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Ecology**

Preliminary Bat and Protected Species Survey for the Garage, Church Place, Llanidloes, Powys

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Summary

1. A preliminary bat and protected species survey was carried out on 17 May 2022 at the Garage, Church Place, Llanidloes, Powys. The proposed work is to demolish the disused building which is in poor condition and is on the verge of falling down.
2. The property on site was subject to a daytime preliminary ecological appraisal to assess its suitability to support summer roosting and/or hibernating bats. The building was inspected for signs of bats and other protected species, in particular nesting birds. Any bio-security issues such as the presence of any non-native invasive plant species were also recorded.
3. The inspection of building revealed a brick construction with a pitched corrugated roof. It is covered extensively by ivy which has also penetrated the interior of the structure. There are various gaps and holes in the roof, between the roof and the walls, the windows and the garage door which give access to the building.
4. Although no physical signs of bats were found, the daytime preliminary ecological appraisal concluded that the building had medium potential as bat roosts due to the thick ivy growth and cracks and holes at various points which could offer access to roosting bats. As a result, two activity surveys at dusk and dawn were carried out and although bats were recorded in the area, none were seen entering or exiting the buildings. No further surveys are required, and no specific mitigation measures are required.
5. If a new build is considered, enhancement is recommended with the positioning of a bat box to offer further roosting potential in keeping the Environment (Wales) Act 2016, requiring that public authorities seek to maintain and enhance biodiversity. This will be achieved by the installation of a bat box for crevice-dwelling species, such as pipistrelles, potentially leading to an increase in the number of bats present.
6. If however, bats, or any evidence of bats is found during the course of the demolition, work must stop, and a licensed ecologist must be consulted. There may then be a requirement for a European Protected Species Licence to complete the works. It is considered highly unlikely that this will occur.
7. There was no evidence of the presence of any other protected species and no bio-security issues.
8. This preliminary bat and protected species survey is considered to have a life span of two years. If planning permission is not obtained and the work has not started within two years, the protected species survey will need up dating.

1 Introduction

1.1 Overview

- 1.1.1 This report presents an assessment of the activity of bats at the Garage, Church Place, Llanidloes, Powys, SY18 6AN. (Grid Reference SN 95325 84660). This assessment was carried in accordance with instructions from the owner, Keran Simmonds, in support of a planning application for the removal of the disused garage, which is in a very poor condition, unsafe and is expected to fall down in the near future. (see **Figure 1** for site location).

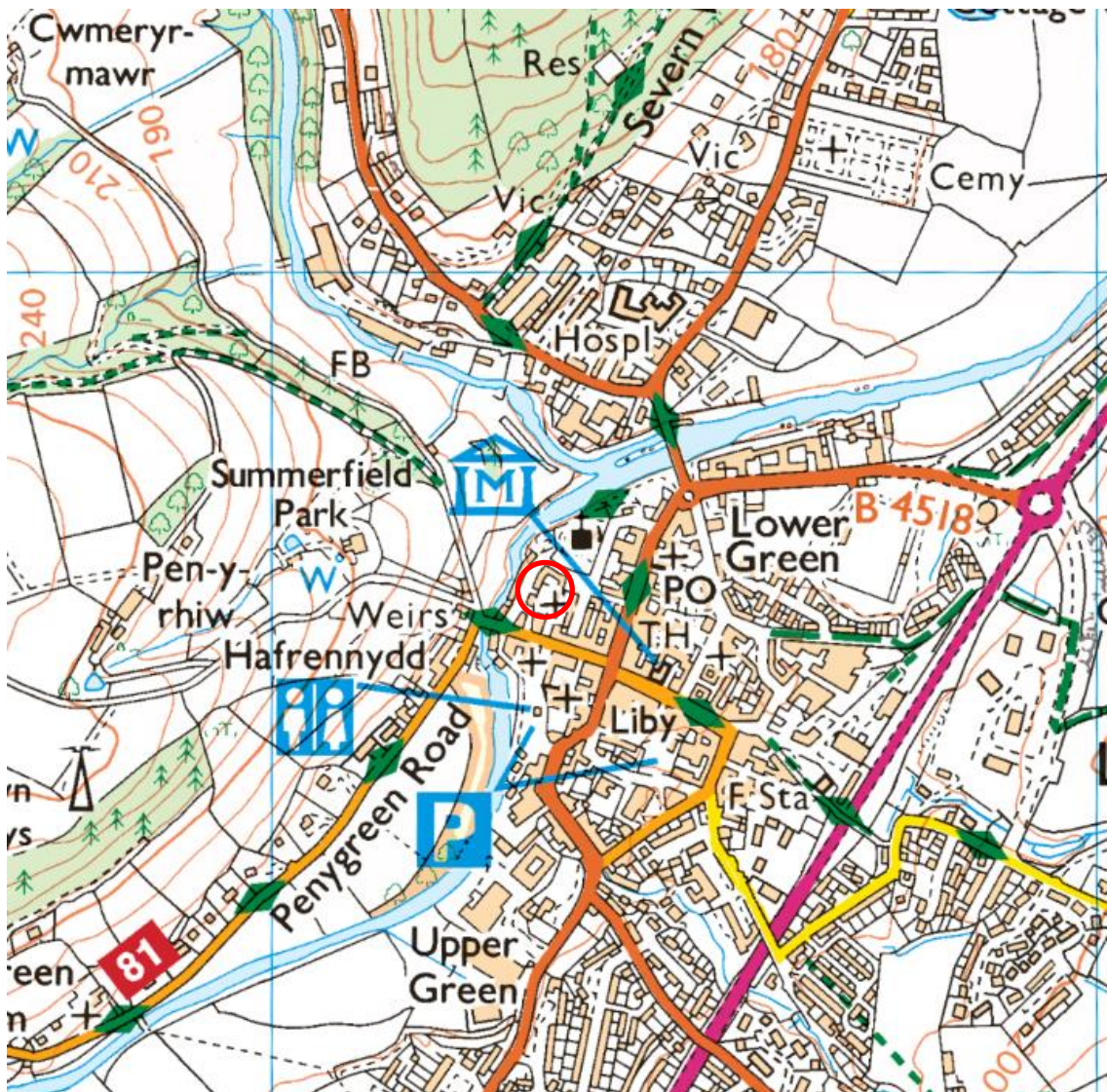


Figure 1. Location map 1:25000 for the Garage, Church Place, Llanidloes (circled red).
(OS data and Crown copyright and database rights 2021)

1.2 Aims of study

1.2.1 The aims of the preliminary survey were:

- To establish the presence or likely absence of bats (Order Chiroptera) and;
- Assess the potential of the property to support bats or any other protected species.
- Make recommendations for mitigation/compensation or any further survey work required in order to comply with current legislation.
- Identify any bio-security issues that may arise as a result of the proposed work.

1.3 Authors qualifications

1.3.1 My formal qualifications include an MSc in Endangered Species Recovery and Conservation and a Certificate in Ecological Consultancy as well as courses on survey techniques, difficult sonogram analysis, ecological impact assessment and mitigation amongst others. I am a full member of CIEEM (Chartered Institute of Ecology and Environmental Management).

1.3.2 I am an experienced surveyor and ecological consultant licensed to survey bats in Wales (Licence no. S088757/1) and hold a Level 2 Bat Survey Licence in England (2017-29467-CLS-CLS). I have been a self-employed ecological consultant since 2016, having worked with a wide range of habitats and species and have advised on a number of working methods in respect to building works concerning protected species, including acting as the named ecologist on European Protected Species Licences (EPSLs).

2 Legislation and policy guidance

2.1 Legislation overview

- 2.1.1 The Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora, also known as the Habitats Directive, affords all bat species protection under Annex IV. In addition to this, four bat species (greater horseshoe, lesser horseshoe, Bechstein's and barbastelle) are also listed under Annex II which may afford the noted species the designation of Special Areas of Conservation (SAC) ("Natura 2000" Sites").
- 2.1.2 All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2017.
- 2.1.3 In brief, this legislation makes it is an offence to:
- Deliberately capture, injure or kill any wild animal;
 - Deliberately disturb wild animals;
 - Damage or destroy a breeding site or resting place of such an animal.
- 2.1.4 Disturbance is defined as that which is likely:
1. to impair their ability –
 - to survive, to breed or reproduce, or to rear or nurture their young, or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate;or
 2. to affect significantly the local distribution or abundance of the species to which they belong.
- 2.1.5 Where bats are affected by development then a licence to derogate from the Conservation of Habitats and Species Regulations 2017 would be required. European Protected Species (EPS) licence applications are processed and issued by Natural Resources Wales and can only be applied for, once planning permission is granted, if planning permission is required.
- 2.1.6 Natural Resources Wales (NRW) has the powers to grant an EPS licence for the following purposes;
- Regulation 55(2)(e) - 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; or
 - Regulation 55(2) (f) - preventing the spread of disease; or
 - Regulation 55(2) (g) - preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries.
- 2.1.7 In addition, NRW can only issue a licence if it is satisfied that the activity meets one of the above purposes and is also satisfied of the following;
- Regulation 55(9) (a) - that there is no satisfactory alternative; and
 - Regulation 55(9) (b) - that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 2.1.8 When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a Local Authority is a 'competent authority' within the meaning of

Regulation 7 of the Conservation of Habitats & Species Regulations 2017. The Local Authority must therefore exercise their functions under the provisions made within the 2017 Regulations and planning decisions should only be made when European Protected Species and their habitats are fully taken into account.

- 2.1.9 The Environment (Wales) Act 2016, sets out the requirement for the 'sustainable management of natural resources' together with new ways of working to achieve this. Part 1 of the Environment Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.
- 2.1.10 Section 6 under Part 1 of the Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (the S6 duty) for public authorities in the exercise of functions in relation to Wales. The S6 duty requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems.
- 2.1.11 Section 7 of the Environment (Wales) Act 2016 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity. This section replaces the duty in Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.
- 2.1.12 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps. Part 1 of the Act, including Sections 6 and 7, came in to force on May 21, 2016.
- 2.1.13 Planning Policy Wales (PPW) Edition 10 (December 2018) sets out the land use planning policies of the Welsh Government and is supplemented by a number of Technical Advice Notes (TANs) which combined sets out the national planning policy for Wales. In particular, TAN 5: Nature Conservation and Planning (2009) details how the land use planning systems should contribute to protecting and enhancing biodiversity and geological conservation. All local planning authorities have a statutory duty to make arrangements to secure continuous improvement in the exercise of their functions and should aim to enhance the sustainable quality of life and environment for local citizens and communities.
- 2.1.14 Local planning authorities (LPA) must address biodiversity issues, insofar as they relate to land use planning, in both development plans and development management decisions. LPA's need to take into account climate change, the adaptation needs of biodiversity including minimising or reversing habitat fragmentation and improving habitat Connectivity through wildlife corridors. LPA should also ensure that development minimises impact within areas identified as important for the ability of species to adapt and/or to move to more suitable habitats.

3 Methodology

3.1 Desk study

3.1.1 A desk-study search was conducted for bats to 2km, and roof nesting birds to 150m SSSI's and SAC's designated for Bat features to 10km from the site and includes all records of these species and all designated sites. This was considered sufficient for the small project involved.

3.1.2 The following sources were consulted:

- Pre-survey data providing historical records of any protected bat and bird species found within a 2km radius and a 150m radius respectively of the application area were obtained from BIS- Biodiversity Information Service for Powys & Brecon Beacons National Park (<https://www.bis.org.uk/>)
- The National Biodiversity Network (NBN) Gateway (<https://data.nbn.org.uk/>) Records of protected and priority species were searched for using NBN gateway (www.searchnbn.net), a website hosting species records donated by ecological records centres and wildlife organisations from throughout the UK.
- Features of ecological interest surrounding the Project Site, and features connecting these habitats (e.g. hedgerows, watercourses, railway lines) using aerial photographs -Google Earth (<https://earth.google.com>) and Ordnance Survey (OS) maps (<https://explore.osmaps.com/en>).
- The Environment (Wales) Act 2016 Section 7 list of species of Principal Importance for Conservation of Biological Diversity in Wales
- Powys Local Biodiversity Action Plan
<https://en.powys.gov.uk/article/2553/Local-Biodiversity-Action-Plan>

3.2 Field surveys

3.2.1 All landscape-scale habitat features in the immediate vicinity that may be used by bats were identified, including any habitats suitable for foraging, commuting or roosting.

3.2.2 The building inspection and dusk/dawn activity survey methodologies followed the guidelines published in Mitchell-Jones & McLeish (2004) and Bat Conservation Trust (2012) and under suitable weather conditions. The materials used in building construction can influence which, if any, species are present, and specific design details can provide opportunities for a range of UK bat species, so these features were noted as part of the survey.

3.2.3 This survey involved an external and internal examination of the whole building to check for bats and the field signs that they produce, and an assessment of the habitats in the immediate vicinity to assess their suitability for commuting and foraging bats.

- 3.2.4 Field signs can include: live bats present, bat corpses, droppings, feeding remains, oil and/or urine staining, or a distinctive smell, all of which, by virtue of their location or other characteristics, can be species-specific. The presence of suitable holes and crevices was also noted, although, by themselves, these are not evidence of occupation.
- 3.2.5 Various items of specialist equipment were used to aid the building inspection, including: ladders, powerful torches (1 million candlepower), an endoscope and mirrors for looking into crevices and inaccessible nooks and crannies, close-focussing binoculars, a measuring tape, a compass and a camera.
- 3.2.6 Two surveys were carried out during the active season to ascertain the species and number of bats present on the site and the specific features used by them. A suitable number of surveyors were used to provide effective coverage of each building, with most attention being directed towards the areas deemed most likely to harbour bats, as highlighted by the building inspection.
- 3.2.7 Specialist equipment used during these surveys includes: 2 EchoMeter Touch Pros, Solomark night vision goggles and binoculars.
- 3.2.8 All of the bat detectors are capable of recording sonograms, and these were analysed using specialist computer software (Kaleidoscope) to identify individuals to species level where possible. Each of the bat species found in the UK can have significantly different requirements, so this determination may be important when considering appropriate mitigation measures.
- 3.2.9 The frequency of calls do not necessarily indicate a steady stream of bats, as all of the calls may be emanating from one bat repeatedly passing within range.

4 Results

4.0.1 Representative photographs of the site and salient features are included in **Appendix 1**; **Appendix 2** contains the results of the data search by BIS- Biodiversity Information Service for Powys & Brecon Beacons National Park. **Appendix 3** tabulates the raw survey data; and **Appendix 4** presents some representative sonograms of bat calls recorded during the activity surveys.

4.1 Desk study

Designated sites

4.1.1 There are no statutorily protected sites within 10 km of the site that have been notified because of bats.

Historical records

4.1.2 There are no previous records from the site. There are 26 historical records of bats within the search area. These can be broken down as follows:

Species/Group	Number of Records	Date of Latest Record
<i>Chiroptera</i> bat species	5	2009
<i>Pipistrellus</i> Pipistrelle species	1	2005
<i>Myotis daubentonii</i> Daubenton's Bat	1	2012
<i>Nyctalus noctula</i> Noctule	1	2016
<i>Pipistrellus pipistrellus</i> Common Pipistrelle	11	2020
<i>Pipistrellus pygmaeus</i> Soprano Pipistrelle	1	2016
<i>Plecotus auritus</i> Brown Long-eared Bat	6	2011

Table 1. Summary of bat species found within a 10km search radius

4.2 Field surveys

Habitat description

4.2.1 The Garage is situated in the town of Llanidloes and is surrounded by a range of buildings, gardens, and by broadleaved woodland and pastoral farmland, improved

and semi-improved grassland. Although the building is registered to 1 Church Place, access for vehicles is on Penygraig Street. The Afon Hafren runs from north northeast to south southwest 25m west of the building and Afon Clywedog runs south to join the Afon Hafren 156m northwest of the site. (**Figure 2**)

- 4.2.2 The grasslands and agricultural land have an intact network of hedgerows and trees as well as the river corridor, which serves to connect all of the various habitats. This mixture and pattern of habitats presents high potential for roosting, commuting and foraging bats. As a result, connectivity to the surrounding area is good due to the riverine habitat and the number of trees and hedges present even though there is some light pollution caused by the urban setting.



Figure 2. Aerial photograph showing the habitats around the Garage, Church Place (indicated by the red circle). (OS data and Crown copyright and database rights 2021)

Building inspection

- 4.2.3 The initial building survey was carried out on 17th May 2022 by licensed bat worker Wayne Anthony Hodges (licence no. S088757/1). All roof spaces, crevices and other likely roosting areas were methodically searched for signs of bat occupation such as droppings, feeding remains, oil and/or urine staining, or a distinctive smell, all of which, by virtue of their location or other characteristics, can be species-specific as well as live bats present or bat corpses. This included both the interior and exterior of the building. Any potential roosting crevices that could not be effectively surveyed with the use of a torch were subjected to an internal investigation with an endoscope. The building was assessed for its potential as a bat roost and all landscape-scale habitat features in the immediate vicinity that may be used by bats were identified, including any habitats suitable for foraging, commuting or roosting.
- 4.2.4 The Garage is a rectangular single story building which is no longer in use due to it being unsafe. It is a brick building with a corrugated pitched roof with a large corrugated door for vehicles on the northwest facade and a wooden door giving access to the building on the northeast facade. The roof rests on wooden beams which are now rotting. There are three windows, two on the northeast facade and one on the southwest facade which is covered with a corrugated metal cover.
- 4.2.5 The garage is extensively covered in ivy which has also penetrated the interior and there are various gaps and holes in the roof, between the roof and the walls, the windows and the garage door which give access to the building. The interior contains some old equipment and scaffolding to help keep the structure upright. No signs of bats were discovered either on the exterior or in the interior of the building and the amount of cobwebs in the gaps leading to the interior suggested that the space was not used currently by bats.
- 4.2.6 The gaps and holes which allow access to the interior could be used by bats, as well as the ivy on the exterior which is of sufficient thickness to offer shelter for roosting bats.
- 4.2.7 Similarly, building interiors and exteriors were inspected for evidence of access and use by nesting birds: namely, sightings, nests, pellets and/or droppings.

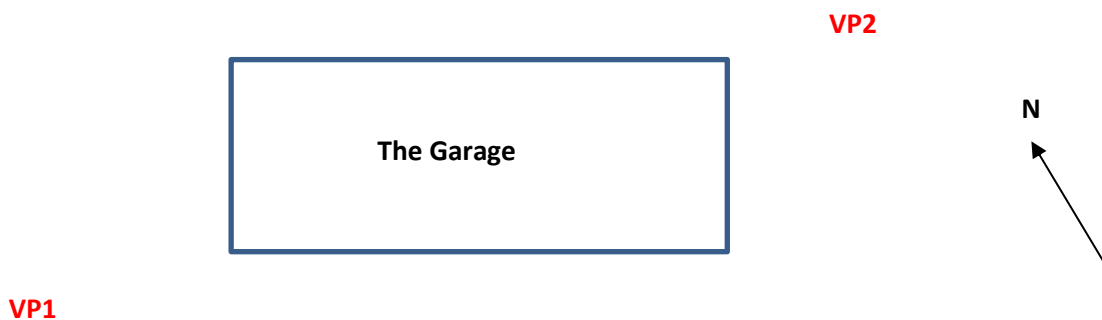


Figure 3. Observers Vantage Points (VP)

Bat activity surveys

- 4.2.9 A summary of the date, time, weather conditions and observations of the activity surveys are given in **Tables 1, 2, 3 & 4**, and the positions of the vantage points are shown on **Figure 3**. The full list of sightings and sonograms recorded is presented in **Appendix 3** and sample sonograms are presented in **Appendix 4**. The vantage points were chosen to provide effective coverage of the parts of the building that offered significant potential for roosting locations.
- 4.2.10 The surveyors for the dusk emergence survey 28th June 2022 were Wayne Anthony Hodges (licence no. S088757/1) and Kirsty Martuccio; and the surveyors for the dawn re-entry survey 19th August 2022 were Wayne Anthony Hodges and Dominic McClean. Both Kirsty and Dominic are both experienced bat survey workers.
- 4.2.11 Specialist equipment used during these surveys includes: two EchoMeter Touch Pro bat detectors, Solomark night vision goggles and binoculars.
- 4.2.12 The species recorded during the dusk and dawn surveys were Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctula*), undifferentiated Myotis species (*Myotis*) and Brown Long-eared bat (*Plecotus auritus*).
- 4.2.13 The sonograms recorded on these surveys have been identified using the criteria given in Russ (2012), Middleton *et al.* (2014) and from information imparted on training courses (S. Sowler, G. Billington & M. Worsfold pers. comm's.).
- 4.2.14 Different bat species produce sonograms of varying distinctiveness. The Pipistrelles, Noctules and Long-eared Bats recorded during these surveys are usually relatively straightforward to identify from a sonogram. The different Myotis species can be difficult to distinguish even when a high quality sonogram is recorded because they are so similar. Natterer's and Daubenton's bats have been identified with a reasonably high degree of confidence (80%), whereas Whiskered and Brandt's Bats have proved less easy to separate (approx. 60% confidence, i.e., the bat is slightly more likely to be a Whiskered than a Brandt's).
- 4.2.15 No bats were detected emerging or entering the building during either of the surveys.
- 4.2.16 The species recorded during the surveys were flying overhead and did not utilise the buildings.

Date	Time			Weather			
	Start	Sunset/ sunrise	Finish	Temp. (°C)	Precipitation	Cloud %	Wind
Dusk, 28/06/2022	21:26	21:41	23:41	13-12	Dry	100-100	0-1
Dawn, 19/08/2022	04:03	06:03	06:18	11-09	Dry	5-0	0-1

Table 1. Summary of timing and weather conditions of activity surveys

Survey 1: 28 June 2022, Start: 21:26, Finish: 23:41 (sunset: 21:26)		
Recorder	Location	Comments
Kirsty Martuccio	Vantage point 1 (southwest corner)	1 Common Pipistrelle was seen to fly overhead to the northwest and 1 Common Pipistrelle flew north. 2 more were detected but not seen. 1 Soprano Pipistrelle was seen flying to the south and 1 more to the northeast. 3 more passes were detected. 1 Noctule bat pass was detected but not seen. No bats were seen to emerge from the buildings.
Wayne Anthony Hodges	Vantage point 2 (northeast corner)	14 Soprano Pipistrelles passes were detected but not seen. 4 Common Pipistrelles were detected but not seen. 1 Myotis bat pass was detected. No bats were seen to emerge from the building.

Table 2. Summary of results from activity survey 1.

Survey 2: 19 August 2022, Start: 04:03, Finish: 06:18 (sunrise: 06:03)		
Recorder	Location	Comments
Dominic McClean	Vantage point 1 (southwest corner)	4 Common Pipistrelles were detected but not seen. 6 Brown Long-eared bat passes were detected but not seen. No bats were seen to enter the building.
Wayne Anthony Hodges	Vantage point 2 (northeast corner)	1 Soprano Pipistrelle pass was detected but not seen. 4 Common Pipistrelles were detected but not seen. 1 Noctule bat pass was detected, and 3 Brown Long-eared bat passes were detected but not seen. No bats were seen to enter the building.

Table 3. Summary of results from activity survey 2.

Total number of bats seen and bat passes recorded each survey					
Date	Soprano Pipistrelle	Common Pipistrelle	Noctule	Myotis	Brown Long-eared
28 June 2022	19	8	1	1	0
19 August 2022	1	8	1	0	9

Table 4. Summary of results from the two surveys

5 Assessment

- 5.0.1 The principles of this assessment are based on best practice guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2006) and the Bat Conservation Trust's - *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*.

5.1 Constraints

Survey information

- 5.1.1 Weather conditions were generally good during the field surveys. Coverage of the building was adequate for the purpose of the activity surveys.
- 5.1.2 The chief surveyor, Wayne Anthony Hodges is an experienced and licensed bat worker. Kirsty Martuccio and Dominic McClean are experienced bat survey workers.

Equipment used

- 5.1.3 There were no constraints as regards to equipment.

5.2 Current value of the site

Bat roosts

- 5.2.1 The building inspection revealed moderate potential for use by crevice roosting bats due to some gaps holes in the roof, between the roof and the walls, the windows and the garage doors allowing access to the structure. There was extensive ivy covering the structure which could also afford shelter to roosting bats. There was no evidence found of usage of the building by bats found during the inspection.
- 5.2.2 There were a number of bat species active around the building throughout the surveys, but none seemed to utilise the buildings.
- 5.2.3 There was general bat activity recorded around the site which was expected due to the nearby trees giving good connectivity to the surrounding countryside and the proximity of the Afon Hafren, even though the garage is in an urban environment.

Foraging and commuting habitat

- 5.2.4 There are mature trees in the vicinity in various gardens and in the larger landscape and hedges in the surrounding fields, combined with the close riverine habitat, the connectivity is good. The mixture of trees and vegetation are highly suitable as good foraging habitat for a wide range of bat species as well as commuting routes. This land-use fabric is common in the area, and so these habitats are of local value. The building generally affords only incidental foraging potential as bats leave or enter the area.

5.3 Impact assessment

- 5.3.1 The potential impacts of the development comprise those felt in both the short- and long-term, and include any residual impacts that may continue to be felt after the work has been completed. All of the predicted impacts are envisaged as worst-case-scenarios, with no mitigation measures in place.

Short and long term impacts

- 5.3.2 No impact on roosting bats is expected as no bats were found to be using the building.
- 5.3.3 There are no proposals that will affect bat flight lines.

Potential impact of the proposed work on birds

- 5.3.4 There are anticipated to be no potential direct or indirect impacts on birds due to the absence of evidence of nesting birds in the building.

6 Recommendations and mitigation

6.1 Further survey work

6.1.1 No further survey work is required. The surveys undertaken to date are proportionate to the development and allow the usage of the site by bats to be described adequately.

6.2 Mitigation measures

6.2.1 The principle of mitigation in the broad sense involves a hierarchy of desirable outcomes designed to maintain or promote the conservation status of the species concerned, as follows:

- Avoidance – can the development be designed so that there will be no negative impacts?
- Mitigation – can the development be designed to reduce the negative impacts?
- Compensation – can the unavoidable impacts be compensated for?

Mitigation/enhancement measures for roost sites

6.2.2 Based on the results of the current study no mitigation for roost sites is required. Habitat enhancement on any new build could be included to replace the roosting opportunities currently present within the site for roosting bats. This could include provision of roosting opportunities such as bat tubes within walls or bat boxes within the soffits of any structures. Suitable products are included in Figs 4 and 5.

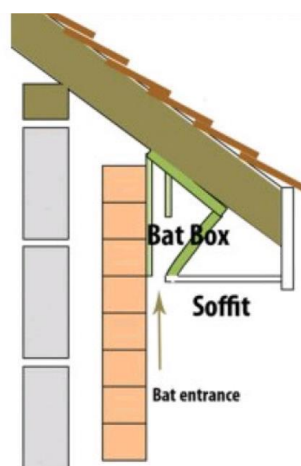
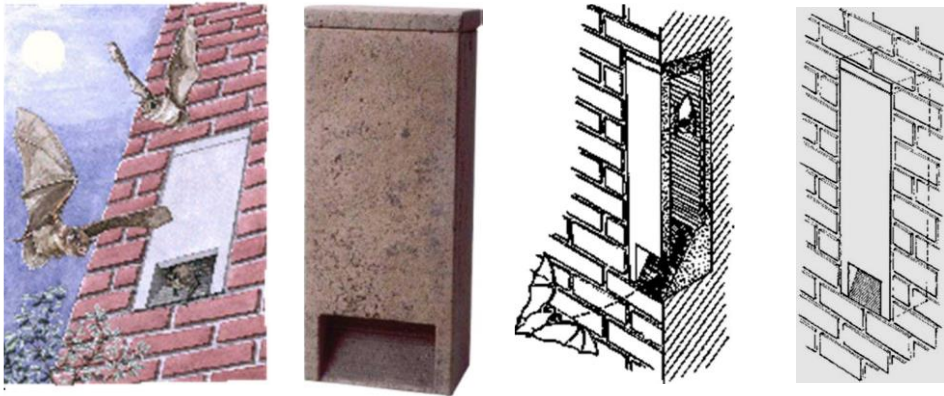


Figure 4 Soffit bat box

The soffit bat box utilises the space above the soffit on a standard roof structure. The entrance is formed by cutting away a 20mm slot in the back of the soffit board against the external wall, and a specially designed plate is then screwed through into the bat box to secure it. The box is unobtrusive, self-emptying, and provides a permanent roost for bats. It should be positioned on the south / south-western aspect of a property and avoid areas above windows or doors.

Figure 5 1FR Schwegler bat tube



The 1 FR Bat Tube is designed to be installed on the external walls of buildings. Tubes are installed either flush or beneath a rendered surface with no ledges jutting out from the wall surface. Boxes must be positioned with adequate space to enable bats to fly out of and land safely without any obstacles such as aerials in their way.

Mitigation for foraging and commuting habitat

6.2.3 There will be no significant structural changes to the surrounding habitats.

Mitigation (EPS) licences

6.2.4 No bats were found to be using the structures and based on current survey work, no licence is necessary for work carried out on the building.

While the work is being carried out

6.2.5 Any works may be undertaken following the points below:

Timing – There are no specific restrictions upon the timing of works.

Roof materials should be lifted and not slid to reduce potential injury to any unseen/undetected bats. The ivy covering the building should be removed carefully.

Extra care should always be taken when working on the ridges or wall tops as bats are commonly discovered in these areas.

6.2.6 If in the event that any bats are discovered during the demolition works then the licenced ecologist must be informed and demolition worked stopped until a licenced bat ecologist is on site and the bats no longer at risk of harm. Natural Resources Wales can also be approached for advice.

7 References

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Appendix 1

Photographs of the building



Photo 1. The Garage – northwest elevation



Photo 2. The northwest elevation showing extensive ivy growth



Photo 3. Northeast elevation with windows and side door

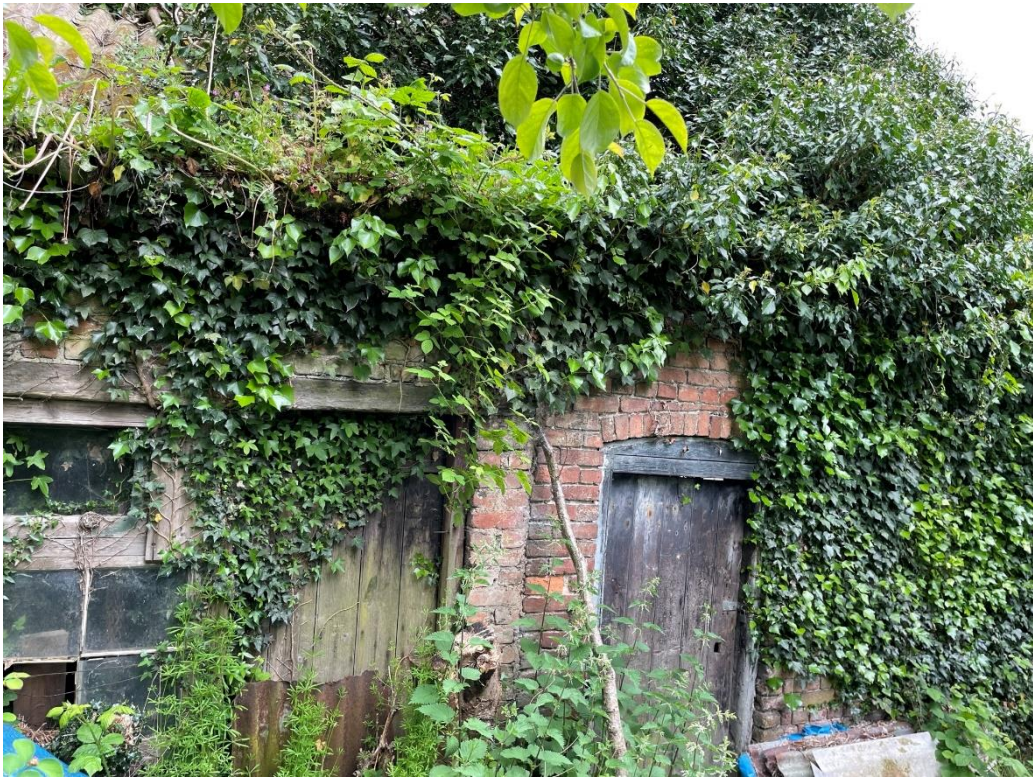


Photo 4. Northwest elevation windows and side door



Photo 5. Southwest elevation



Photo 6. Southwest elevation with metal covered window



Photo 7. Southeast elevation



Photo 8. Southeast elevation



Photo 9. Interior showing ivy penetration and wooden beam roof structure

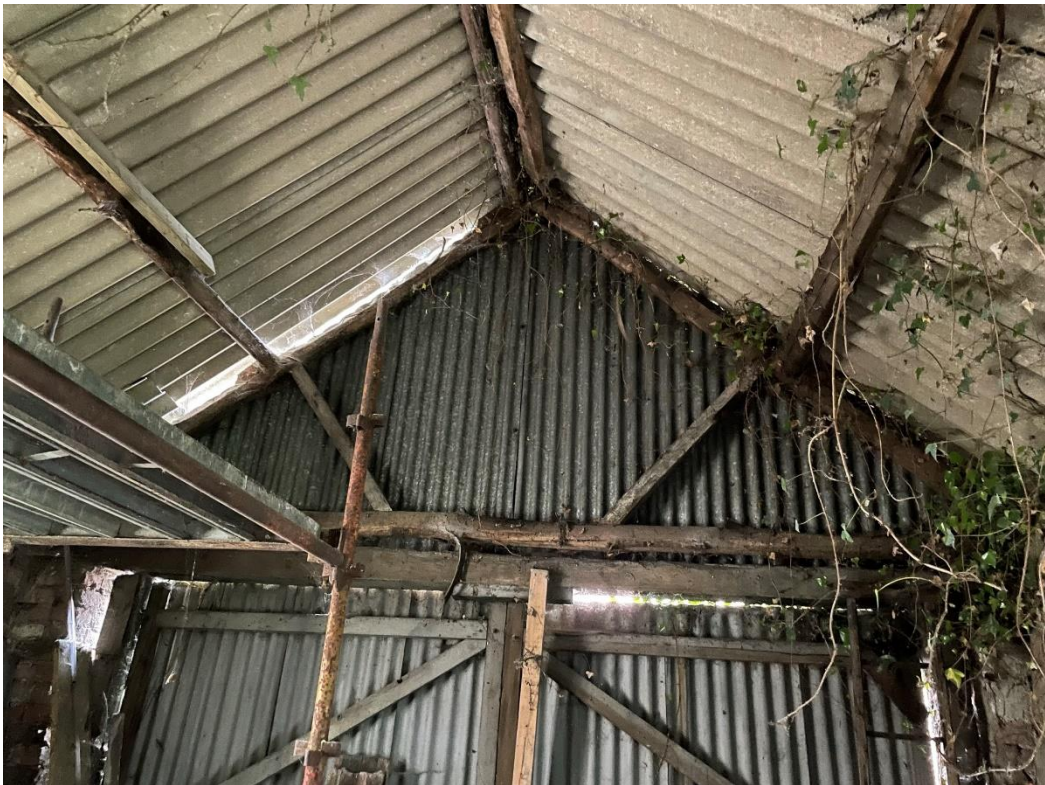


Photo 10. Interior showing garage door, roof structure and gaps



Photo 11. Interior roof structure



Photo 12. Interior showing scaffolding holding up the roof



Photo 13. Interior window



Photo 14. Interior window



Photo 15. Interior side door entrance showing beam used to shore up the roof structure.

Appendix 2

Desk study data

Not for general publication (see accompanying PDF)

Appendix 3

Raw Survey Data

Key:

Nn	Noctule (<i>Nyctalus noctula</i>)
Ppyg	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)
Ppip	Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)
Myotis	undifferentiated Myotid species (<i>Myotis</i>)
Pleur	Brown Long-eared bat (<i>Plecotus auritus</i>)

Bat Activity Survey Form			
LOCATION AND PHYSICAL CHARACTERISTICS OF BAT SITE			
Recorder Name(s)	Kirsty Martuccio		
Site Name	Southwest corner, Garage, Church Place, Llanidloes SY18 6AN		
Survey Date(s)	28/06/2022		
Weather °C	Cloud %	Wind /Beaufort Scale	Rain
13-12	100-100	0-1	0
Time of Sunset	Start Time	Finish time	
21:41	21:26	23:41	

Bat Species	Time of Observation	Direction of flight	Notes
Ppip	22:03	NW	Flew overhead
Ppip	22:18	Heard only	Pass
Nn	22:33	Heard only	Pass
Ppip	22:41	N	Flew overhead
Ppyg	22:52	S	Flew overhead
Ppip	23:12	Heard only	Pass
Ppyg	23:13	Heard only	Pass
Ppyg	23:14	Heard only	Pass
Ppyg	23:15	Heard only	Pass
Ppyg	23:26	NE	Flew overhead

Bat Activity Survey Form			
LOCATION AND PHYSICAL CHARACTERISTICS OF BAT SITE			
Recorder Name(s)	Wayne Anthony Hodges		
Site Name	Northeast corner, Garage, Church Place, Llanidloes SY18 6AN		
Survey Date(s)	28/06/2022		
Weather °C	Cloud %	Wind /Beaufort Scale	Rain
13-12	100-100	0-1	0
Time of Sunset	Start Time	Finish time	
21:41	21:26	23:41	

Bat Species	Time of Observation	Direction of flight	Notes
Ppip	21:59	Heard only	Pass
Ppip	22:00	Heard only	Pass
Ppip	22:06	Heard only	Pass
Ppip	22:06	Heard only	Pass
Ppyg	22:17	Heard only	Pass
Ppyg	22:22	Heard only	Pass
Myotis	22:26	Heard only	Pass
Ppip	22:37	Heard only	Pass
Ppyg	22:52	Heard only	Pass
Ppyg	23:00	Heard only	Pass
Ppyg	23:00	Heard only	Pass
Ppip	23:09	Heard only	Pass
Ppyg	23:12	Heard only	Pass
Ppyg	23:14	Heard only	Pass
Ppyg	23;15	Heard only	Pass
Ppyg	23;16	Heard only	Pass
Ppyg	23:19	Heard only	Pass
Ppyg	23:21	Heard only	Pass

Bat Species	Time of Observation	Direction of flight	Notes
Ppyg	23:21	Heard only	Pass
Ppyg	23:22	Heard only	Pass
Ppyg	23:23	Heard only	Pass
Ppyg	23:23	Heard only	Pass
Ppyg	23:23	Heard only	Pass
Ppyg	23:23	Heard only	Pass
Ppyg	23:25	Heard only	Pass
Ppyg	23:26	Heard only	Pass
Ppyg	23:26	Heard only	Pass
Ppyg	23:26	Heard only	Pass

Bat Activity Survey Form			
LOCATION AND PHYSICAL CHARACTERISTICS OF BAT SITE			
Recorder Name(s)	Dominic McClean		
Site Name	Southwest corner, Garage, Church Place, Llanidloes SY18 6AN		
Survey Date(s)	19/08/2022		
Weather °C	Cloud %	Wind /Beaufort Scale	Rain
11-9	5-0	0-1	0
Time of Sunrise	Start Time	Finish time	
06:03	04:03	06:18	

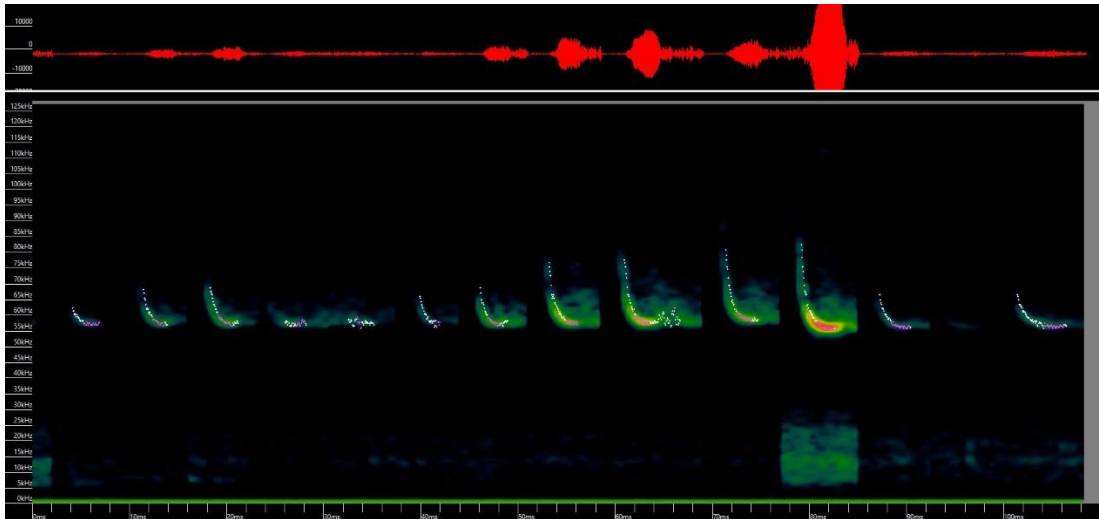
Bat Species	Time of Observation	Direction of flight	Notes
Ppip	04:21	Heard only	Pass
Ppip	04:22	Heard only	Pass
Pleur	04:45	Heard only	Pass
Pleur	04:46	Heard only	Pass
Pleur	04:58	Heard only	Pass
Pleur	04:58	Heard only	Pass
Pleur	04:59	Heard only	Pass
Ppip	05:18	Heard only	Pass
Ppip	05:19	Heard only	Pass
Pleur	05:21	Heard only	Pass
Pleur	05:59	Heard only	Pass

Bat Activity Survey Form			
LOCATION AND PHYSICAL CHARACTERISTICS OF BAT SITE			
Recorder Name(s)	Wayne Anthony Hodges		
Site Name	Northeast corner, Garage, Church Place, Llanidloes SY18 6AN		
Survey Date(s)	19/08/2022		
Weather °C	Cloud %	Wind /Beaufort Scale	Rain
11-9	5-0	0-1	0
Time of Sunrise	Start Time	Finish time	
06:03	04:03	06:18	

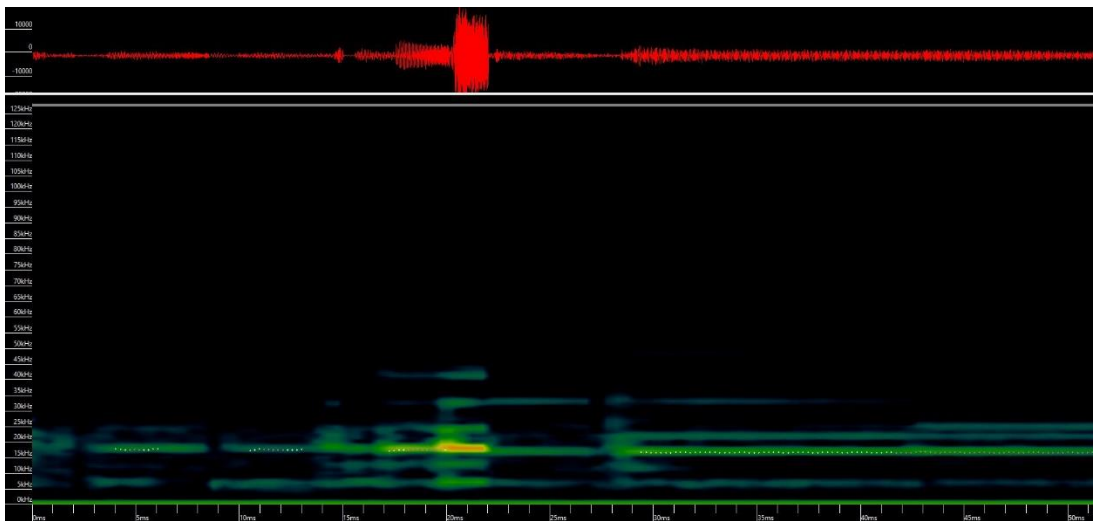
Bat Species	Time of Observation	Direction of flight	Notes
Nn	04:08	Heard only	Pass
Ppip	04:22	Heard only	Pass
Ppyg	04:42	Heard only	Pass
Pleur	04:58	Heard only	Pass
Pleur	04:59	Heard only	Pass
Pleur	04:59	Heard only	Pass
Ppip	05:37	Heard only	Pass
Ppip	05:38	Heard only	Pass
Ppip	05:43	Heard only	Pass

Appendix 4

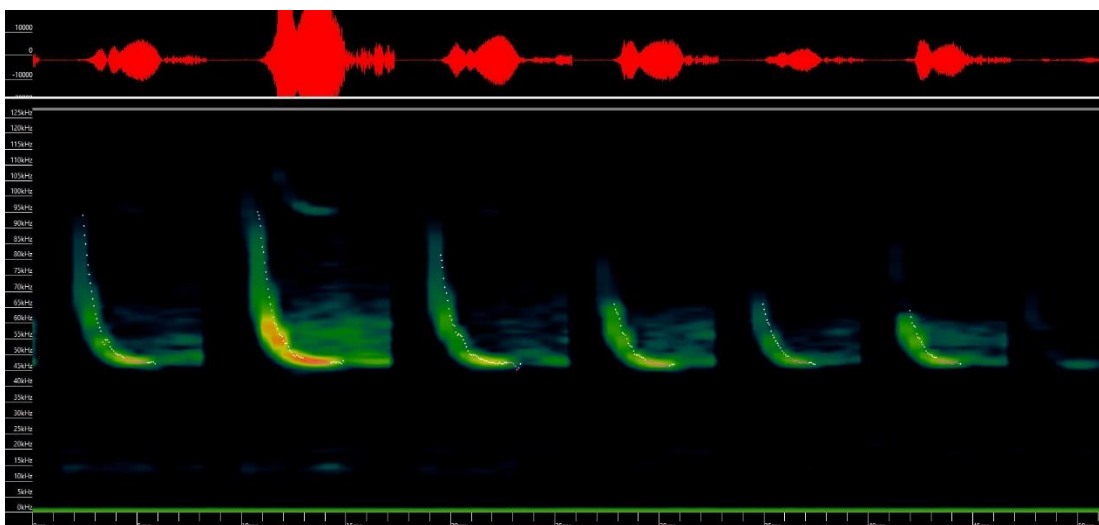
Sample sonograms



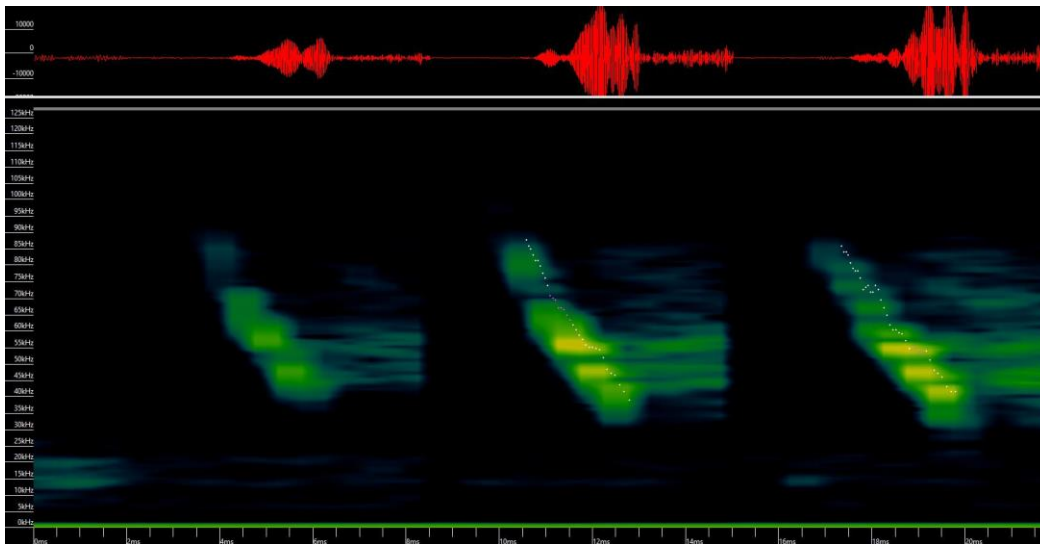
Sonogram 1. Soprano Pipistrelle (*Pipistrellus pygmaeus*) 28 June 2022



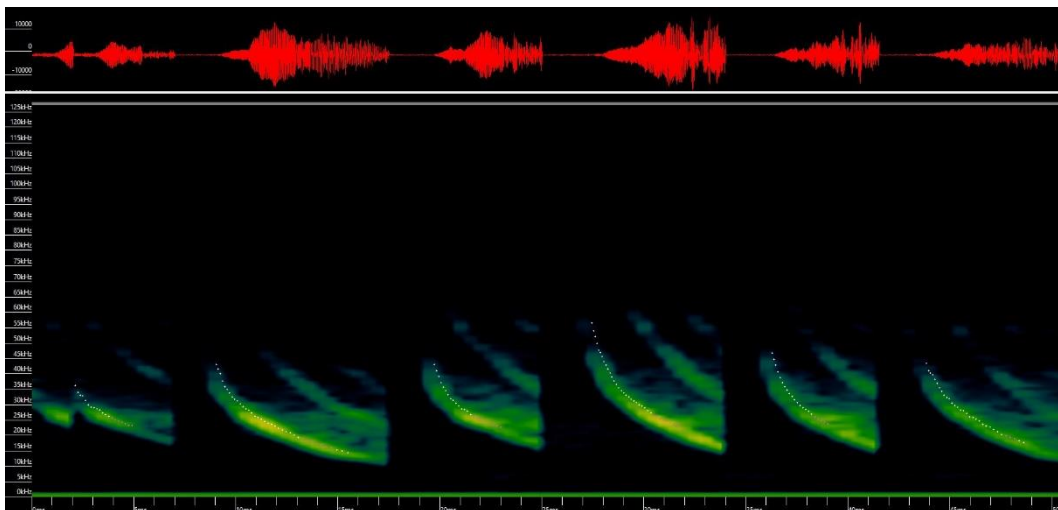
Sonogram 2. Noctule Bat (*Nyctalus noctula*) 28 June 2022



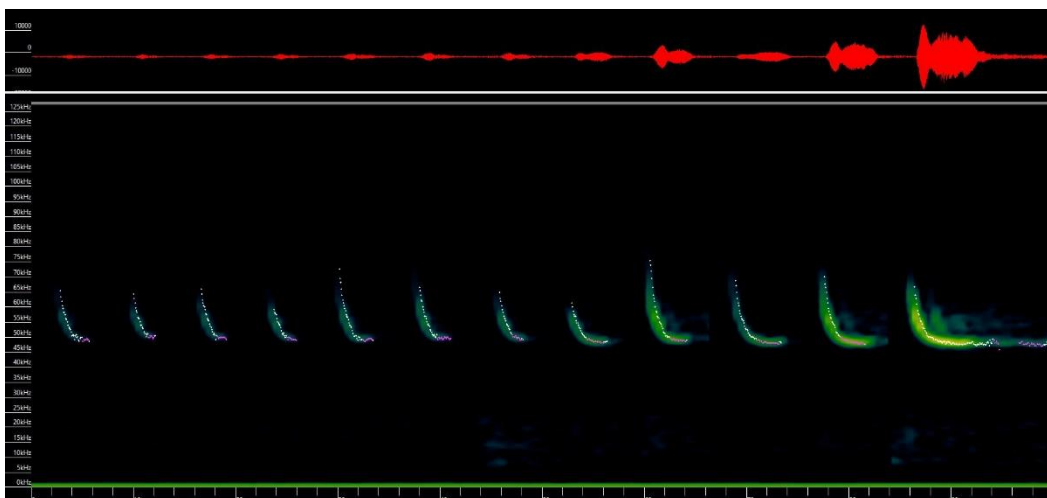
Sonogram 3. Common Pipistrelle (*Pipistrellus pipistrellus*) 29 July 2022



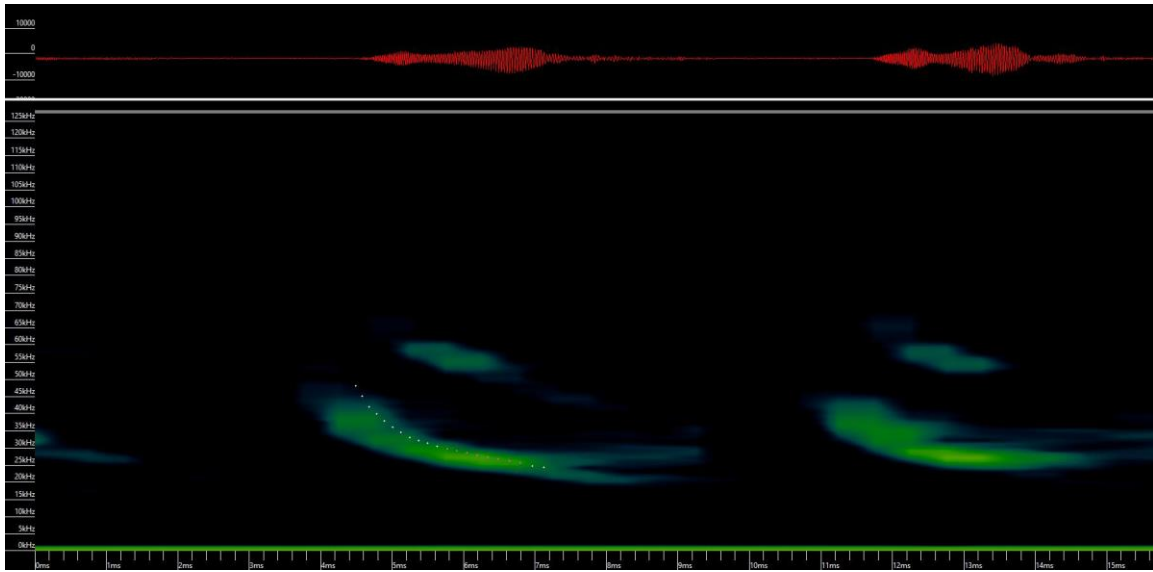
Sonogram 4. Myotis (*Myotis Sp*) 28 June 2022



Sonogram 5. Brown Long-eared (*Plecotus auritus*) 19 August 2022



Sonogram 6. Common Pipistrelle (*Pipistrellus pipistrellus*) 19 August 2022



Sonogram 7. Brown Long-eared (*Plecotus auritus*) 19 August 2022