

Bat and bird survey

at Roselyn cottage, Cock Bank Lane
Marchwiel, Wrexham
LL13 OSU

Proposed second story extension

May 2023



Produced by



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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

Report Version	Date	Completed by:	Approved by:
Draft	06/06/23	Joe Hark	Mick Smith

The information we have prepared is true and we confirm that the opinions expressed are our true and professional bona fide opinions.

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INTRODUCTION

- 1.1 The report has been prepared on behalf Mr and Mrs Warburton and provides the results of a Preliminary Bat Roost Assessment of a detached residential property hereafter referred to as the Site, conducted on 3rd May 2023 and one nocturnal bat survey carried out on 25/05/23. A survey for the potential use by breeding birds was also undertaken.
- 1.2 The proposed development site is in a rural setting in Marchwiel, Wrexham. The site consists of a 19th century cottage which has been subject to various extensions, including a single-story section on the north-eastern aspect (the subject of this planning application). A detached garage exists to the north-west of the main property and well maintained gardens are present to the south-east. Beyond the boundary of the property are farm fields with hedgerows in all directions, small woodlands and a small number of other properties along Cock Bank Lane.
- 1.3 Development proposals for the site are to add a second floor to the single story extension on the northern aspect to be used as an additional bedroom with en-suite. This will partially tie into the existing roof but not break through the existing roof membrane into the loft.
- 1.4 The aim of the survey was to provide sufficient ecological information for the local planning authority (LPA) to determine the associated planning application. The objectives of the study were to:
 - Provide baseline information on the current habitats and ecological features both on-site and in the immediate surrounding area;
 - Identify the presence or potential presence of any protected species or habitats and provide an appraisal of any potential effects that the proposed development may have on these;
 - Provide recommendations for pre and post-construction work and / or mitigation measures if required and present opportunities for habitat enhancement.

2.0 SURVEY METHODOLOGY

Desk Top Study

- 2.1 A desktop study was undertaken by Wildbanks Conservation during the ecological assessment. Protected species records within a 1km radius of the site were obtained from COFNOD, North East Wales Local Biological Records centre. The following other online resources were also used for background information of the Site.

- Ordnance Survey maps
- Aerial photographs

Bat Building Assessment

External and Internal Visual Assessment

- 2.2.1 The exterior of all aspects of the building were visually assessed for potential access points and evidence of bat activity on 3rd May 2023. With the aid of binoculars and endoscope, features such as small gaps under barge/soffit/fascia boards, raised or missing roof/ridge tiles or gaps at gable ends, which have the potential for use as access points, were sought. Evidence that bats actively used these potential access points would include staining within the gaps, or bat droppings or urine staining under gaps; a note being made wherever these were present. The presence of cobwebs and / or general detritus within and around potential access points was used as an indicator that bats had not recently used the area to access the building. Following the external assessment, an internal assessment of the building was undertaken, focussing on the loft space of the main house and the roof of the extension to be removed, searching for the same evidence.
- 2.2.2 All buildings were classified as being one of either a confirmed roost or having high, moderate, low or negligible roosting potential for bats. Trees if present with low or negligible potential were classed as not requiring further surveys in relation to bats. Buildings with a rating of low or above would be subject to additional nocturnal surveys in line with current national guidelines.
- 2.2.3 The surveys were undertaken by Mick Smith MCIEEM (NRW bat licence S092489/1) and Joe Hark of Wildbanks Conservation following methodology set out in the Bat Conservation Trust Handbook Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

- 2.2.4 The proposed development is for a second floor (1 bedroom and en-suite) to be added to an existing single storey extension on the northern aspect. The building works will be restricted to the northern aspect. No works are proposed to the main property and as such were not considered further during the survey. Those sections of the building where surveys were focused are shown in Figure 2. The new roof will tie into the existing roof, some slates will be removed to allow valleys to be created. The membrane present within the existing roof will not be removed. The loft space of the existing roof will remain isolated from the extension.

Bat Emergence Survey

- 2.3.1 Following the external and internal visual assessment, one nocturnal survey was carried out (25/05/23). The survey was carried out by two experienced bat surveys led by Mick Smith (NRW bat licence S092489/1) and Chris Gosset (NE bat license 2019-39258-CLS-CLS). Surveyors were positioned strategically so that good coverage of all aspects of the building was achieved. The surveys were undertaken within the optimum time for bat activity and under optimum conditions.
- 2.3.2 The surveyors each used an Anabat Walkabout with the additional aid of a FLIR SCION thermal monocular. Any recordings were analysed using Analook Insight.
- 2.3.3 The surveys were undertaken following methodology set out in the Bat Conservation Trust Handbook Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016). Dusk survey commence 15min prior to sunset and continued for 2hr post sunset.

2.4 *Buildings-Birds-Visual Assessment*

The building was assessed for nesting birds within the same timeframe as the bat visual assessment of the building on 3rd May 2023. All birds, their eggs and their nests are protected by law under the Wildlife and Countryside Act 1981 (as amended) and therefore it is an offence to take, damage or destroy the nest of any wild bird whilst it is in use or being built. All cracks, gaps and potential nesting areas were checked for the presence of nests/nesting material/live birds, and 10 minutes was spend listening for any noise of nestlings whilst inside the building. The exterior of the building was watched for approximately 1 hour to locate any birds entering or exiting the building.

Survey Limitations

- 2.5 No limitations to the Visual Assessment or the dusk nocturnal survey were encountered. May is optimal for carry out nocturnal surveys for bats to establish presence or likely absence.

3.0 RESULTS

Desk Study

3.1 A data request was submitted to COFNOD during the desktop study. Four records of bats were provided within 1km of the development site.

- A common pipistrelle (*Pipistrellus pipistrellus*) 344m to the east of the site (Pre 1982).
- An unknown species of bat 776m to the south-west of the site (2005).
- A Noctule (*Nyctalus noctula*) 950m to the north-east of the site (2021).
- A common pipistrelle 950m to the north-east of the site (2021).

Other notable records include the presence of badgers at 456m and 896m south of the site from 2018 and 2021 respectively, nine records of great crested newts (*Triturus cristatus*) from between 1977 and 1992 and three records of brown hare (*Lepus europaeus*) from between 2005 and 2008.

Wider habitat

3.2 Habitat surrounding the Site is predominantly grazed improved grassland farmland bordered by hedgerows with a significant number of standard trees and wooded streams with small lanes connecting dispersed rural properties. Approximately 3.5km north-west and 3.5km north-east, respectively, lie Wrexham City centre and Wrexham industrial estate. Figure 1 shows the site in relation to the wider environment. The surrounding habitat is considered to be very good for bats.

3.3 *Buildings – Bat Visual Assessment – May 2023*

External assessment

3.3.1 The original building is a 19th century cottage with extensions added in subsequent years which has approximately doubled its footprint. The original section of cottage and extension sit perpendicular to each other. The original cottage is rendered and painted on the exterior walls and has a slate roof in good condition. The extensions comprise two main sections; a two-story building (Building B1) set perpendicular to the original cottage and a single-story extension (Building B2) which sits against the north-eastern aspect of the two-story extension. See Figure 2 for configurations. These two sections of the building are the focus of the survey. No works are to take place to remainder of the property or be effected by the works. All works are limited to the northern aspect and are small in nature and impact and as such the rest of the property (primarily the original cottage to the south) is not considered further within this report.

- 3.3.2 Both extensions are of brick construction and have pitched roofs. Building B1 has slates with a Bitumen F1 underfelt and Building B2 has concrete roof tiles on top of modern truss timbers and modern underfelt.. Limited potential roosting features (PRF's) for bats exist within the walls or roof of either building. A gap under lead flashing by the western chimney, two small sections of missing mortar beneath ridge tiles and a section of missing mortar within the verge on the western aspect of Building B1 are the only PRF's present within Building B1. Building B2 has no PRF's.
- 3.3.3 Overall the buildings are very well sealed providing only limited opportunities for roosting bats.
- 3.3.4 *Internal assessment*
- 3.3.5 The cottage is used residentially and maintained as such, providing no suitable roosting features within the ground or first floor. Three separate roof spaces were identified at the property, within Building B1 and B2 and within the original cottage. Access into the loft of B1 and B2 was provided. No access into the roof space of the original cottage was possible.
- 3.3.6 The loft space of Building B1 had a maximum height of 0.8m and was the full length of the building (approx. 9m). It was constructed of traditional timber framework with Bitumen F1 felt present. 70+ bat droppings indicative of pipistrelle bat species were found within the eastern portion of this loft space, concentrated underneath the ridge beam. The majority of the ridge timber was covered in cobwebs. These droppings were both historic and fresh. No live bats were seen. Within the western corner of the loft the original gable wall of the cottage is still present and this blocks free flight access between the two roof spaces. Possible crawling gaps were present at this wall which could allow limited passage by bats. Mouse (*Mus musculus*) droppings were abundant in the space surrounding the hatch opening.
- 3.3.7 The loft space of Building B2 was above the single-story extension and was not connected to any other loft space. Its construction is truss and timber and created a cluttered space, modern underfelt was present. No bat droppings were found but rodent droppings were present.
- 3.3.8 Habitat in the surrounding vicinity of the Site is excellent for foraging bats. Extensive pasture fields are linked by mature hedgerows containing a large number of mature standard trees, providing suitable commuting and foraging routes throughout the landscape. Patches of remnant woodland are also present in the close landscape and provide foraging for an additional range of bat species.

- 3.3.9 The loft space of Building B1 is being used by bats, droppings were seen within the loft space. Potential roost features with B1 are limited to raised lead flashing, two gaps in the mortar under ridge tiles and a gap in the mortar on the verge on the western aspect. Building B2 has negligible potential for bats, no PRF's were identified and no evidence of bats use seen. See Figure 3 for results of Visual Assessment.

3.4 *Building – Birds*

During the visual assessment, no birds were observed using the building from the external survey, however evidence of birds using the building for roosting was found in the form of droppings in Building B2. No evidence of nests were seen.

Other notable species

Badger

- 3.5 Two records of badger were identified within 1km of The Site (456m and 896m south). No evidence of badgers traversing or using the wider residential property was seen. It is likely that badgers use the open fields, margins and hedgerows surrounding Roselyn Cottage to traverse the landscape and forage and not the residential gardens of the property. Further, the works are limited to an upwards extension to create a second story and will not change the footprint of the building and will therefore offer no risk of harm or disturbance to badgers. As such badgers are not considered further within this report.

Great crested newts

- 3.6 Nine records of great crested newt were identified within 1km of The Site. These records are from between 107m and 880m from The Site. The site itself provides negligible suitable habitat for great crested newts and will have no impact upon suitable GCN habitat. As such GCN are not considered further within this report.

Bat Emergence Surveys

- 3.7.1 One bat emergence survey was undertaken on 25/05/23. Bat activity surveys were carried out to inform conclusions as to how bats are using the building.

3.7.2 The following table provides details of the surveys undertaken.

Date	Survey type	Time starte	Time finished	Sunrise/Sunset time	Temperature	Weather conditions
25/5/23	Dusk	21:02	23:17	21:17	13C	Warm and still, no rain

3.7.3 *Dusk survey 25th May 2023*

The Survey was undertaken by Mick Smith and Chris Gosset of Wildbanks Conservation, each surveyor was positioned to be able to view all aspects of the property where works will take place or be effected by the works and be able to take in to account the main section of the house also. A Flir Scion thermal imaging camera was also used to aid identification of any roosts.

3.7.4 No bats were seen emerging from the building during the survey. Bat activity was very low throughout the survey with only a small number of passes. Infrequent passes of common pipistrelle bats (*Pipistrellus pipistrellus*) were recorded commuting along the field boundary and within the garden to the east of the property. The first bats (n=2) recorded were at 21:35 (17min after sunset) and these were distant and seen commuting down the lane to the south of the property in west to east direction. The next bats seen were between 22:04 (47 minutes after sunset) and 22:19 and were common pipistrelles foraging within the garden and commuting along the field boundary. See Figure 3 for further details.

4.0 DISCUSSION, RECOMMENDATIONS AND SUMMARY

4.1 Proposed works are small and consist of adding a second floor (1 bedroom and en-suit) to a single storey section of the property (Building B2). Building B2 was categorized as having negligible potential for bats. The ridge line of the new roof of B2 will be built up to the same height as the ridge line of Building B1. The slates of Building B1 on the northern aspect will be removed to allow the new roof to tie into it. The underfelt of B1 will not be removed and will maintain the roof space of Building B1 separate and protected from the building works. Bat droppings were found within the loft of Building B1.

Bats

- 4.2.1 This property has been subject to a bat Preliminary Roost Assessment on 03/05/23 by Mick Smith MCIEEM (NRW bat licence number: S092489/1) and Joe Hark (ACIEEM) of Wildbanks Conservation. As well as one nocturnal survey (25/5/23). Evidence of bats using sections of the building was seen during the Visual Assessment through the presence of bat droppings within the roof space of Building B1. No live bats were seen. Roosting opportunities for bats are very limited within the building and are limited to 1 section of lifted lead flashing, 2 gaps under ridge tiles and a gap within the verge on the western gable of Building B1. No other roosting opportunities were seen.
- 4.2.2 The nocturnal survey carried out was completed in optimal conditions by experience bat surveyors with the aid of Anabat Walkabout detectors and a thermal imaging camera. No bats were seen emerging from the property. Furthermore, activity levels were very low during the survey limited to infrequent common pipistrelle passes, primarily along Cock Bank Lane and the gardens to the south and east of the property.
- 4.2.3 Although roosting features and access points within the building are limited, bat droppings were found within the loft space of Building B1 indicating that the building has been used by bats previously, however no bats emerged from the property during the nocturnal survey carried out 25/05/23. No works within the loft space of B1 will take place, some slates will be removed to allow the new roof to tie into the roof of B1 (See plate A1.6). No PRF's within this section of the roof are present. The stripping of slates and tying in of the new roof would not effect any PRF's identified. During the works bat usage of the roof space of Building B1 will not be impeded or materially effected. Some minimal changes to internal temperatures maybe encountered during the period of the slate removal and replacement but this will be kept to a minimum (estimated as 3 days) due to the need to maintain the property as watertight.
- 4.2.4 It is acknowledged that 1 nocturnal survey is not sufficient to establish the status of a roost or state the likely absence of a roost. However, due to the small scale of works proposed, the low bat activity level during the one nocturnal survey, that no bats emerged from the area of the works and that there will be minimal effect on the loft space where droppings were found it is considered that this is sufficient survey effort to inform this report and the works can proceed following the below recommendations which will follow a precautionary approach.

Recommendation

- 4.3.1 Prepare a Reasonable Avoidance Measures Method Statement to facilitate the development to be agreed by Wrexham Council prior to works commencing on Site. A summary of what the RAMS would include is below.

- Prior to the commencement of works a toolbox talk will be provided to on site personal by a NRW licensed ecologist or Accredited Agent. The talk will include information regarding the protection of species, habitats, legal implications, their responsibilities and what to do if protected species are encountered.
- An ecologist holding an NRW bat license or their Accredited Agent will be present during the slate removal.
- Works will be carried out under “soft works” technique to include removal of roost features by hand, carefully lifting slates and not sliding them. A licensed ecologist will provide a watching brief during the initial works and during works to areas where PRF’s are present and will be available throughout construction on an ‘on call’ basis.
- When planning external lighting, consideration is to be given to the commuting and dispersal routes used by bats. External lighting is to be directed away from the potential roosting features and commuting routes.
- If bats or birds, or any other animal are found during works, works must stop immediately, and the site ecologist will be contacted, and advice sought. Wildbanks Conservation 01978 710786

4.3.1 No blocking of potential roost features will take place during the works. All PRF’s identified during the Visual Assessment will be unaffected during the works and remain present post works.

Ecological Enhancements

4.4.1 In accordance with the National Planning Policy Framework (NPPF, Para 170(d) and Para 175(d)), to increase biodiversity at the proposed development site, it is recommended a mitigation/compensation scheme should be devised.

4.4.2 One month prior to the development commencing two bat boxes – Vincent pro bat box or similar will be installed on a larch tree within the clients ownership to provide alternative roosting features during the construction phase. See Figure 4

4.4.3 A wall mounted bat box will also be installed on the southern gable end of the original cottage over looking Cock Back Lane. This will provide additional features within the location where bats were seen commuting during the nocturnal surveys.

Breeding birds

4.5.1 Evidence of roosting birds was found in the form of droppings within the roof of Building B2. No evidence of birds nesting was seen during the surveys.

Recommendations

- 4.5.2 The disturbance and/or destruction of bird nests is prohibited under the Wildlife and Countryside Act 1981 as amended. If the development (including works to structures and vegetation/hedgerow removal) is to commence during the nesting bird season (March-August inclusive), there is potential for nesting birds to be disturbed and nests to be destroyed during the process. To avoid impacts on nesting birds, a nesting bird survey will be undertaken by a qualified ecologist prior to any works taking place within the above-mentioned breeding season. If nests are identified, the nests must remain intact and undisturbed until young have fledged.

5.0 LEGISLATION

- 5.1 All bat species are protected in the UK under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The species is also protected under 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). This has been transposed into UK law by the Conservation of Habitats and Species Regulations 2010 (as amended) in England and Wales. Bats are referred to as European Protected Species (EPS).
- 5.2 It is an offence to deliberately capture, injure or kill a bat; intentionally or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, or breed. It is also an offence to damage or destroy a bat roost and to possess, advertise, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
- 5.3 If work is proposed that would affect an EPS then a licence will be required. Natural England (NE), in exercise of the powers conferred under regulation 53(1) and 56(3) (a) of the Conservation of Habitats and Species Regulations 2010, may issue licences for the following purposes:
- 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;
 - Preventing the spread of disease;
 - Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries; to allow people to carry out activities which would otherwise be illegal.
- 5.4 Before issuing a licence under the Habitats Regulations, the licensing authority must be satisfied that “there is no satisfactory alternative” to the work as proposed and, that the proposed actions “will not be detrimental to the maintenance of the population of the species at a favourable conservation status (FCS)”.
- 5.5 To ensure these requirements are met, the licensing authority must have enough information to complete an assessment of the application. This includes sufficient survey data so that the roost and how it is used by bats is understood and impacts upon the roost are appropriately assessed so that mitigation and/or compensation can be designed into the proposed

development that will ensure the bat population can be incorporated and maintained in the long term.

5.6 Seven bat species are UK BAP Priority Species. These are as follows:

- Barbastelle *Barbastella barbastellus*
- Bechstein's *Myotis bechsteinii*
- Brown long-eared *Plecotus auritus*
- Greater horseshoe *Rhino ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*
- Common noctule *Nyctalus noctula*
- Soprano pipistrelle *Pipistrellus pygmaeus*.

5.7 Under the NERC Act, local authorities (and other public bodies) have a duty to conserve biodiversity the local authority must take the protection of the priority habitat into consideration when it is making a planning decision.

6.0 REFERENCES

- CIEEM (2013). *Guidelines for Preliminary Ecological Appraisal*. Winchester. CIEEM.
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- Department for Communities and Local Government (2012). *National Planning Policy Framework*.
- Mitchell-Jones, A.J. 2004. *Bat Mitigation Guidelines*. English Nature, Peterborough
- Natural England (2010). *European Protected Species and the Planning Process*.
- Altringham, J (2003). *British Bats*. Harper Collins, London

A1 APPENDIX – SITE PHOTOGRAPHS

A1.1 Plate 1: View of western aspect of the Roselyn cottage. Building B1 and its roof space shown



A1.2 Plate 2: View of the northern aspect showing single storey extension (B2) and two storey brick extension (B1)



A1.3 Plate 3: View of the eastern aspect showing Building B1 and B2



A1.4 Plate 4: Showing eastern aspect of the original cottage, roof in good condition.



A1.5 Plate 5: Building B1 potential roost features shown



A1.6 Plate 6: Building B1 potential roost features shown and area of slates to be removed (red)



A1.7 Plate 7: internal roof structure of B1



A1.8 Plate 8: Bat droppings found within B1



A.1.9 Plate 9: Internal roof structure of B2



Figures

Figure 1: Site location plan.



Figure 2: Roselyn Cottage. Yellow box showing single storey extension (Building B2) to have second floor added to it. Building B1 shown in red.



Figure 3: Survey results plan



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|--|---|
|  Potential Roost Features |  Location of scattered droppings |
|  Location of surveyors |  Bat flight paths |

Figure 4: Enhancement Measures Plan



★ Location of bat boxes