for the buildings is rated as 'low-negligible', considering the condition of the building and its context within the wider landscape as a foraging habitat for bats. The lack of hedgerows and tree-lines approaching the building used by bats for commuting and navigation also reduces the potential for bats establishing roosts at this site.

3.4 Other Protected and/or Notable Species

The large barn could potentially support nesting swallows *Hirundo rustica* in the future, given the open access for these birds to fly into the building. All the buildings are found on hardstanding and no vegetation or other protected species are likely to be impacted as a result of the development.

3.5 Survey Limitations

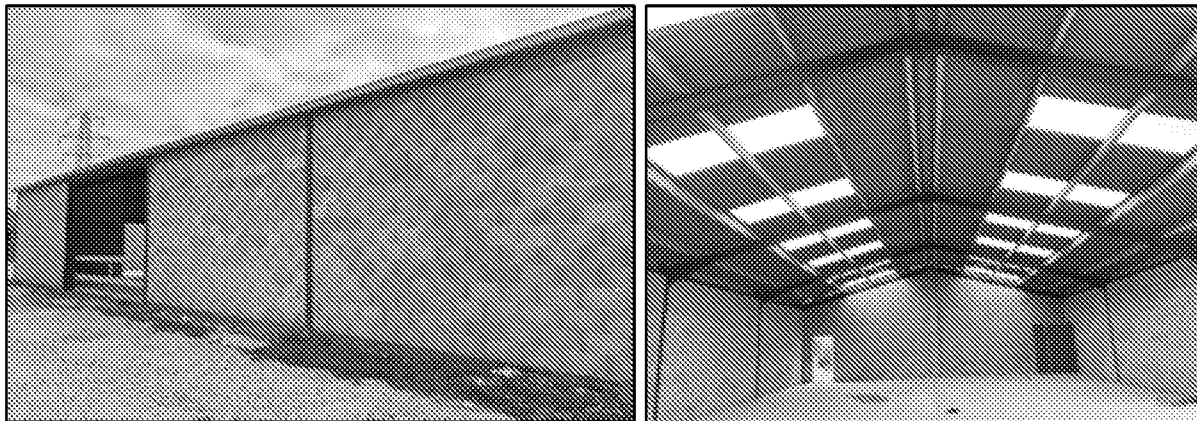
An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are



assessed for their potential to support bats, even where no direct evidence (such as droppings) has been found.

The internal space of Building 2 could not be entered during the survey. However, it could be partially inspected through a window on the western elevation.

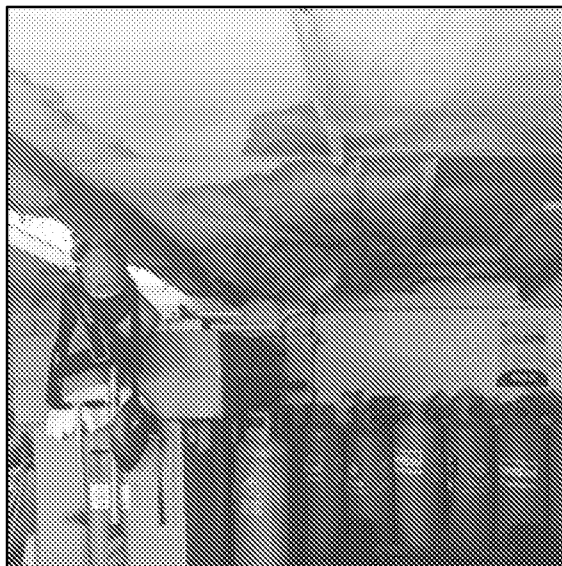
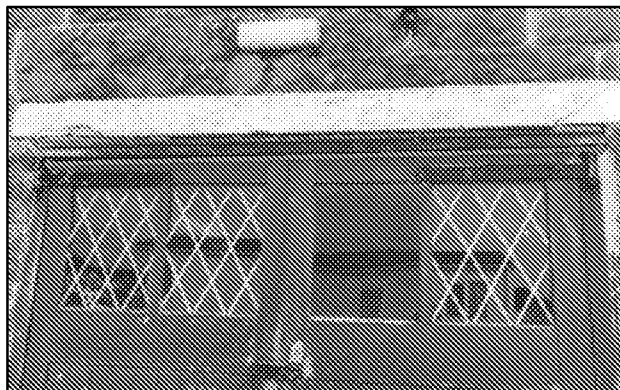
3.6 Photographs



Photograph 1a (left) & 1b (right). View of Building 1, a large open-sided barn. Left – external view of northern elevation. Right – internal view.



Photograph 2. External view of Building 2 (part obscured behind the metal cage). Note the flat roof with mixed corrugated chrysotile and metal roofing sheet with gaps where sheets overlap (red box).



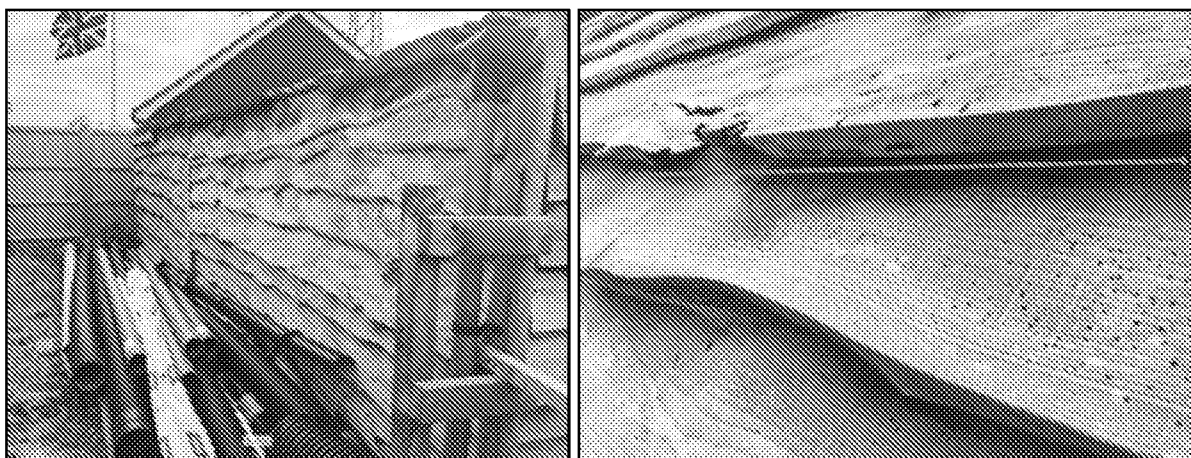
Photograph 3a (left) & 3b (right). Left – A gap above the door to Building 2 (red line). Right – internal view of Building 2 showing the saturated insulation and boarding.



Photograph 4a (left) & 4b (right). Left – external view of Building 3. Right – a crevice present behind the overlap of the roof and wall top (red line).



Photograph 5. Showing Building 4. Note the poor condition of the timber sarking and bitumen lining on the roof (red arrow).



Photograph 6a (left) & 6b (right). Left - the northern elevation of Building 4. Right- example of the shallow gaps found under most of the weatherboarding on the north, west and east elevations (red line). Note the visible cobwebbing which covered these gaps in places.



4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Bats

In accordance with the Bat Conservation Trust guidelines, the overall potential for the buildings to support bats is rated as 'low- negligible' with all of the low potential value crevices present that could be exploited by bats easily inspected at the time of the survey visit. No further surveys are therefore required.

A precautionary approach should be taken with regards to Building 4. A 'soft stripping' of the weatherboarding should be carried out in the presence of a suitably qualified Ecologist, given the transitory nature of bats and the ability for bats to establish new roosts at any time of the year.

In line with best practice, it is important that the potential for disturbance wildlife from artificial lighting is considered. The proposed development should include 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 and is surrounded by paved ground, 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.

4.3 Opportunities for enhancements

Whilst it is evident that the site is of inherently low ecological value, there remain opportunities to enhance the value of the site for pollinating insects, small mammals and birds through some simple native planting measures that will improve site biodiversity. To this effect, it is recommended that the following measures are implemented:

1. No less than 100 square metres of wildflower meadow habitat is established within amenity grassland at the site. Wildflower meadow habitat must comprise a mixture of no less than 20 grass and wildflower species and should be established in the spring or autumn upon a prepared base as per guidelines set out by the Royal Horticultural Society (see - <https://www.rhs.org.uk/advice/profile?pid=436>). Once established, the wildflower meadow must not be cut between 1st April and 31st July each year).
2. At least 10 metres of native hedgerow should be established. This hedge should comprise of 50% hawthorn *Crataegus monogyna*, with the remaining trees within this mixture including only native trees typical for hedgerows, such as field maple *Acer campestre*, holly *Ilex aquifolium*, hazel *Corylus avellane*, dogwood *Cornus sanguinea* and spindle *Ligustrum vulgare*. The hedge should be planted as bare root stock at a density of at least five trees per lineal metre and once established, should be cut no lower than 2 metres in height and 1 metre width.



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 Trust³ 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 cat's 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.

³ 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/>



- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat 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/>