



Bat Activity Survey

Abernant Hir Farm,
Glynneath,
Neath Port Talbot,
SA11 5RU

DKEcology
20 Glanymor Road,
Loughor,
Swansea,
SA4 6SA

Tel: 01792 410407

Email: dkearsleyevans@gmail.com

In association with

Biodiversity Solutions

Mullock Cottages,
Marloes,
Haverfordwest,
Pembrokeshire,
SA62 3AS

Tel: 01646 636754

Email: mail@biodiversitysolutions.org.uk

Web: www.biodiversitysolutions.org.uk

Subject	Date	Author	License number
Draft report for review	1 st June 2023	Debbie Kearsley-Evans	S087704/1
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Executive Summary

- DKEcology were commissioned to undertake a Protected Species Activity Survey for bats at Abernant Hir Farm, Glynneath, Neath Port Talbot, SA11 5RU. The owners of the property hope to extend part of the existing property and demolish a small existing extension. Therefore, it was necessary to assess the potential of the building for supporting bats and to determine if any bats might be impacted by the proposed works.
- The property is situated within the well vegetated river valley of Nant Pergwm on the outskirts of the Glynneath, Neath Port Talbot, approx. 0.5km north of the centre of the village (Grid ref: SN 87339 06740). The property is part of a cluster of traditional farm buildings. The property is immediately surrounded by well-connected habitat for several kilometres. Although to the south connectivity is interrupted by the A465 and the development associated with Glynneath which stretches along the A road for 1-2km. The Nant Pergwm corridor lies within 13m of the east of the property providing immediate connectivity to more extensive areas of suitable habitat particularly to the north.
- The Cwm Gwrelych and Nant Llyn Fach streams Site of Special Scientific Interest (SSSI) designated for its geological interest lies 1.7km east. No sites designated in relation to bats within 10km of the property. A number of Sites of Interest for Nature Conservation (SINCS) are within 2km of the property, one of which Morfa Glas SINC lies adjacent to the cluster of buildings within which the property is located.
- The NBN search returned 4 species of bat within 2km of the property and numerous roof nesting bird species within 0.5km.
- The property consists of a semi-detached traditional stone farmhouse with a slate tiled A framed roof. The farmhouse has been extended to the south and has a small number of single storey extensions. The property is currently used as a family home.
- A separate Preliminary Roost Assessment survey was undertaken on the 27th January 2023. The property was assessed as having low to moderate potential for supporting bats. No evidence of bat activity was noted during the survey.
- Two activity surveys were carried out. An emergence survey the 5th May 2023 and the 19th May 2023, the methods, and findings of which are the subject of this report.
- The evidence found during the preliminary roost assessment and activity surveys suggests that the property supports 5 day roosts for 11 soprano pipistrelles, and 2 common pipistrelles and a day roost/small maternity roost for at least 8 whiskered bats.
- The proposed extension of the property will result in the destruction/modification of a day roost for 4 soprano pipistrelle bats and 1 common pipistrelle bat. **A European Protected**

Species licence will be required to undertake the proposed works. However, the final arbitration is with Natural Resources Wales and the Welsh Government.

- As long as an appropriate mitigation strategy is implemented the population of the species currently using the property will be maintained at a local, regional, and national level.
- To provide biodiversity enhancement, it is recommended that either 1 bird nest box or crevice bat roost opportunity is incorporated into the development. It is recommended that external lighting should be modified in order to maintain bat flight paths/roosts.

1.0 INTRODUCTION

- 1.1 DKEcology undertook a protected species activity survey of Abernant Hir Farm, Glynneath, Neath Port Talbot, SA11 5RU.
- 1.2 The owners of the property hope to extend part of the existing property and demolish a small existing extension, and so if bats are present the works have the potential to impact on bats and their roosts.
- 1.3 A daytime Preliminary Roost Assessment survey was carried out on the 27th January 2023, the written report from which recommended follow-up bat activity surveys to verify whether any bats were currently using the property and to calculate the numbers, species, and roost locations.
- 1.4 An emergence survey was undertaken on the 5th May 2023 and 19th May 2023 to confirm the presence or likely absence of bats at the site.
- 1.5 This report confirms the findings of the above activity surveys, completed in May 2023.

2.0 PLANNING POLICY AND LEGISLATION

- 2.1 The following local and national planning policy relating to nature conservation and biodiversity are considered of relevance to the current proposal.
- 2.2 Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species, including all bat species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2010.
- 2.3 There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Planning Policy Wales and Technical Advice Note 5

- 2.4 This document set out the land use planning policies of the Welsh Assembly Government, with Chapter 5 dealing with Conserving and Improving Natural Heritage and the Coast. The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TAN's).
- 2.5 TAN 5 (Welsh Assembly Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

- 2.6 Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':
- Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long-term perspective;
 - Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
 - Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
 - Ensure that appropriate weight is attached to designated sites of international, national, and local importance;
 - Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
 - Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;
 - Ensure that the range and population of protected species is sustained;
 - Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered;

Wildlife & Countryside Act 1981

- 2.7 The Wildlife & Countryside Act 1981 (as amended) is the primary legislation for England and Wales for the protection of flora, fauna, and the countryside. Part I within the Act deals with the protection of wildlife.
- 2.8 The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.
- 2.9 There are 'defences' provided by the legislation. These are cases where acts that would otherwise be prohibited by the legislation are permitted. Notably these allow things to happen that are reasonable, unpredictable, and unavoidable, such as running over a badger on the road.
- 2.10 Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing

protected animals can be allowed by obtaining a license. Trade in the more widespread species is also permitted if licensed.

Conservation of Habitats and Species Regulations 2010 (as amended)

- 2.11 The Conservation of Habitats and Species Regulations 2010 ((amended in 2012) (which are the principal means by which the EC Habitats Directive is transposed in England and Wales)) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.
- 2.12 These regulations provide for the designation and protection of domestic and European Sites (e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]) the protection of European Protected Species (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) and the adaptation of planning controls for the protection of such sites and species.
- 2.13 Under the regulations, public bodies (including the Local Planning Authority) have a duty in exercising their functions to have regard to the EC Habitats Directive.
- 2.14 Licensing: certain prohibited actions under the Regulations may be undertaken under licence by the proper authority. For example, where an EPS has been identified and the development risks intentionally, recklessly, or deliberately affecting an EPS, then a 'development licence' may be required.

3.0 METHODOLOGY

The survey was undertaken in accordance with current and appropriate guidelines for bat surveys stated in Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys Bat Conservation Trust, May 2022, Bat Surveys for Professional Ecologists: Good practice guidelines, 3rd edition (Collins, J. (Ed.), 2016) & The Bat Workers' Manual, 3rd edition. (Mitchell-Jones, A.J., & McLeish, A.P. (Ed.), 2004) by a licensed and experienced bat ecologist.

3.1 Desktop study and Preliminary Roost Assessment

- 3.1.1 A data search was undertaken for records of protected species including bats, species of conservation concern, locally important species, within 2km of the site and roof nesting birds within 0.5km using the on-line National Biodiversity Network (NBN) Atlas.
- 3.1.2 An LRC data search/enhanced bats and roof-nesting birds search (barb+) over a 2km radius was not undertaken due to the small size, low predicted impact, and nature of the development. The overall impact on biodiversity is likely to be localised and of low significance and current proposals suggest that no linear features severed. It is considered very unlikely that the development will have any impact outside the footprint of the works. The data search results would be considered unlikely to impact on the decision-making process and therefore an LRC search has not been undertaken. This approach is consistent with CIEEM Guidelines for Accessing and Using Biodiversity Data (2016).
- 3.1.3 The remainder of the desktop study, examining aerial photographs, using DEFRA's MAGIC website (DEFRA, 2020) to locate designated wildlife sites within 10km and reviewing local biodiversity action plans was conducted as part of the preliminary roost assessment survey and followed the methods described in that report. The methodology used during the preliminary roost assessment survey was also detailed there. In essence, the potential of the site to support roosting bats was assessed, along with a search for signs of use by bats (for example, droppings, moth wings, scratch marks, staining, etc.) or the actual presence of bats.

3.2 Activity surveys

- 3.2.1 A dusk emergence survey was undertaken on the 5th May 2023. Three surveyors were present during the survey (Debbie Kearsley-Evans, Beth Yule and Marilena Durant). The weather was dry, calm, cloudy, and a temperature of 14-12°C.
- 3.2.2 For the dusk emergence survey, surveyors were on site 15 minutes before sunset (start time: 20:29; sunset 20.44) and remained on site for 1.5 hours after sunset (survey finished: 22:14), in line with BCT Guidelines (Collins, 2016).
- 3.2.3 A dusk emergence survey was undertaken on the 19th May 2023. Three surveyors were present during the survey (Debbie Kearsley-Evans, Sarah Allen, and Marilena Durant). The weather was cloudy, dry, calm, with a temperature of 15 to 12°C.

3.2.4 For the 2nd dusk emergence survey, surveyors were on site 15 minutes before sunset (start time: 20:51; sunset 21.06) and remained on site for 1.5 hours after sunset (survey finished: 22:36), in line with BCT Guidelines (Collins, 2016).

3.2.5 Sony FDR-AX53 4K IR camcorders and Nightfox red digital night vision goggles were used to view the property. A combination of heterodyne and frequency division detectors were used, including Anabat SD2 units, echometer touch 2 pro and bat scanners. Surveyors positioned themselves so that all relevant aspects of the building were visible during the survey.

3.3 Limitations

3.3.1 Bats are a difficult group to survey for and it is usually signs of their activity rather than their actual presence that indicates the existence of a bat roost. However, many species of bat in the UK are crevice dwelling, and signs of bats and the bats themselves can be difficult to find within a building. The combination of a daytime scoping survey and activity surveys aim to address these difficulties, although for small roosts individual bats can be missed by surveyors. However, best efforts were made to record activity and observe actual behaviours at the site.

3.3.2 There were no other limitations, and all relevant elevations of the building were able to be viewed adequately by the surveyors during the activity surveys.

4.0 RESULTS

4.1 Desktop study and Preliminary Roost Assessment survey

4.1.1 The results from the desktop study and Preliminary Roost Assessment survey were reported in the preliminary roost assessment survey report. In summary:

- The property is situated within the well vegetated river valley of Nant Pergwm on the outskirts of the Glynneath, Neath Port Talbot, approx. 0.5km north of the centre of the village (Grid ref: SN 87339 06740). The property is part of a cluster of traditional farm buildings. The property is immediately surrounded by well-connected habitat for several kilometres in all directions Although to the south connectivity is interrupted by the A465 and the development associated with Glynneath which stretches along the A road for 1-2km. The Nant Pergwm corridor lies within 13m of the east of the property providing immediate connectivity to more extensive areas of suitable habitat particularly to the north. Well-connected pasture with mature hedges and lines of trees lie immediately to the south and extensive areas of scrub and woodland lie within 20-50m.
- The Cwm Gwrelych and Nant Llyn Fach streams Site of Special Scientific Interest (SSSI) designated for its geological interest lies 1.7km east. There are no other designated sites within 2km of the property. No sites designated in relation to bats within 10km of the property. A number of Sites of Interest for Nature Conservation (SINCS) are within 2km of the property, one of which Morfa Glas SINC an area of species rich grassland lies adjacent to the cluster of buildings within which the property is located.

- The NBN search returned 4 species of bat within 2km of the property and numerous roof nesting bird species within 0.5km.
- The property consists of a semi-detached traditional stone farmhouse with a slate tiled roof. The farmhouse has been extended to the south and has a small number of single storey extensions. The property is currently used as a family home.
- The property was assessed as having low to moderate potential for supporting bats. No evidence of bat activity or of a maternity roost or a large number of bats using the property was noted during the survey.

4.2 Dusk emergence survey 5th May 2023

- 4.2.1 In total, 3 species of bat were recorded during the survey: Common Pipistrelle (*Pipistrellus pipistrellus*), Whiskered (*Myotis mystacinus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*).
- 4.2.2 Activity levels were relatively low and mostly within 30 minutes of sunset. The majority of the calls occurred between 20.45 and 21.15 with no activity for the period 21.30 to 22.00. Activity then picked up slightly from 22.00 to the end of the survey. Activity was predominantly by soprano pipistrelle with a small number of whiskered passes and only 1 or 2 passes by common pipistrelle. Most of the calls were within the expected emergence periods for all of the species active during the survey. Activity mostly consisted of emergence by both soprano pipistrelle and whiskered bats from the ridge of the adjoining property to the west. All bats were then seen to fly immediately east and west away from the farm. A low level of feeding activity and social calls was noted in the latter part of the survey to the south and east of the property by soprano pipistrelle bats. Activity during the emergence survey can be seen in Appendix 2.
- 4.2.3 3 x soprano pipistrelle bats were noted emerging from the eaves of the north east gable of the house. 6 x whiskered bat were noted emerging from 2 different places under ridge tiles on the adjoining property. Numerous soprano pipistrelle bats were also noted emerging from the neighbouring properties ridge line.
- 4.2.4 All of the property remained in darkness throughout the survey apart from 1 security light on the north corner which was briefly triggered.
- 4.2.5 There was no evidence of nesting birds currently using the property.

4.3 Dusk emergence survey 19th May 2023

- 4.3.1 In total, 3 species of bat were recorded during the survey: Common Pipistrelle (*Pipistrellus pipistrellus*), Whiskered (*Myotis mystacinus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*).

- 4.3.2 Activity levels were twice as high as in the first activity survey and more consistent with calls recorded throughout the survey period and at similar levels on all elevations of the property. Activity was dominated by soprano pipistrelle particularly to the south and west with social and feeding calls recorded. To the north activity by soprano and common pipistrelle bats was more or less equal from 21.30 to the end of the survey with consistent feeding activity noted along the stream and along the north and south elevations. A brief period of activity by whiskered bats was recorded between 21.27 and 21.44 when a number of whiskered bats were seen to emerge from the ridge tiles near the west chimney and fly across the ridge directly east into the vegetation along the adjacent stream. A small number of calls for all of the active species were recorded within the expected emergence period. Activity by soprano pipistrelle was also high around the adjoining property particularly around the roof apex. Activity during the emergence survey can be seen in Appendix 2.
- 4.2.3 1 x soprano pipistrelle and 1 common pipistrelle emerged from the eaves close to the apex of the north east gable of the house and 6 x soprano pipistrelle and 1 x common pipistrelle emerged from the eaves of the south gable.
- 4.2.5 1 x soprano pipistrelle emerged from the eaves on the south west elevation.
- 4.2.6 8 x whiskered bats emerged from under a ridge tile to the east of the chimney stack on the main house.
- 4.2.7 All of the property remained in darkness throughout the survey apart from 1 security light on the north corner which was intermittently triggered in the latter part of the survey.
- 4.2.8 There was no evidence of nesting birds currently using the property.

5.0 INTERPRETATION AND ASSESSMENT

- 5.1 The evidence found during the preliminary roost assessment and activity surveys suggests that the property supports a number of day roosts used by a small number of soprano and common pipistrelle bats and a day roost/small maternity roost for at least 8 whiskered bats.
- 5.2 This is based on the observation/recording of a small number of soprano and common pipistrelle bats emerging from 5 different locations on the north east gable, south east gable and the south west eaves. Also up to 8 whiskered bats observed/recorded emerging from under a ridge tile on the main house roof.
- 5.3 During both surveys numerous soprano pipistrelle bats were seen to be active around the ridge area of the adjoining property to the west, consistent passes by soprano pipistrelle bats were noted throughout the expected emergence period flying into the survey area from the west, and a number of social calls by soprano pipistrelle bats were also noted. Given the relatively high levels of activity noted by soprano pipistrelle bats within the emergence period to the west and around the adjoining property particularly in the second survey then it is likely

- that a maternity roost for soprano pipistrelle bats may be present within the adjoining property.
- 5.4 A small number of whiskered bats were also noted emerging from the ridge of the neighbouring property during the first survey but were only seen emerging from the ridge of the survey property during the second survey. Both properties have numerous gaps under ridge tiles, and it is likely that the whiskered bats are able to move along the ridge and roost in different places along the ridge line of both properties.
- 5.5 Activity during both surveys mostly by soprano pipistrelle was consistent throughout and noticeably higher in the second survey. The highest levels of activity were to the west and east with consistent feeding activity noted along the vegetated stream to the east, over the stable yard to the north west and west to east commuting and feeding passes through the farm.
- 5.6 There are high levels of external lighting around the farm. The survey property has a number of security lights most of which are fitted with PIR sensors and not permanently on at night. None of the current lights appear to directly illuminate any of the roost entrance points. However if triggered some do illuminate flight paths to the south and east including flight paths to/from the day roosts on the north east and south west gables. External lighting is particularly high around the stable yard. Some of the lights are mounted at height and when used would illuminate large areas to the north and could potentially impact commuting/feeding routes. In order to ensure that the current level of bat activity is maintained external lighting levels should be kept to a minimum and should avoid illuminating the roost entrance points and the approach routes to the roosts. No lighting should illuminate the house roof/eaves. External lighting should not illuminate the vegetation and stream corridor to the east, the field to the south and hedgerows/trees to the west (see recommendations in section 7).
- 5.7 The proposed extension along the north east gable of the current property will result in the destruction/modification of a day roost for 4 soprano pipistrelle bats and 1 common pipistrelle bat. Therefore, a European Protected Species license will be required to carry out the proposed works.
- 5.8 The remaining day roosts for soprano and common pipistrelle bats on the south gable and the south west eaves as well as the whiskered day roost/small maternity roost in the house ridge will not be impacted by the proposed works. However if any work is to be carried out on the house roof, the south west eaves and south east gable then it is highly likely that the works will impact these roosts and therefore a European Protected Species License will be required.
- 5.9 There is no evidence to suggest that any active bird nesting sites are present within the building.
- 5.10 To provide biodiversity enhancement, it is recommended that 1 bird nesting/crevice bat roost opportunity is incorporated into the development (see recommendations in section 7).

6.0 CONCLUSION

- 6.1 The property supports a number of day roosts for up to 11 soprano pipistrelle and 2 common pipistrelle bats and a day roost/small maternity roost for at least 8 whiskered bats.
- 6.2 The proposed extension of the property will result in the destruction/modification of a day roost for 4 soprano pipistrelle bats and 1 common pipistrelle bat.
- 6.3 All bats and their roosts, irrespective of the number of bats, species and whether bats are present or not, receive protection from the Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended).
- 6.4 **A European Protected Species licence will be required to undertake the proposed works.** However, the final arbitration is with Natural Resources Wales and the Welsh Government.
- 6.5 As long as an appropriate mitigation strategy is implemented the population of the species currently using the property will be maintained at a local, regional, and national level.
- 6.6 It is recommended that at least 1 feature to enhance biodiversity are incorporated into the development and external lighting should be modified in order to maintain current bat flight paths/roosts (see recommendations in section 7).

7.0 RECOMMENDATIONS

- 7.1 As the number of bats and roosts to be impacted by the proposed works are low and are day roosts, the proposed works can be carried out at any time of year including the breeding season (May-August) as long as appropriate supervision by a licensed bat ecologist is in place.
- 7.2 Bats may be encountered during the development; but only in low numbers and as long as appropriate practices and supervision are adhered to disturbance will be minimal.
- 7.3 There is some potential that the building could be used by a small number of hibernating bats. Therefore, if any work is to be carried out from November to February inclusive, in order to avoid encountering any torpid bats that may be present the works should only occur during periods when temperatures have not dropped below 5 degrees centigrade for 1 day either side of the date that works will be carried out, where practicable.
- 7.4 In order to ensure that the population of the species of bats currently using the property will not be affected by the proposed works, appropriate mitigation and supervision will need to be put in place. The following mitigation recommendations can be included in the development in order to ensure that alternative appropriate roosting will be provided for the species currently using the site.
- 7.5 Mitigation summary
- Sensitive timing of work to keep disturbance of the bats to a minimum
 - Erection of a crevice roost box with/on an adjacent outbuilding or on an adjacent tree before any work is carried out.

- The removal of the fascias on the north east gable if required will need to be carried out by hand under the supervision of a licensed bat ecologist. The construction of the new roof line against the north east gable will need to be carried out slowly and under the supervision of a licensed bat ecologist.
 - Flexible strategies for safely removing bats from harm during the development under different weather conditions.
 - Provide a suitable alternative crevice day roost opportunity in the new development.
 - Ensure the current flight routes and feeding areas are retained as much as possible.
 - As an enhancement install 1 x crevice roost opportunity/1 x bird nesting opportunity within the new building.
- 7.6 Before any work begins on the development of the property a crevice roost box (see Figure 7.1) must be mounted within/on an adjacent outbuilding or on an adjacent tree. This can be used to house any bats that may be found during the development and can be retained following the development to provide crevice roosts opportunities for bats.
- 7.7 Before any work begins on site all contractors will be briefed and given a toolbox talk by a licensed and experienced bat ecologist or accredited agent.

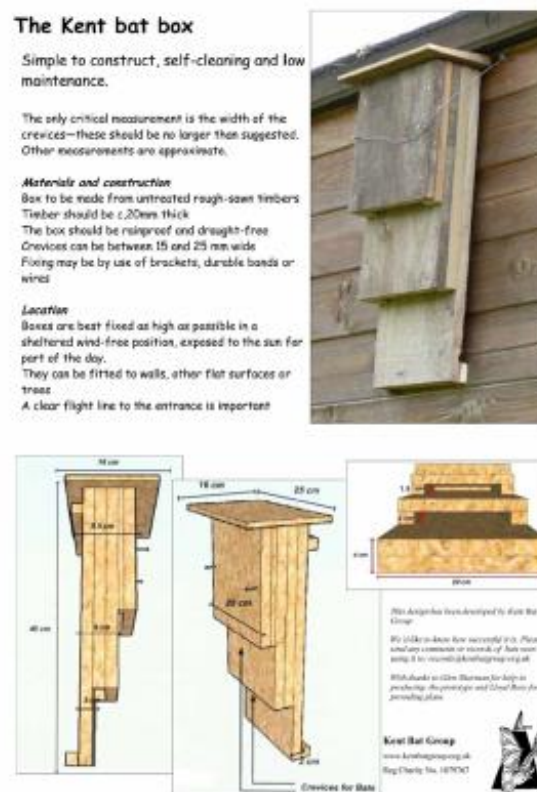


Figure 7.1 Kent bat Box/crevice roost box

- 7.8 The works most likely to disturb bats would be the removal of the fascia on the north east gable of the house if required, the construction of the new extension against the north east gable. The removal of any roof materials, fascias on the gable will be carried out by hand under

the supervision of a licensed bat ecologist and the construction of the new extension roof line against the north east gable will be carried out slowly under the supervision of a licensed bat ecologist. If any bats are encountered they will be allowed to fly off unaided if appropriate, or they will be captured by hand and placed inside the crevice roost box mounted within an adjacent outbuilding or on an adjacent tree, the entrance will be loosely blocked with material. At the end of the day's work to ensure its safety from predators and at the onset of darkness the bat box exit hole will have the entrance unblocked away from the disturbance of the development. The bat can then move off its own accord overnight.

- 7.9 If a torpid bat is discovered, it will be taken temporarily into care by a registered handler and fed until such time when conditions are suitable, and the bat will then be released at dusk on site near to the house, where alternative roosts will still be available.
- 7.10 If a bat is discovered at other, unsupervised times, work will cease immediately, and the licensee or accredited agent will be called for advice. This advice will include leaving the bat to disperse of its own accord or wait for the licensed handler to appear and move the bat. Builders and contractors are explicitly forbidden from handling bats.
- 7.11 If any cavities or crevices during the works require pointing or filling; these will need to be checked with a flexible endoscope. Where the absence of bats cannot be assumed, these cavities will be chalk-marked and fitted with one-way excluders. The excluder consists of lightweight flexible plastic sheeting or netting with one-sixth inch (0.4cm) mesh or smaller to form a one-way valve over openings on exterior walls. The top and sides of the netting should be secured, as shown in Figure 7.2, with the bottom being weighted to stop it flapping in the wind. The netting should extend 18 to 24 inches (46 to 61 centimetres) below the lower edge of the opening with the bottom hanging loose.

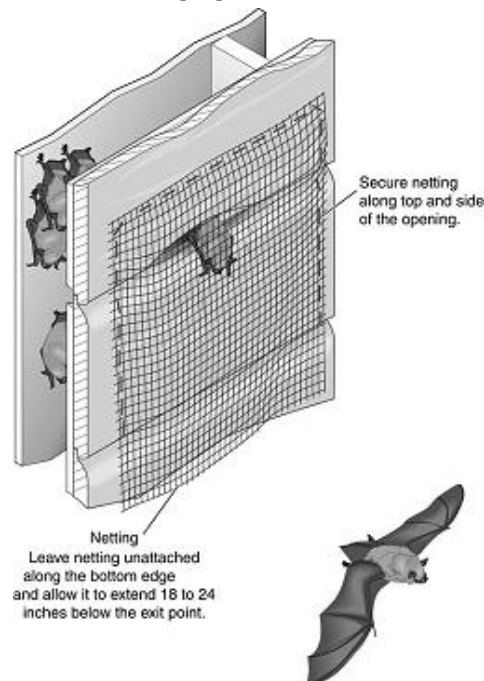


Figure 7.2 One-way excluder

- 7.14 The excluder should remain in place for at least a week in the warmer months of March/April-October. Work must begin immediately after the excluder has been removed and if possible, the cavity will then be checked again immediately prior to being filled. **N.B. One-way excluders cannot be used during the hibernation period i.e. 1st November to the 28th February.** Any cavities or crevices that require pointing or filling during this period where the absence of bats cannot be assumed must be postponed until the warmer months when one-way excluders can be fitted.
- 7.15 The bat species found to be using the eaves of the north east gable of the house as a day roost are crevice dwelling species and will use cracks in walls and timbers for roosting. They can be accommodated by adapted roof slates, soffits and fascia's or incorporating specially constructed bat bricks/slates and/or bat roost boxes into walls and lofts.
- 7.16 A minimum of 1 crevice roost opportunity should be incorporated in the development as an alternative roost site to the day roosts that will be modified/destroyed see appendix 3 for suggested mitigation options. See fig 7.3 for suggested locations.
- 7.18 Care should be taken to ensure that all new access points are not installed above windows or doors or close to any external lighting positions.
- 7.19 Breathable roof membranes cannot be used in areas where bats will have access to as they can become entangled in them and die. Bitumastic felt membrane must be used in all current and new bat access areas. As breathable membrane is to be used in the new extension then bat access into any proposed roof voids, eaves will need to be prevented.
- 7.20 New developments provide opportunities to incorporate new bat roosts into the final structure in order to encourage bats to use the building in the future.
- 7.22 Most bat species, including the species observed within the vicinity of the property are crevice dwellers and prefer crevices and cracks in walls and timbers, and they need very little space for roosting. They can be accommodated by adapted, soffits and fascia's or incorporating specially constructed bat bricks/bat roost boxes into walls. A minimum of 1 crevice roost opportunity should be incorporated into the development as an enhancement (see fig 7.3 and Appendix 3) or alternatively 1 woodcrete bird box suitable for species such house sparrow could be mounted on the north elevation the house.
- 7.23 If any salvaged timber is to be used that will require remedial pesticide treatment only products approved in Natural England's "TIN092: Remedial timber treatment products suitable for use in bat roosts" (2011) must be used. Any new timbers that will be in areas accessible to bats must be pre-treated.
- 7.24 There are currently a number of external lights on the property and around the adjacent stable yard. Lighting can be extremely disturbing to bats. Ideally external lighting should be kept to

a minimum and be positioned no higher than 6 feet [1.8m] above the ground, will have internal downward pointing LED's, to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat roost access points or gables or eaves. Lighting will be less than 3 lux at ground level and there will be no light splay exceeding 1 lux along buildings, eaves or roof or adjacent hedgerows or trees. The lighting will have a warm light spectrum (2700 to 3000 Kelvin). Any lighting shall be Passive Infrared (PIR) triggered and will be on a short timer (a maximum of 20 seconds once the stimulus has passed) and be motion-sensitive only too large objects, like humans and cars, to ensure that external light levels are kept to a minimum.

- 7.25 Lighting must not illuminate any current/planned bat access points and should avoid the main areas of activity i.e. the vegetation and stream to the east, areas to the south and west of the property (see fig 7.4).
- 7.26 The large window on the south east gable of the proposed extension could potentially result in light spill onto the current flight paths to the south of the property. Low transmission glazing treatments such as retrofit window films, factory tinted glass or smart glass could be fitted to this window in order to minimise light spill.

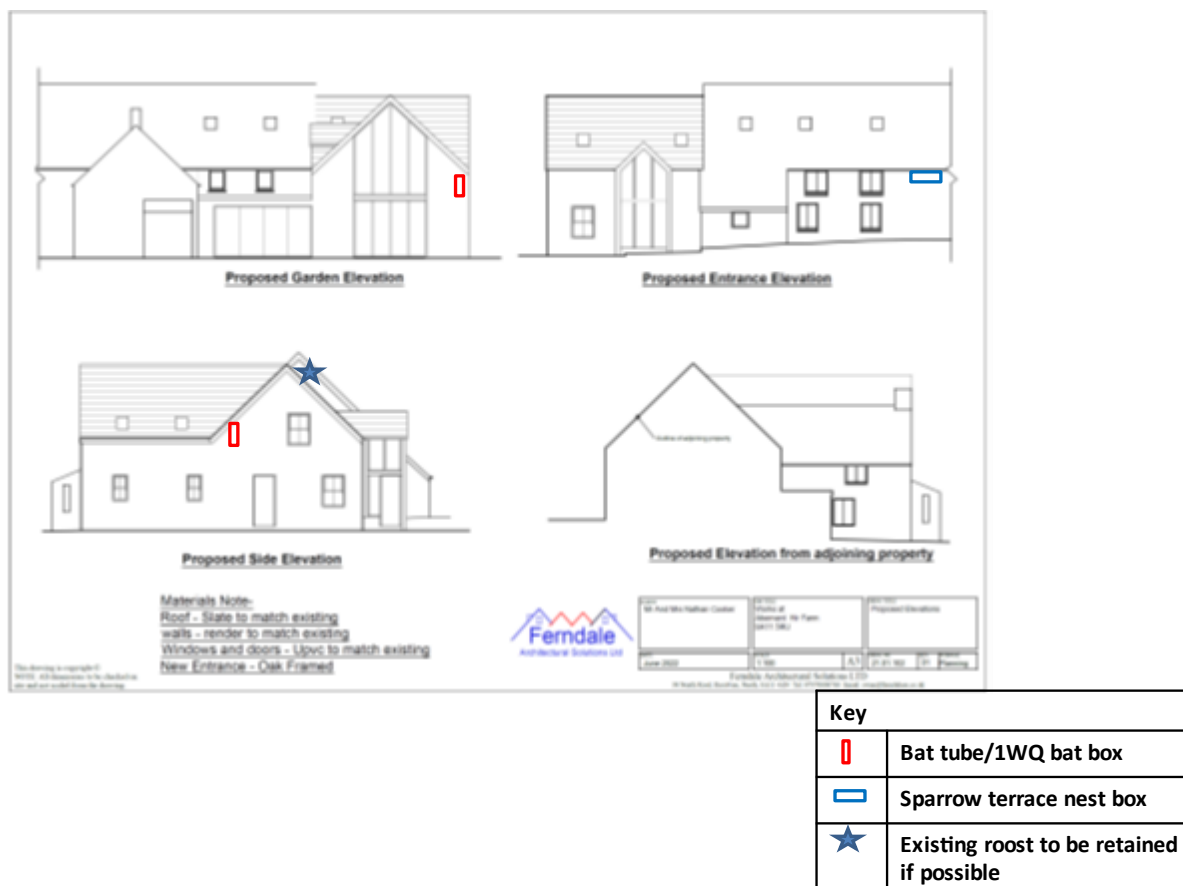


Fig 7.3 Suggested mitigation and ecological enhancement locations



Fig 7.4 Areas where external lighting should be avoided

8.0 REFERENCES

Bat Conservation Trust, 2010. Bats in Buildings. *Bats and the Built Environment Series: Volume 1*.

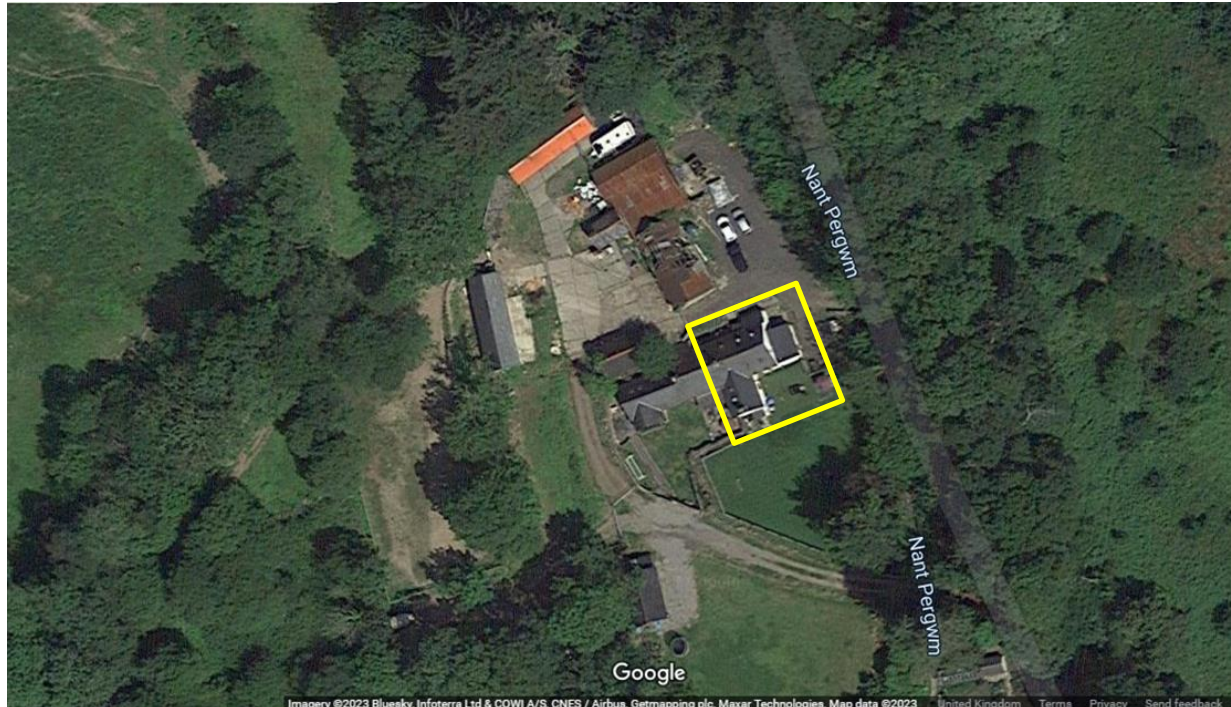
Collins, J (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd Ed. The Bat Conservation Trust. London.

Department for Environment, Food and Rural Affairs (DEFRA) (2018). *MAGIC online interactive mapping service*. Accessed September 2019, at <http://www.magic.gov.uk/>

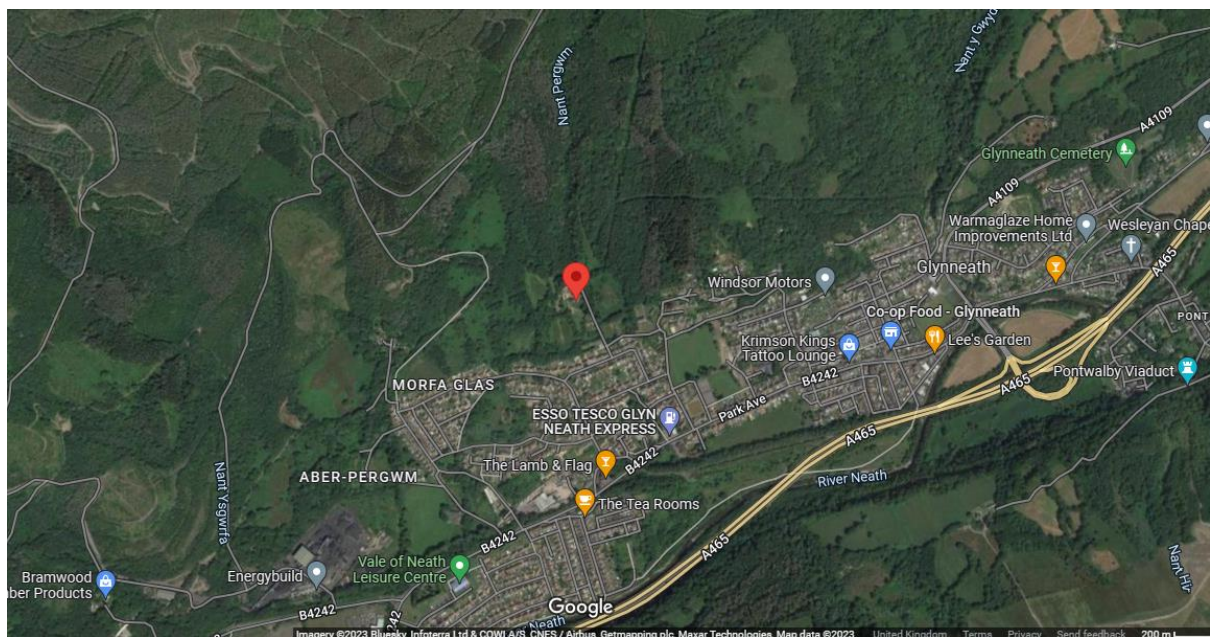
www.googlemaps.co.uk, accessed May 2023.

APPENDICES

APPENDIX 1: Site location

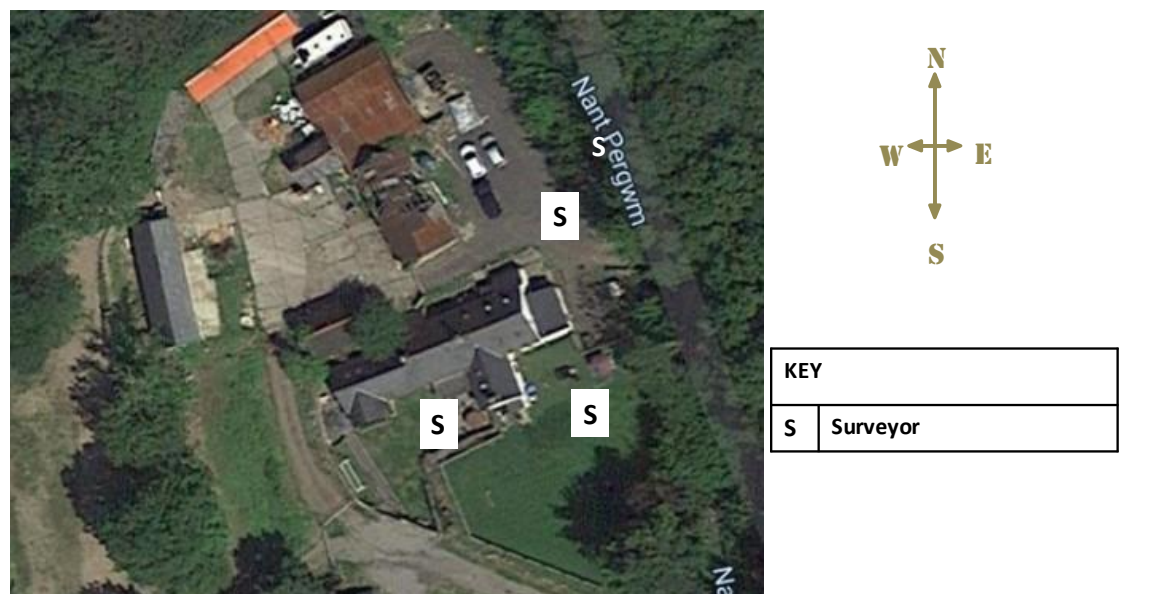


Satellite view of the property (base image: Google Earth, 2023)

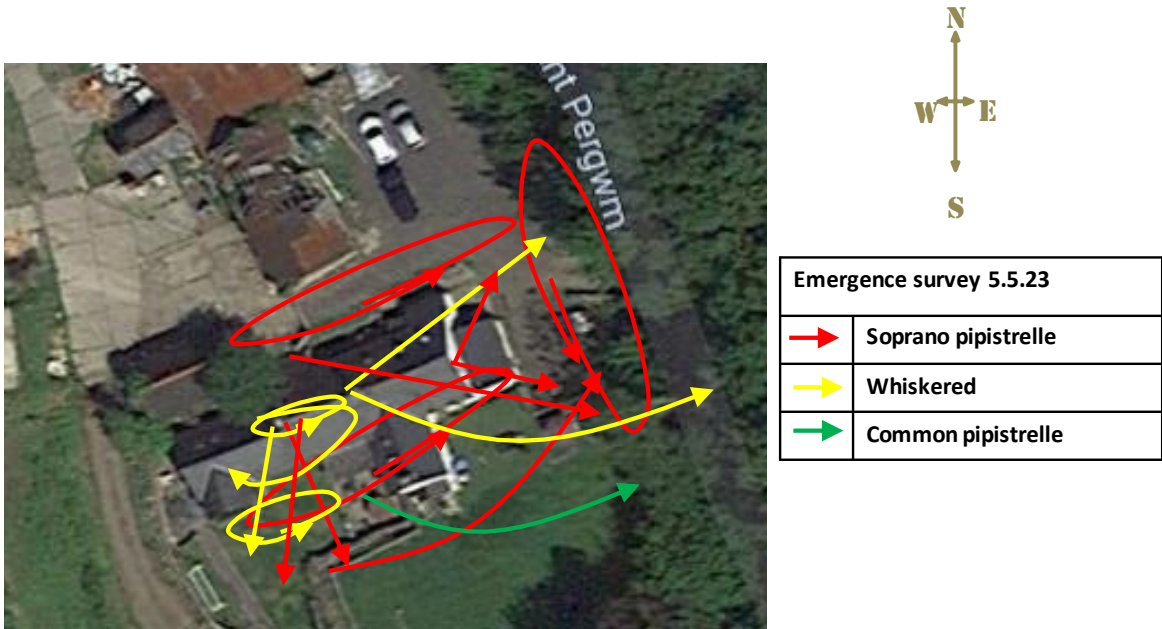


Satellite view of the property, placing it in landscape and habitat context (base image: Google Earth, 2023)

APPENDIX 2: Survey results



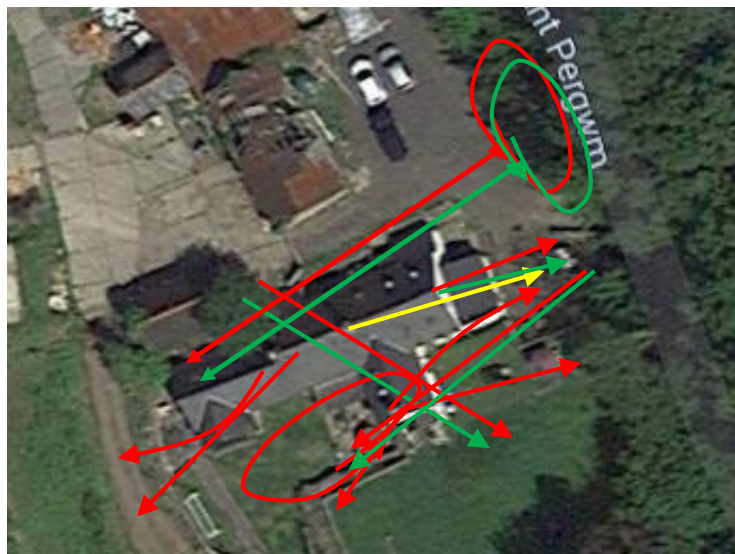
Surveyors positions during the emergence surveys



Bat Activity during the emergence survey 5.5.23



Emergence points during the dusk emergence survey 5.5.23 (Red- soprano pipistrelle, yellow- Whiskered)



Emergence survey 19.5.23	
	Soprano pipistrelle
	Whiskered
	Common pipistrelle

Bat activity during the emergence survey 19.5.2023



Emergence points during the dusk emergence survey 19.5.23 (Red- soprano pipistrelle, yellow- Whiskered. green- common pipistrelle)



Emergence points during the dusk emergence survey 19.5.23 (red- soprano pipistrelle, green- common pipistrelle)



Photograph of the north west and north east elevations of the property at the darkest point of the surveys



Photograph of the south east elevation at the darkest point of the surveys



Photograph of the south west elevation at the darkest point of the surveys

APPENDIX 3: Mitigation



Fig 1 Schwegler 1 WQ bat box



Fig 2 Schwegler 2FR bat tube

APPENDIX 4: Glossary

Transitional roosts

April–September/October. These sites are usually used by small groups of bats prior to taking up residence in, or after dispersal from, the maternity roost before and after hibernation. They are likely to be in or close to good feeding areas.

Maternity roosts

May–August. Predominantly warm sites where female bats congregate to give birth and rear their young and stay there until the young are weaned and independent [late July –August]. The sites are frequently traditional with the same individuals returning year after year. Enclosed roof spaces, wall cavities, soffit boxes, spaces under roofing materials and a variety of tree holes and crevices are all examples. These tend to disperse between August and September. Adult males are rarely found with the females.

Satellite Roost

May–August. Breeding females may have alternative roost sites in close proximity to the main nursery colony.

Mating Roosts

September–November. All bats in the UK are Polygamous i.e. males mate with several females. A roost site that a male bat will occupy and attempt to attract females to for mating and will defend against other males. Sometimes these occur in groups known as ‘leks’ and include cavities in stonework, underground sites, trees, and buildings.

Hibernation roosts

October–March. Sheltered and undisturbed places with relatively high humidity and stable temperatures throughout the winter. For example: underground sites (caves, mines, adits etc.), deep cracks and crevices in built structures (houses, bridges etc.), hollows, cracks, and crevices in trees.

Night roosts

March–November. Places away from the day roosts where bats rest after feeding during the night. These roosts vary in their conservation significance. Night roosts may be used by a single animal or the whole colony. Particular species depend on night roosts in key foraging areas e.g. lesser horseshoe bats.

Day Roosts

March–November. Daytime roosts for bats to rest in. Males of most species spend the summer roosting alone or in small groups. Bats regularly use a number of day roosts switching from one to the other depending on food sources and weather but conversely, they can be resident for weeks.

Feeding Roost

May–November. These roosts can be occupied by a single animal or a few individuals throughout the active season. They vary in significance as they may be used by one or many bats to hang up and feed, shelter from the weather, or to rest temporarily. Feeding roosts are often used by *Plecotus* and *Rhinolophus* species.

Swarming Sites

August-November. Large numbers of bats from several different species swarm around caves and mines. The bats are often Myotis species and appear to be important for mating. Bats travel many kilometres to attend, and a good proportion will also hibernate at these sites.

APPENDIX 5: Additional Information

a) Emergency contact numbers for bat help and advice

Natural Resources Wales (NRW): Tel: 0300 065 3000
Debbie Kearsley-Evans Tel: 01792 410407 or 07901732255

b) Further reading for information about bats

The Bat Conservation Trust website (including the 'Roost' section):
http://www.bats.org.uk/pages/about_bats.html

The Bats of Britain website: <http://www.bio.bris.ac.uk>

Eurobats website: www.eurobats.org

c) Reference material

Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature: Peterborough.
<http://www.english-nature.org.uk/pubs/publications/>

Mitchell-Jones, A. J. (2004). *Focus on Bats*. English Nature: Peterborough.
<http://www.english-nature.org.uk/pubs/publications/>

Russ, J. (2012). *British Bat Calls: a guide to Species Identification*. Pelagic Publishing: Exeter.

APPENDIX 6: Disclaimer

Copyright and Intellectual Property

- The copyright of ecology reports provided remain the property of the ecologist pending payment of the account in full.
- We provide species data sets to the local Biodiversity Information Centre on an annual basis which will include any records from your survey (species and general location.)

Accuracy of information

- Our ecologists are experienced and professional in their approach and work to published Professional Codes of Conduct (British Standard 42020:2013 “Biodiversity. Code of practice for planning and development” and CIEEM Guidelines for Ecological Report writing (2016) where appropriate. Ecologists are however working in the natural world which may be subject to rapid changes not under their control. The information they collect will be as accurate as possible based on the time of the year and the natural conditions they face but we, and they, cannot be held responsible for any changes which occur subsequently.
- The company warrants that the reports supplied will be based on information collected using reasonable care and skill. In some cases, data sets may be large, and, in such circumstances, ecologists will make professional judgements on their analysis and presentation of data.
- Most reports are valid for a maximum period of two years provided no significant changes have been made to the property or land use nearby.
- It is possible that further survey work is recommended which would be the subject of additional fees. In this event the company and the ecologists cannot accept any liability if the client proceeds without acting on this advice.
- Ecological reports provide information on the site as a whole and the company and the ecologists cannot be held responsible for the effects that the findings might have on any planning or developments proposed.

Confidentiality

- The reports provided will be for the client’s sole use and for the purposes declared in the initial contact and confirmed in our quotation.
- No other party may use, copy, or rely on the report or any of its contents or conclusions without written confirmation from the author.
- The company will maintain a copy of the reports, on behalf of the ecologist, in an electronic format. It will not be provided to any other person without the client’s consent.
- The survey data will be submitted to the South East Wales Biological Records Centre automatically unless otherwise requested

Limitation of Liability

- The company and its ecologist contractors shall not be held responsible for any claim arising out of any defect found in the service provided as a result of information provided which is subsequently found to be defective.

Contacts between the company, its ecologists and the client shall be governed by the laws of England and Wales.