



Bat Emergence and Re-entry Surveys

Wern Tower Farm, Pontfadog, Llangollen, LL20 7AT

Samantha Little

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Executive summary

Arbtech were commissioned by Samantha Little to undertake bat emergence and re-entry surveys at Wern Tower Farm, Pontfadog, Llangollen, LL20 7AT. The surveys were completed on 06/08/2019, 21/08/2019 and 04/09/2019. The aim of the assessment was to confirm the presence or likely-absence of a bat roost and to provide a current status on all survey features. This includes providing evidence for species, numbers and levels of activity, to identify any entrance and egress points, and to gain an understanding of the activity of bats using the site in the local landscape.

The development proposals are for renovation of the farmhouse and conversion of a barn building into a residential dwelling. A planning application is being prepared for submission to Wrexham County Borough Council.

Recommendations

During the surveys it was concluded that B1 contains a day roost of up to six soprano pipistrelle bats and B2 contains a day roost of up to seven soprano pipistrelle bats. A European protected species mitigation licence (EPSML) will be required from Natural Resource Wales prior to the commencement of works. The proposed development for B1 is under a permitted development and therefore planning is not required and so this licence can be applied for straight away, however the proposed plans for B2 will need a planning consent and therefore an application must be granted before a licence for this building can be applied for.

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1.0 Introduction and Context

1.1 Background

Arbtech were commissioned by Samantha Little to undertake bat emergence and re-entry surveys at Wern Tower Farm, Pontfadog, Llangollen, LL20 7AT. The surveys were completed on 06/08/2019, 21/08/2019 and 04/09/2019. The assessment is informed by the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

These surveys were completed following recommendations made in the preliminary roost assessment (PRA) survey report (Arbtech Consulting Ltd. July 2019).

1.2 Site Context

The site is located at National Grid Reference SJ 25605 39289 and has an area of approximately 0.2ha. There are two buildings within the site boundary, which were both surveyed as they will be affected by the proposed development.

1.3 Scope of the report

This report provides a description of the bat activity observed and recorded during each survey. The aim of the assessment was to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use the site.

Robust data has been collected, following good practice guidelines, to inform an assessment of the potential impacts of the proposed development on bats, and inform mitigation and enhancements. This report provides information on constraints to the proposals as a result of roosting bats, and summarises any mitigation required to achieve planning permission, and statutory consent to comply with wildlife legislation.

To achieve the aims of the assessment, the following steps have been taken:

- A desk study has been carried out, including a request for information from the local bat group or records centre - please refer to the PRA survey report (Arbtech Consulting Ltd. July 2019).
- Field survey(s) has been undertaken, including an external survey and internal inspection.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on the requirements of a European protected species mitigation licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1 showing the location of each surveyor and the bat activity observed and recorded during each survey, proposed plans in Appendix 2 (where available) and a summary of relevant legislation is presented in Appendix 3.

1.4 Project Description

The development proposals are for renovation of the farmhouse and conversion of a barn building into a residential dwelling. A planning application is being prepared for submission to Wrexham County Borough Council.

2.0 Methodology

2.1 Desk Study methodology

The desk study included a 2km radius review of statutory and non-statutory designated sites, Biodiversity Action Plan (BAP) Priority Habitats and granted EPSML records for bats held on Magic database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

Existing bat records relating to the site and a surrounding 2km radius are required to conform to national guidelines. The data search is confidential information that is not suitable for public release. The client has been advised that biological records data for the local area is necessary to facilitate a complete assessment. To date Arbtech has not been authorised to purchase these records from Cofnod - North Wales Environmental Information Service. The Local Planning Authority (LPA) may request that bat records data are obtained to conform to national guidelines, and these can be incorporated into the report at a later date.

2.2 Site Survey methodology

The survey methods were informed by the recommendations presented in the PRA survey report (Arbtech Consulting Ltd. July 2019). This survey identified the following survey requirements in line with best practice:

Table 1: Recommended surveys

Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
B1 Bats	The building has high habitat value for supporting roosting bats. Crevice dwelling bats could also roost in gaps under roof tiles. There are excellent foraging and commuting resources in close proximity.	As the proposals include the replacement of the roof of this building, any bat roosts present would be destroyed. This could result in death/injury of bats.	Three bat emergence/re-entry surveys are required during the active bat season (May – September) to confirm presence/likely-absence of a bat roost in the building. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. One of these surveys must be a dawn re-entry survey. Two surveyors are required to provide full coverage of the building.
B2 Bats	The building has moderate habitat value for supporting roosting bats. Crevice dwelling bats could also roost in gaps under roof tiles. There are excellent foraging and commuting resources in	As the proposals include the replacement of the roof of this building, any bat roosts present would be destroyed. This could result in death/injury of bats.	Two bat emergence/re-entry surveys are required during the active bat season (May – September) to confirm presence/likely-absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive. Sub-optimal: early May and September. One of these surveys must be a dawn re-entry survey. One surveyor is required to provide full coverage of the building. If bat roosts are confirmed in the building one additional survey will be required to inform a European Protected Species Mitigation Licence application to Natural Resources Wales once planning permission has been granted.

The presence of a bat roost was confirmed in B2 during the dusk emergence on 06/08/2019. One additional survey was completed on 04/09/2019 to characterise the roost to inform the EPSML application, in accordance with the best practice guidelines (2016).

The surveys involved surveyors positioned around the building ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. The location of each surveyor during each survey is shown in Appendix 1. Each surveyor was assigned an area of the building to observe for the duration of the survey. Surveyors used heterodyne and frequency division bat detectors, and Wildlife Acoustics EM3+ and Echo Meter Touch detectors connected to iPads. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species, however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a hand held radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

In accordance with the latest bat survey guidelines (Collins, J. 2016) dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commenced 2 hours before sunrise and continued until 15 minutes after sunrise.

Surveys were completed during optimal weather conditions i.e. when temperatures were above 10°C, with no rain or strong winds, as these adverse weather conditions can impact upon bat emergence and foraging behaviour.

2.3 Surveyors

The lead surveyor is Mel Reid (accredited agent Natural Resource Wales Bat Licence Number: 79422:OTH:CSAC:2018 from 24/04/2019) and was assisted by experienced surveyors with several years of bat survey experience. Three surveyors were used to provide sufficient cover of the buildings during each survey. The designated position of each surveyor during each survey is detailed in the tables in Section 3.6 below and shown on the plan in Appendix 1.

2.4 Limitations

These surveys follow best practice guidance to confirm presence/likely-absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the buildings, and the site as a whole by bats, at all times cannot be established based on this information. There was no clear view of the western elevation of B2 due to encroaching vegetation covering this elevation and some of the roof structure.

3.0 Results and Evaluation

3.1 Survey Results

The results of each survey are provided in the tables below.

Table 2: Survey results

Date		06/08/2019
Start and End Times		20:40 – 22:25 Sunset: 20:56
Weather Conditions		Start: Temp: 17°C Relative Humidity: 77% Cloud Cover: 90% Wind: 16mph Rain: None End: Temp: 13°C Relative Humidity: 88% Cloud Cover: 20% Wind: 16mph Rain: None
Surveyor (position) As shown in Appendix 1		Mel Reid - accredited agent to Natural England Bat Licence Number: 2016-22119-CLS-CLS (position 1 – observing the south and east elevations and roof structure of B1) Emma Gray - 1-year experience of conducting bat emergence surveys (position 2 – observing the north elevation and roof structure of B1, and the south and east elevations and roof structure of B2) Louise Sawrey - accredited agent to Natural England Bat Licence Number: 2016-22119-CLS-CLS (position 3 – observing the west elevation and roof structure of B1, and the north and east elevations and roof structure of B2)
Building Reference	Surveyor Position	Notes/observations:
B1	1	<i>The first bat activity observed during the survey was an emergence of a soprano pipistrelle at 20:01 from the southern gable end of B1 (circled in red below).</i>



A second soprano pipistrelle emergence was observed at 21:10 from the eaves of B1, on the eastern elevation, at the corner of the southern dormer window (circled on red below).



		A commuting pass by a soprano pipistrelle was observed at 21:10 flying in a circle around the southern elevation of B1 and away to the east. Another commuting pass was observed at 21:14 flying south to north along the eastern elevation, with another pass at 21:12 flying the same flight path in reverse. There was feeding observed at 21:23 south of B1, and again at 21:23 and 21:24. A commuting pass was observed at 21:30 flying west to south over the roof of B1. There was a distant pass recorded at 21:37, which was heard on the detector but not seen. A feeding pass was observed at 21:17 flying in circles near the southern gable end of B1 and away to the east. There were distant soprano pipistrelle passes recorded at 22:08 and 22:10. No further soprano pipistrelle activity was recorded during the survey. The first common pipistrelle activity recorded was a distant pass at 21:15, with further passes at 21:38, 21:41, 21:45, 21:46, 21:49, 21:50 and 22:12, all of which were heard on the detector but not seen. A feeding common pipistrelle was observed at 21:18 in the courtyard at the southwest corner of B1, and again at 22:00. A feeding pass was observed at 21:31 flying from the south to the north, over the courtyard to the southwest of B1. A commuting pass was observed at 21:36 flying from the northwest to southeast over B1, with another pass in the reverse direction at 22:07. No further bat activity was recorded during the survey.
B1 & B2	2	The first bat activity recorded was a commuting pass by a soprano pipistrelle bat at 21:08 flying east to west between B1 and B2. Another commuting pass was observed at 21:09 flying south to north and then towards the west between B1 and B2. <i>A soprano pipistrelle emergence was observed at 21:10 emerging from B2, on the eastern elevation from the open doorway (circled in red below).</i>  A commuting pass was observed at 21:15 flying south to north along the eastern site boundary. Feeding activity was observed at 21:16 between B1 and B1. <i>A soprano pipistrelle emerged from a window on the southern elevation of B2 at 21:22 (circled in red below) and flew off to the towards the east.</i>

		 Further feeding activity was observed between B1 and B2 at 21:24. A distant pass was recorded at 21:37, which was heard on the detector but not seen. A further distant pass was recorded at 22:05. A commuting pass was observed at 21:38 flying north to south around the southeast corner of B1. Further commuting passes were observed flying along this same flight path at 21:43, 21:47, 22:02 and 22:14. No further bat activity was recorded during the survey.
B1 & B2	3	<i>The first bat activity were two emergences by soprano pipistrelle bats at 21:02 from the eastern gable of B2, at the apex. There were further emergences from the same point at 21:03, 21:06 and 21:08. All the bats that were seen emerging flew away to the northwest.</i>



There were several soprano pipistrelle passes observed during the survey. Two commuting passes were observed at 21:09 flying east to west past the northeast corner of B2. Another commuting pass was observed at 21:11 flying from the south past the northeast corner of B2 towards west. There was a distant pass recorded at 21:14, which was heard on the detector but not seen. Further distant passes were recorded at 21:18, 21:51 and 22:01. Feeding activity was seen at 21:15 around the eastern and northern elevation of B2, and again at 21:21 and 21:42. There was no further soprano pipistrelle activity recorded during the survey.

There was a distant pass by a myotis recorded at 21:22, which was heard on the detector but not seen. As the bat was not seen this could not be identified to species level. No further bat activity was recorded during the survey.

Table 3: Survey results

Date		21/08/2019
Start and End Times		20:10 – 22:00 Sunrise: 20:27
Weather Conditions		Start: Temp: 15°C Relative Humidity: 75% Cloud Cover: 90% Wind: 12mph Rain: None End: Temp: 15°C Relative Humidity: 76% Cloud Cover: 90% Wind: 13mph Rain: None
Surveyor (position) As shown in Appendix 1		Jonathon Roberts - 1-year experience of conducting bat emergence surveys (position 1 – observing the south and east elevations and roof structure of B1) Emma Gray - 1-year experience of conducting bat emergence surveys (position 2 – observing the north elevation and roof structure of B1, and the south and east elevations and roof structure of B2) Mel Reid - accredited agent to Natural England Bat Licence Number: 2016-22119-CLS-CLS (position 3 – observing the west elevation and roof structure of B1, and the north and east elevations and roof structure of B2)
Building Reference	Surveyor Position	Notes/observations:
B1	1	The first bat activity recorded during the survey was a commuting pass by a soprano pipistrelle at 20:30 flying northwest to southeast past the southwest corner of B1. A further commuting pass was recorded at 20:48 and 20:51 along this same flight path. <i>A soprano pipistrelle emerged from the eaves of B1 at the southeast corner at 20:32 and flew away towards the southeast.</i> A commuting pass by a soprano pipistrelle was observed at 20:44 flying southeast to northwest past the southern elevation of B1. There were several further commuting passes along this same flight path recorded at 20:47 and 20:50. A commuting pass was observed at 20:45 flying from the north, past the eastern elevation of B1, around the southern corner and towards the west. A commuting pass was observed at 20:52 flying south to north over the roof of B1. There was feeding observed at 20:54 in the courtyard of the barn not included in this survey. A distant pass was recorded at 21:09, which was heard on the detector but not seen. A further distant pass was recorded at 21:19, 21:28 and 21:46. No further soprano pipistrelle activity was recorded during the survey. A distant pass by a noctule was recorded at 21:20, which was heard on the detector but not seen. No further bat activity was recorded during the survey.
B1 & B2	2	The first bat activity recorded was foraging activity along the trees on the eastern site boundary by a soprano pipistrelle at 20:35. There was a commuting pass observed at 20:36 flying south to north along the eastern site boundary. A distant pass was recorded at 20:40, which was heard on the detector but not seen. Further feeding activity was observed at 20:42 along the trees along the eastern site boundary. <i>Two soprano pipistrelles were seen emerging from a window on the southern elevation of B2 (circled in red below) at 20:48.</i>

		 A commuting pass was observed at 20:50 flying east to west between B1 and B2. Another commuting pass was observed at 20:53 flying south to north along the eastern elevation of B1. A distant pass was recorded at 21:12, which was heard on the detector but not seen. Further distant passes were recorded at 21:22, 21:24 and 21:34. Further feeding activity was observed at 21:15 between B1 and B2. Feeding was also heard on the detector but not seen at 21:34, 21:36, 21:39 and 21:40. No further bat activity was recorded during the survey.
B1 & B2	3	<i>The first bat activity recorded were two soprano pipistrelles emerging from the eaves of B2 at the southeast corner (circled in red below).</i>  Feeding behavior was observed at 20:39 and 20:41 in the field to the north of the site. <i>A further soprano pipistrelle emergence was observed at 20:42 from the open doorway on the eastern elevation of B2 (circled in red below).</i>



Two feeding passes were observed flying northwest to southeast past the eastern corner of B2 at 20:42. A commuting pass was observed flying over this same flight path at 20:44.

A soprano pipistrelle was observed emerging from a window on the northern elevation of B2 (circled in red below) at 20:49.



		A distant pass was recorded at 20:50, which was heard on the detector but not seen. A commuting pass was observed at 20:53 flying south to northwest past the eastern corner of B2. A further commuting pass was observed flying over this same flight path at 20:53. Feeding activity was observed at 20:53 along the trees to the east of B2. Feeding activity was observed at this location again at 21:40. No further soprano pipistrelle activity was recorded during the survey. The first common pipistrelle activity observed was a commuting pass at 20:56 flying northwest to south past the eastern corner B2. Another commuting pass was observed at 20:57 flying from the south towards to the northwest past the eastern corner of B2. A distant pass was recorded at 21:12, which was heard on the detector but not seen. Further distant passes were recorded at 21:17, 21:33 and 21:39. No further common pipistrelle activity was recorded during the survey. A commuting myotis pass was recorded at 21:13 flying from the west past the eastern elevation of B2 and back towards the west over the roof of B2. This bat could not be identified to species level. No further bat activity was recorded during the survey.
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Table 4: Survey results

Date		04/09/2019
Start and End Times		05:05 – 06:40 Sunset: 06:22
Weather Conditions		Start: Temp: 16°C Relative Humidity: 55% Cloud Cover: 94% Wind: 3mph Rain: None End: Temp: 12°C Relative Humidity: 91% Cloud Cover: 42% Wind: 2mph Rain: None (some light rain between 05:53 and 05:58)
Surveyor (position) As shown in Appendix 1		Mel Reid - accredited agent to Natural England Bat Licence Number: 2016-22119-CLS-CLS (position 1 – observing the south and east elevations and roof structure of B1) Steve Dickson - 1-year experience of conducting bat emergence surveys (position 2 – observing the north elevation and roof structure of B1, and the south and east elevations and roof structure of B2) Louise Sawrey - accredited agent to Natural England Bat Licence Number: 2016-22119-CLS-CLS (position 3 – observing the west elevation and roof structure of B1, and the north and east elevations and roof structure of B2)
Building Reference	Surveyor Position	Notes/observations:
B1	1	The first bat activity recorded was a distant pass by a common pipistrelle at 05:17, which was heard on the detector but not seen. There further distant passes at 05:21, 05:27, 05:28, 05:37, 05:51 and 06:01. A commuting pass was observed at 05:40 from the east, along the eastern elevation of B1 and back towards the east. A further commuting pass was observed at 06:04 flying southeast to northwest over the courtyard to the southwest of B1. Another commuting pass observed flying over the flight pass at 06:14, which then flew into one of the barns to the west which are not included in these surveys. No further common pipistrelle activity was recorded during the survey. A distant pass by a brown long-eared was recorded at 05:20, which was heard on the detector but not seen. Further distant passes were recorded at 05:24 and 05:59. A commuting pass by a brown long-eared was observed at 05:50 flying from the south, past the east elevation of B1 and towards the east. No further brown long-eared activity was recorded during the survey. The first soprano pipistrelle activity recorded was a distant pass at 05:22, which was heard on the detector but not seen. Further distant passes were recorded at 05:25, 05:26, 05:29, 05:33, 05:36, 05:42 and 05:57. Two soprano pipistrelles flying together were observed flying from the east, along the east elevation of B1 and back towards the east. Feeding activity was observed at 05:52 at the southern elevation of B1 and flew away to the southeast. Swarming behaviour was observed at 05:53, with one bat flying in circles around the southern elevation of B1 and flying up to and away from the gable end. <i>A soprano pipistrelle was observed at 06:04 re-entering B1 on eastern side of the south gable end (circled in red below).</i>



Another soprano pipistrelle was seen re-entering B1 at the apex of the southern gable end (circled in red below), after flying up to the southern elevation and away once, at 06:17.



		A commuting pass was observed at 06:20 flying south to north past the east elevation of B1. <i>A soprano pipistrelle was seen re-entering B1 on the eastern elevation, at the eaves by the southern dormer window (circled in red below).</i>  No further bat activity was recorded during the survey.
B1 & B2	2	The first bat activity recorded was a commuting pass by a soprano pipistrelle at 05:16, flying north to south past the east elevation of B1. Another commuting pass was observed at 05:21 flying east to west between B1 and B2. A further commuting pass observed flying over this same flight path was seen at 05:25. Feeding activity was observed between B1 and B2 from 05:36 to 05:58. <i>A soprano pipistrelle was observed re-entering B2 at 06:00, at the eaves at the southeast corner of the building (circled in red below).</i>



Constant soprano pipistrelle activity was recorded between 06 and 06:07, seen flying around the northern gable end of B1. A commuting pass was observed at 06:12 flying east to west between B1 and B2.

A soprano pipistrelle bat was seen re-entering B1 at 06:15 at the apex of the northern gable end (circled in red below).



Two further soprano pipistrelle re-entries were observed at 06:15 and 06:30 at the eaves at the northeast corner of B1 (circled in red below).

		 No further bat activity was recorded during the survey.
B1 & B2	3	The first bat activity recorded was a distant pass by a soprano pipistrelle at 05:15, which was heard on the detector but not seen. Further distant passes were recorded at 05:35, 05:42 and 05:59. A commuting pass was observed at 05:19 flying from the west, past the northeast corner of B2 and towards the east. A further commuting pass was observed flying over this same flight path at 06:00. <i>A soprano pipistrelle was observed re-entering B2 at 06:15 along the ridge line towards the western end of the building (circled in red below).</i>



Another soprano pipistrelle was observed entering B2 at the apex of the eastern gable end (circled in red below).



No further soprano pipistrelle activity was recorded during the survey.

		The first common pipistrelle activity recorded was a distant pass at 05:37, which was heard on the detector but not seen. A further distant pass was recorded at 05:47. Feeding activity was observed at 05:58 and 05:59 between B1 and B2. Constant activity and feeding behavior was observed flying in and out of the windows on the northern and eastern elevations of B2, at 06:01 and 06:02.
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4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European protected species mitigation licence (EPSML) application to Natural Resources Wales.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

The surveys undertaken to date in and around B1 and B2 provide sufficient information to inform a European protected species mitigation licence (EPSML). An EPSML **will be required** to enable the proposed works to be lawfully undertaken, whilst ensuring the favourable conservation status of the species concerned in their natural range; detailed mitigation will be described in the EPSML Method Statement. Appropriate justification for this assessment is provided in Section 3 of this report.

Natural Resources Wales issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law. Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range.

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

1. ***include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;***
2. scientific and educational purposes,
3. ringing or marking
4. conserving wild animals

Development works fall under the first purpose and Natural Resources Wales issues bat mitigation licences for developments.

4.2 Evaluation

The following recommendations are provided taking the desk based assessment and site survey results into account.

Table 5: Evaluation of the buildings on site

Ref	Survey conclusions	Foreseen impacts	Recommendations / Mitigation	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1	B1 contains a day roost of up to six individual soprano pipistrelle bats.	As the proposed development involves the replacement of the existing roof structure the bat roosts in the roof structure will be destroyed. Any bats present during the works could be injured or killed.	A European protected species mitigation licence (EPSML) will be required from Natural Resources Wales prior to the commencement of works. As the proposed plans are under a permitted development this license can be applied for straight away.	The mitigation/compensation detailed for the EPSML will provide sufficient enhancements of the developed site for bats.
B2	B1 contains a day roost of up to seven individual soprano pipistrelle bats.	As the proposed development involves the conversion of the existing building into habitable dwelling the bat roosts in the roof structure will be destroyed or disturbed. Any bats present during the works could be injured or killed.	A European protected species mitigation licence (EPSML) will be required from Natural Resources Wales prior to the commencement of works, once planning has been granted.	The mitigation/compensation detailed for the EPSML will provide sufficient enhancements of the developed site for bats.

5.0 Bibliography

- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2019) accessed on 10/09/2019.
- Magic database (2019) <http://www.magic.gov.uk/MagicMap.aspx> accessed on 10/09/2019.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

None provided

Appendix 3: Legislation and Planning Policy related to bats

LEGAL PROTECTION

All species of bat are fully protected under *The Conservation of Habitats and Species Regulations 2017* through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

- (a) To impair their ability:
 - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

All species of bats are also protected under the *Wildlife and Countryside Act 1981 (as amended 01.04.1996)* through their inclusion on **Schedule 5** (which applies to England and Wales). Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 42 of the Act requires The National Assembly for Wales must, as respects Wales, publish a list of the living organisms and types of habitat which in the Assembly's opinion are of principal importance for the purpose of conserving biodiversity. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Environment (Wales) Act 2016 and the Biodiversity Duty

The Environment (Wales) Act introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience. This new duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006 (referred to as the NERC Act). Part 1 of the Act deals with Sustainable management of natural resources including Biodiversity and Resilience of Ecosystems Duty. The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

PLANNING POLICY WALES (draft 2018)

Paragraph 5.42 of the document refers to Biodiversity and Ecological Networks and states:

The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in The State of Natural Resources Report (SoNaRR) (published by Natural Resources Wales and Area Statements should be taken into account. Development plan strategies, policies and individual development proposals must take into account the need to:

- Promote the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily designated sites are properly protected and managed;
- Safeguard protected species; and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil; and
- Seek enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

5.44 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- a) Diversity between and within ecosystems;
- b) The connections between and within ecosystems;
- c) The scale of ecosystems;
- d) The condition of ecosystems (including their structure and functioning); and

e) The adaptability of ecosystems.

5.45 In fulfilling this duty, planning authorities must have regard to:

- a) The list of habitats of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- b) The State of Natural Resources Report (SoNaRR), published by NRW; and
- c) Any Area Statement that covers all or part of the area in which the authority exercises its functions.

5.46 A proactive approach towards facilitating the delivery of biodiversity and resilience outcomes should be taken by all those participating in the planning process. In particular, planning authorities should demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions. The broad framework for implementing the duty and building resilience through the planning system includes addressing:

- Diversity: to ensure mechanisms are in place to minimise further loss and that circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. This means development should provide a net benefit for biodiversity, and at the very least, with no significant loss of habitats or populations of species, locally or nationally;
- Extent: to ensure mechanisms allow for the maintenance of existing assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new habitat. This means that planning choices should incorporate measures which seek the creation and restoration of green networks and linkages between habitats and maintaining and
- enhancing other green infrastructure features and networks;
- Condition: this is more complex to address, not least because of the interactions of various factors which underpin habitats. At the very least planning approaches should not compromise the condition of ecosystems. By taking an integrated approach to development, for example, which considers both direct and wider impacts and benefits it should be possible to make a positive contribution through the planning system; and
- Connectivity: to take opportunities to develop functional habitat and ecological networks across landscapes, building on existing connectivity and quality and encouraging habitat creation and restoration. The opportunities could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors (including transport and river corridors) and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change.

Good Practice Guide GPG 3 (October 2015) NRW Approach to Bats and Planning

As explained in Planning Policy Wales (Chapter 5 - Conserving and Improving Natural Heritage and the Coast), the presence of a European protected species is a material consideration for a development proposal that would be likely to result in disturbance or harm to the species or its breeding sites or resting places. Planning Policy Wales also explains that planning authorities should seek the advice of Natural Resources Wales for all planning applications likely to result in disturbance or harm to bats and should always consult them before granting permission. Local Planning Authorities address this by screening applications to identify when there is a reasonable likelihood that bats may be present and, therefore, when to require a bat survey and report that will confirm if bats are present and if they likely to be disturbed or harmed by the proposal. The overall requirement on Local Planning Authorities, Natural Resources Wales and developers

is to avoid harm or disturbance to bats and their breeding sites and resting places, unless Natural Resources Wales has given a licence to allow the harm or disturbance. Natural Resources Wales may only give a licence if the requirements for derogation are met, including that disturbance or harm to individual bats (or to their breeding sites and resting places) would not be detrimental to the maintenance of the population.

Effect on development works:

A European Protected Species Mitigation (EPSM) Licence issued by Natural Resources Wales will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 12 species of bat breeding in Wales and Natural Resources Wales issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

5. *include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;*

6. scientific and educational purposes,
7. ringing or marking
8. conserving wild animals

Development works fall under the first purpose and Natural Resources Wales issues bat mitigation licences for developments.