

Building Survey to investigate for evidence of bats at

The Cottage

Broadway Road

Willersey

Nr Saintbury

WR12 7PH

w3w informer.milky.straws

Map ref: SP1070 3940

Mr & Mrs Newsham

The Gables

Broadway Road

Willersey

Gloucestershire

WR12 7PH

Michelle Young – Licensed Bat Worker (2015-12474-CLS-CLS)

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Checked by Aimmie Woodman – ACIEEM and Licensed Bat Worker

Summary

The Cottage is in a poor state of repair, it has never been modernised and is suffering from a lack of care. In converting this tiny building, it is saved from future decay and can be enhanced with mitigation boxes to provide a biodiversity net gain across the site which will complement the natural surroundings and provide future protection for those species using the site.

Legislation

All bat species and their roosts are fully protected in England, Scotland and Wales under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Section 5. In England and Wales, this has been amended by the Countryside and Rights of Way Act 2000 and in Scotland by the Nature Conservation (Scotland) Act 2004.

All bats are listed as 'European Protected Species of Animals' within The Conservation (Natural Habitats, & c) (better known as the Habitats Regulations) Regulations 1994 (or Northern Ireland 1995). The Habitats Regulations were amended in 2007, 2010 and 2017.

In summary, taken together the Act and Regulations make it illegal to:-

- Intentionally or deliberately kill, injure, capture or take bats.
- Deliberately disturb bats, whether in a roost or not.
- Intentionally or recklessly disturb roosting bats.
- Damage, destroy or obstruct access to, a bat roost.
- Possess or transport a bat or any part of a bat, alive or dead.
- Sell, barter or exchange a bat or part of a bat, alive or dead.

The word 'roost' is used for simplicity but is defined as 'any structure or place which any wild animal ... uses for shelter or protection' (Wildlife and Countryside Act) or 'a breeding site or resting place' (Habitat Regulations).

Legislation concerning birds.

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

The EC Directive on the conservation of wild birds, lays out special measures to conserve wild birds, their eggs, nests and habitats. In particular, Article 4 of the Directive requires

that Member States classify special protection areas (SPAs) for rare and vulnerable species (Annex I species) and for regularly occurring migratory species.

Owls specifically are afforded protection against killing, injury or capture under the Wildlife and Countryside Act (1981), under Schedule 1. Their nests and eggs are also protected. Under this schedule, breeding owls are also afforded protection against reckless disturbance.

Introduction

Prior to submitting an application to Cotswold District Council; the owner requested the writer Michelle Young, a licensed bat worker to carry out a building survey of The Cottage.

This survey was undertaken in order to investigate for evidence indicating usage of the building by protected species prior to planning consent being sought for works.



Desk-based Research.

The building known as 'The Cottage' is attached to the Grade II listed stone property known as 'The Gables' and whilst is not listed in its own right, is viewed as a non-designated heritage asset. It is located within the Willersey Conservation Area and Cotswold AONB. The site is located in the heart of the village of Willersey. It is a simple two-up, two-down brick cottage.



Building Survey

The building survey was carried out following Bat Surveys – Good Practice Guidelines 2012, The Bat Conservation Trust. The check was carried out on Tuesday 29th August 2023 during daylight hours so as to look for evidence of bats using the building. Evidence that is looked for includes bat droppings, grease stains around potential entrance points, urine stains, scratch marks, prey remains and actual bats.

Should evidence or suitability be found then further dusk/dawn surveys would be required.

The day was dry and muggy at 18°C. The wind on the Beaufort Scale was 0-1, there was 7/8th overcast cloud cover and no rain during the survey.

The scheme proposed is the conversion of The Cottage to habitable and useable space.

Location

The Cottage is located at the southern end of the property layout in the middle of Willersey. The site has domestic usage for The Gables with parking for both buildings.

External building survey

The Cottage is constructed from brickwork with plain clay roof tiles. The windows have wooden frames and none of the windows are intact.



The roof slopes are not in great condition. The roof slopes are unlined and uninsulated. The tiles are suffering from weather impact and there are areas of missing mortar, missing and broken tiles and sections where the ridge tiles are not well bedded.





The stone window ledges are solid but the frames are deteriorating.

Internal survey.

The Cottage is access via the door to the rear off the sunken garden.



The floor inside is mud. The inside has been stripped out.

There are very few surfaces but these were carefully checked for evidence of use of the space by bats but none was found. The structure is very open due to the amount of missing panes to the windows and there is significant levels of light and draft ingress through The Cottage.

The walls are bare stonework. There are significant gaps throughout.





The windows are single glazed wooden framed, and none are intact



The floors are exposed, uncovered and very dusty.





The underside of the roof tiles is visible from inside. Light ingress is obvious through the gaps and the space is very dusty and full of cobwebs.





The Cottage is unremarkable in terms of construction and structure. There was no evidence of use of The Cottage by bats or birds.

The Cottage is located in a gorgeous village location at the base of the Cotswold AONB.

However, as the building has so many open elements and is located within the rural setting and Conservation Area, it was deemed sensible to carry out further surveys to prove absence of use.

Reason for an additional survey

As the property is located within the AONB and Willersey Conservation Area, coupled with the potential points of access, a single nocturnal survey is proposed to further investigate use of the site. Given the lack of evidence found inside, the roosting potential is considered to be low.

The Good Practice Guidelines, 2016, specify that emergence surveys are undertaken dependent upon the roost potential of the buildings on the survey site as set out below:

Roost Potential	Number of Surveys
High	3
Low to Moderate	2
Low	1

This will be carried out when the temperature is forecast to be above 11°C and it is dry with very little wind. Surveyors will be positioned where clear sight can be made of the possible places of roost.

The surveys start fifteen minutes before sunset and continue for an hour and half. Surveys take place from mid April until the end of September when bats are active subject to weather conditions.

Further surveys

After the building survey was completed, an Anabat Express static detector was left in The Cottage. However, due to the open nature of the structure with the missing panes of glass, this was located as far away from windows as possible but with the knowledge that passing bats could potentially be recorded.



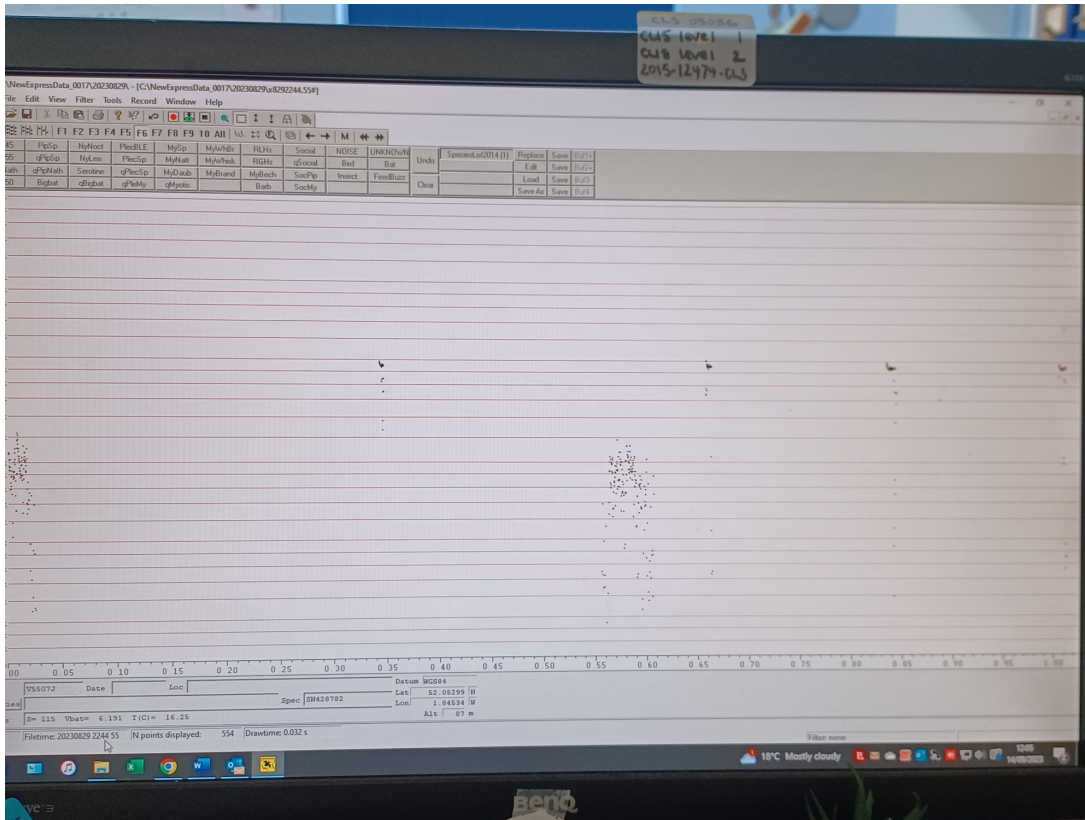
The detector was working from GPS signal to switch on before sunset and off after sunset. It was left on Tuesday 29th August after the building survey and collected on Sunday 3rd September before the dusk survey.

Upon analysing the recordings from the static detector, sound files were recorded and the log files showed the unit switching on and then off each day.

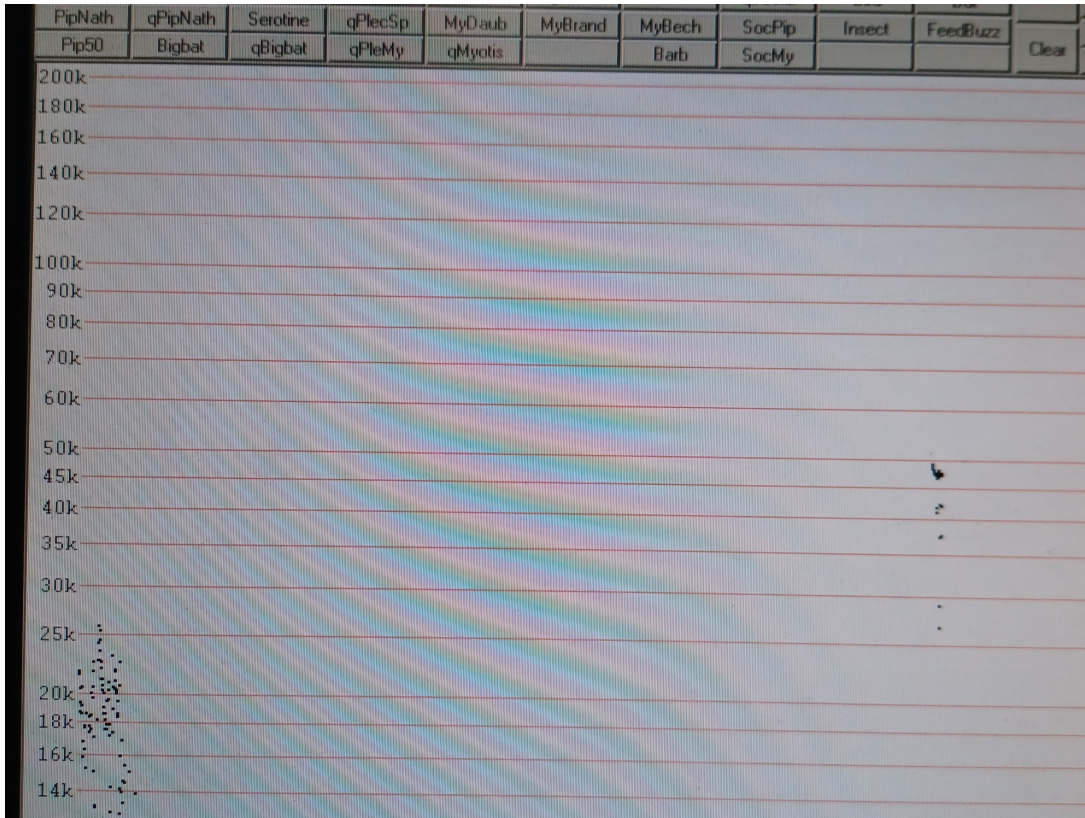
Switching On Date/Time		Sunset	Switching Off Date/Time		Sunrise	No of files
29/08/2023	19.32	20.01	30/08/2023	06.45	06.16	6
30/08/2023	19.27	19.59	31/08/2023	06.48	06.18	4
31/08/2023	19.25	19.56	01/09/2023	06.50	06.19	17
01/09/2023	19.23	19.54	02/09/2023	06.51	06.21	9
02/09/2023	19.20	19.52	03/09/2023	06.53	06.23	18

The anabat recorded all pipistrelle calls and one Daubentons call. The calls were picked up from outside via the missing panes of glass. The calls are not as rich and full as if the bats were inside the building, and the sonogram is not as intense as those from the EMTouch with bats recorded outside.

The anabat confirms bats use the locale for commuting but they are not using the inside of the building.



Analog screen of Pipistrelle call



Analog screen of one single call showing the lack of intensity in the sonogram

Nocturnal Survey

Sunday 3rd September 2023



Each surveyor had clear sight of the elevation they were watching, positions shown below with orange stars. The evening was warm with a gorgeous sunset.

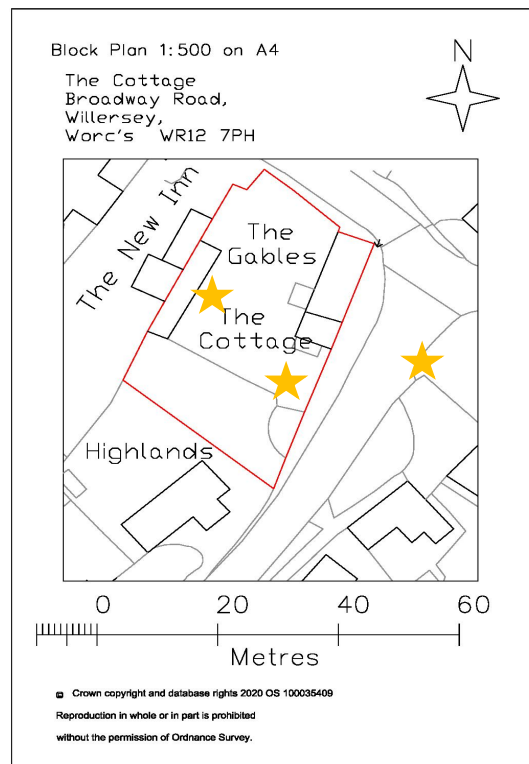
Sunday 3rd September 2023

Sunset 19.50

Temperature at start 21°C

Temperature at end 18°C

Weather conditions – 2/8th cloud, 1-2 wind on the Beaufort Scale, zero rain. It was very calm and dry with lots of bugs flying about. The constellations of Ursa Major and Cassiopeia were clearly visible at the end of the survey.



Watching **front** elevation from the opposite side of the road with an Echo Meter Touch into an iPad mini, the writer.

Front elevation results

Time	Species	Activity
19.30	(note)	Anabat collected from inside and switched off
19.35	(note)	Survey start
19.50	(note)	Official Sunset
20.21	51KHz Pip	W-E commuting through
20.30	(note)	Light levels so poor, individual tiles cannot be seen, the village has no street lights so no additional illumination.
20.40	48KHz Pip	W-E commuting over road
20.45	21KHz Noctule	Heard, not seen
20.46	Tawny Owl	Distinctive 'kerr-wick' call heard to SW of position
20.49	50KHz Myotis	Long, straight sonogram of Myotis Daubenton
20.55	47KHz Myotis	Long, straight sonogram of Myotis Daubenton
21.05	43KHz Myotis	Long, straight sonogram of Myotis Daubenton
21.09	49KHz Pip	With 21KHz social calls too
21.14	44KHz Myotis	Long, straight sonogram of Myotis Daubenton
21.17	109KHz LHS	Not complete call

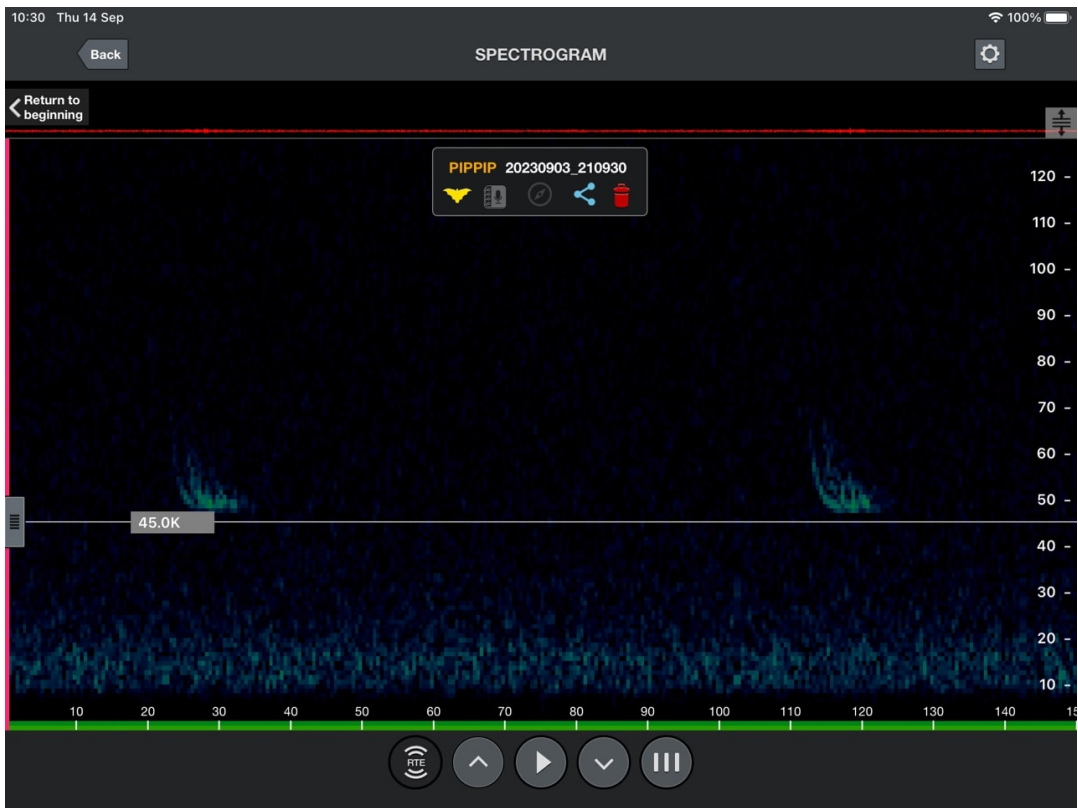
No bats were observed emerging from the front roof slope of The Cottage. No bats were observed emerging from the roof slopes of the neighbouring properties.

The road through the village that is located immediately outside the property is incredibly busy, it is the main road connecting Willersey with everywhere surrounding it. There was no period of time when there were no vehicles for more than one minute, the traffic was constant throughout the survey period.

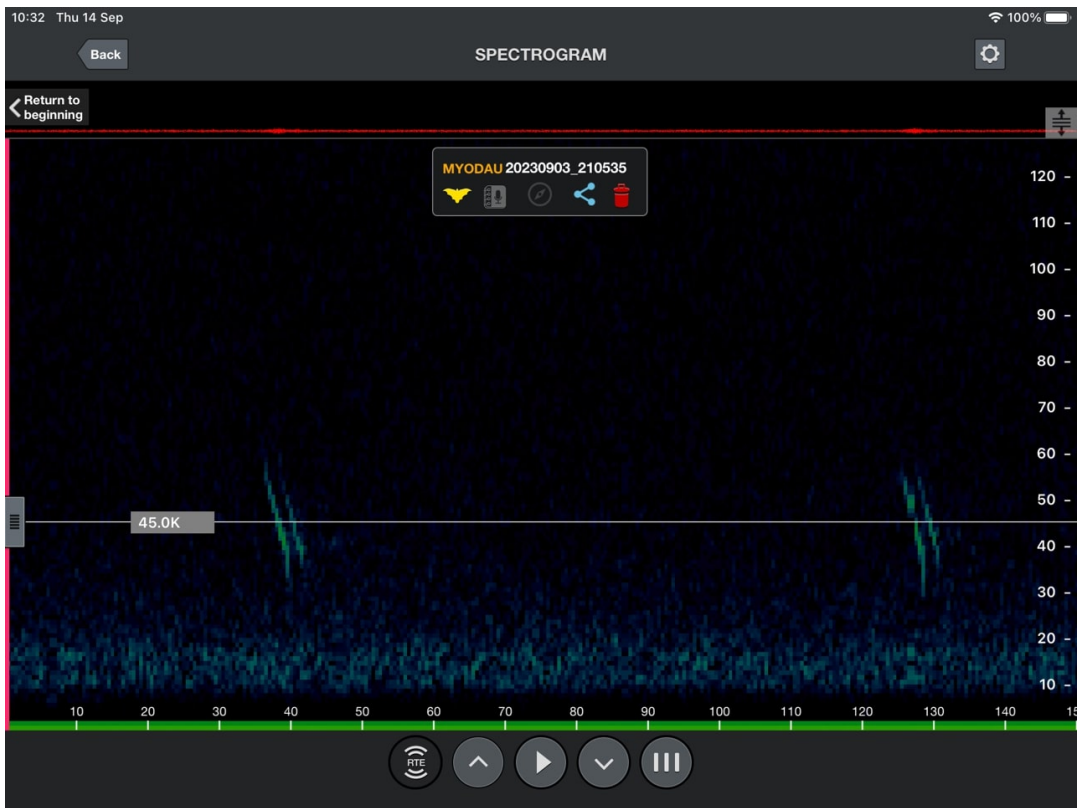
The large village 'duck pond' is located no more than 250m to the north-west of the site. The presence of Myotis Daubentons was no surprise.

The Cotswold AONB with the large stone houses and listed buildings is popular with lesser horseshoe bats. The writer is aware of three large roosts within 4km of this location. The LHS sonogram on the EMTouch was incomplete, missing its 'legs' of the call, showing that the bat that was echolocating was some distance away, potentially following the dry stone walls of the properties opposite the writer's position.

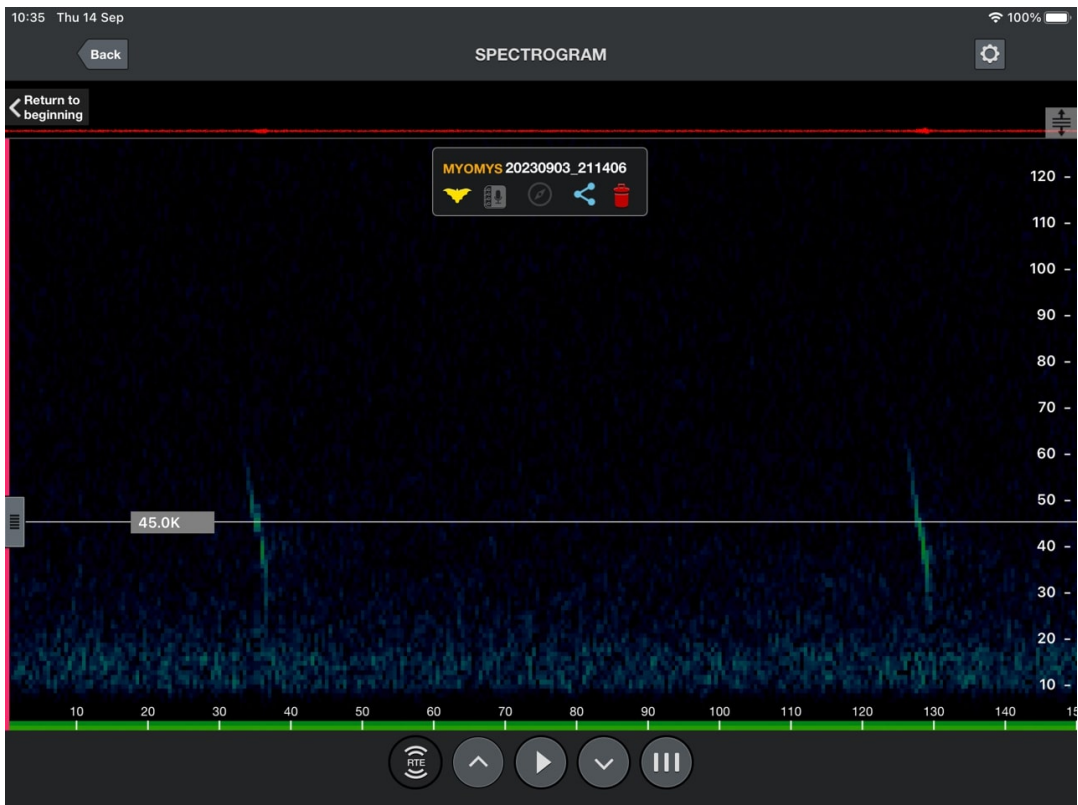
Screenshots of the sonograms from the evening survey are to follow.



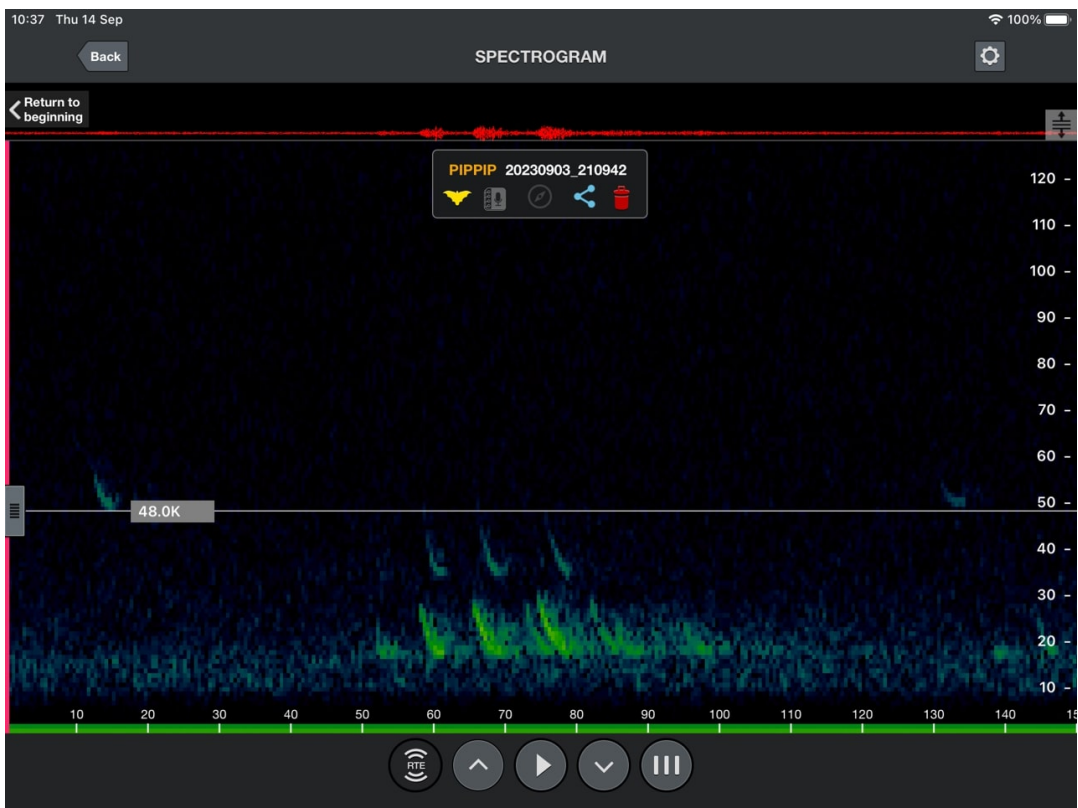
21.09 Pipistrelle call



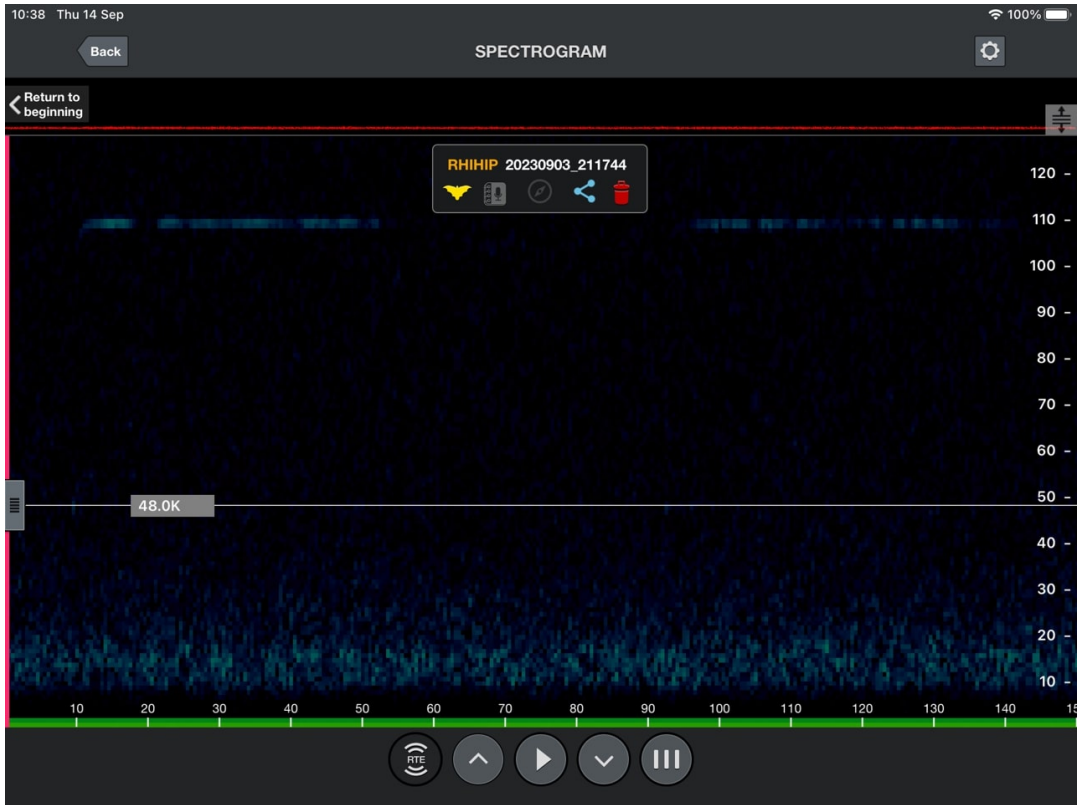
21.05 Myotis Daubentons call



21.14 Myotis Daubentons call

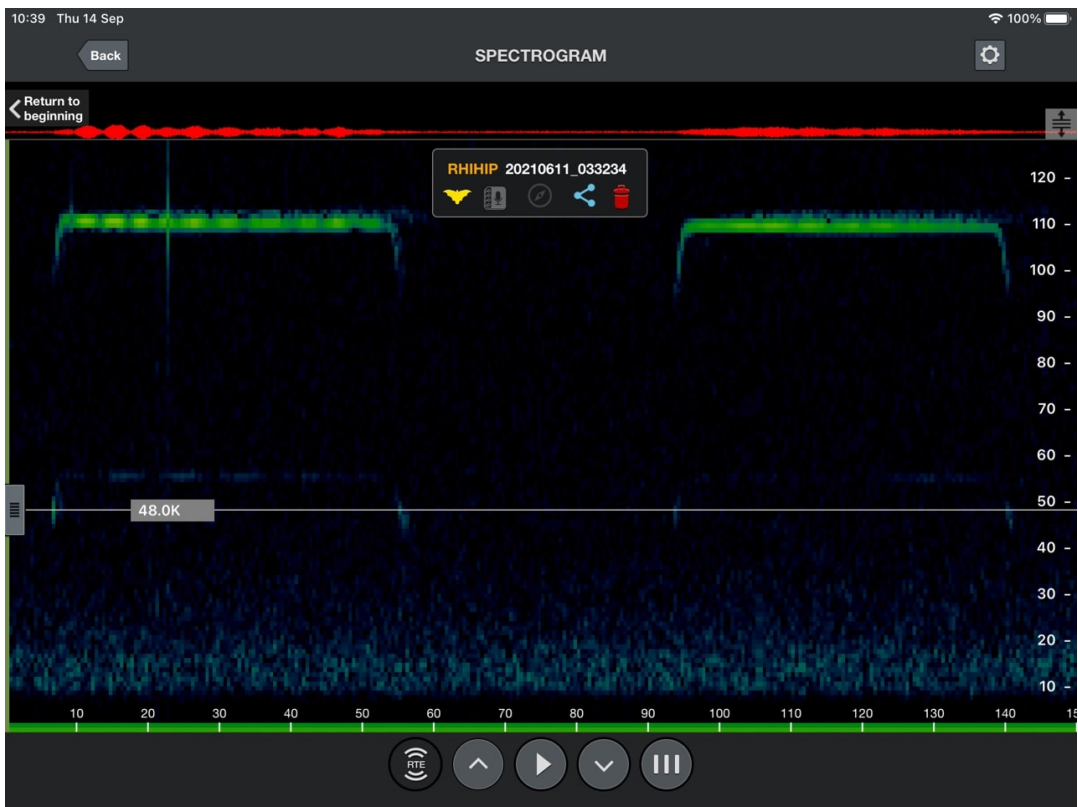


21.09 Pipistrelle call with social calls



21.17 Lesser Horseshoe call from survey on site.

Comparison call example from 2021:



Watching **rear** elevation with an SSFBat2 Mark Young, experienced member of Gloucestershire Bat Group.

Rear elevation results

Time	Species	Activity
20.21	Pip	Not seen by surveyor (but ties in with CS notes)
20.33	Pip	Observed foraging over driveway and rear of site
20.54	Pip	Not seen by surveyor
21.05	Other	Not seen by surveyor
21.06	Pip	Commuting through site N-S

No bats were observed emerging from the rear roof slope of The Cottage.

Watching the south gable end with a Magenta Bat5 Charlotte Stock, a student at Worcester University city campus. Aware of pipistrelle calls but no others. This position was to observe the missing mortar beds at the gable end for emergencies.

Gable end elevation results

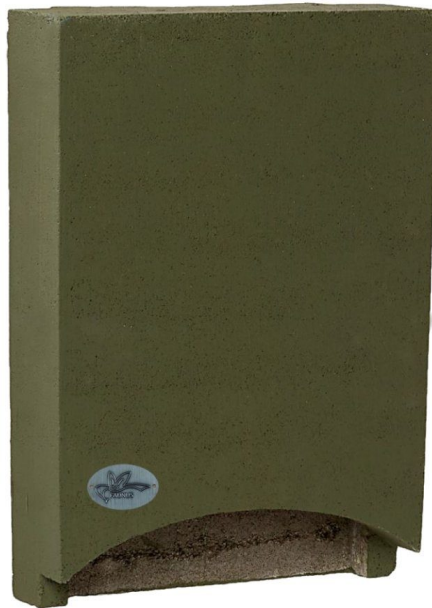
Time	Species	Activity
20.21	Pip	W-E commuting through site
20.33	Pip	SE-NW over driveway with foraging behaviour
20.54	Pip	Not seen
21.03	Pip	E-W commuting through site
21.05	Other	
21.14	Other	

No bats were observed emerging from the rear roof slope of The Cottage.

Suggested Mitigation Scheme

Whilst the mitigation examples have been taken from nhbs.com for ease of reference - other manufacturers and suppliers are available. Product details and images are below this mitigation section.

It is proposed that a bat box be installed as high as possible in the gable apex on the south elevation. This will benefit from solar gain and be open to the wider landscape for immediate foraging and commuting. There are no windows on this end of the property and so there would be no issue with droppings falling onto windows. As no works are occurring to the gable wall, an integrated box cannot be considered, rather a secured free-hanging one such as this Elisa Bat Box ref 259840



The Elisa Wood Concrete Batbox is designed to provide an ideal summer roost space for a variety of bat species, including pipistrelles and Daubenton's. Sitting close to a wall in order to minimise the dangers of strong winds knocking it free, the Elisa features a single internal cavity with an entrance hole at the bottom. It is constructed from wood concrete, a blend of wood fibres and concrete, which makes it extremely long lasting but comparatively light. It also has excellent thermal properties compared to timber boxes, retaining heat exceptionally well.

- **Exterior dimensions (l x w x h):** 26x10x37cm
- **Inner dimensions (l x w x h):** 21 x 3-1.5 (tapered) x 30 cm
- **Colour:** Grey
- **Material:** Wood concrete

The ideal position for the Elisa, as with any bat box, is a height of at least 3m from the ground, in a sheltered area out of direct sun and away from artificial light sources..

Lighting around The Cottage

Lighting around the site should be on PIR sensors and timers so that the site is not illuminated constantly. The mitigation box cannot be illuminated at any time. Down lights or bollard type lighting would be an ideal compromise between personal safety and not producing light pollution in the open countryside or disturbing the mitigation schemes proposed.

Conclusion

The Cottage is located in a gorgeous rural, village location. By converting this building, the structure is saved and additional biodiversity elements can be installed to encourage and enhance the site.

Based on the lack of evidence found, The Cottage was deemed negligible as a place of roost and so further surveys or Natural England licensing is not required.

Based on the lack of evidence found inside and taking the location of and the exposure of the elevations it is proposed that the south elevation of The Cottage have an external bat box installed and this mitigation approach will result in a biodiversity net gain.

It is not anticipated that bats would be found during works, however, if this does occur then works are to stop, the writer or another suitably qualified person is to be called to site. The bat is to be collected, works assessed and if necessary, a license for works obtained from Natural England.

References

Bat Surveys – Good Practice Guidelines, Bat Conservation Trust, 2007, 2012 and 2018
Bat Mitigation Guidelines, Mitchell-Jones A.J, English Nature, 2004
Bats and Traditional Building, English Heritage et al, 2009.
Bats and Artificial Lighting at Night – Guidance Note 8, BCT & ILP, 2023

September 2023

Michelle Young – Licensed Bat Worker (2015-12474-CLS-CLS)

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Qualifications

Michelle Young (the writer) has a BSc(Hons) degree from the Open University.

In August 2012 both CL15 and CL18 licenses were obtained having been training for the previous two years and gathering a minimum of 200 hours experience for both licenses. These have been renewed every year subsequently with no breaks.

She is the treasurer of Gloucestershire Bat Group and has been a member of this since 2010. She is actively involved in the NBMP through BCT carrying out monitoring at various sites for four different NBMP projects. She attends exit counts and bat box checks through the bat group and through the VRBV role.

She was formerly a member of Worcestershire Bat Group and carried out exit counts for NBMP surveys, bat box checks and radio tracking as part of the Bechsteins project.

She has been a registered bat carer with BCT since August 2014. She was one of the two founders of Evesham Bat Care which became a registered charity (1184012) in 2019. Evesham Bat Care is now a group of twelve people, trained by Michelle working together to rescue, rehabilitate and release bats. They host bat walks and talks and their fundamental aim is the education of the public.

She has also help set up and train a care group in both Warwickshire and in Herefordshire so as to extend the boundaries of bat care.

Since 2017 the group has had well over one thousand bats in care and many successful hand reared pups have been released back into the wild.

She was presented with one of the first Wildlife Heroes award in the summer of 2018 by Worcestershire Wildlife Trust. In March of 2019 she was a finalist at the Wychavon Volunteer Awards in the 'Individual Volunteer' category. She was nominated for the same category again in 2020.

In July 2020 she was nominated for the Pete Guest Award. This is organised each year by the Bat Conservation Trust to recognise individuals who have made an outstanding practical contribution to bat conservation. The criteria for the award include dedication, innovation, enthusiasm and inspiration in making a difference, both to bats and to people, helping make BCT's vision become a reality. She was announced as the winner of this prestigious award in September 2020.



August 2023

Michelle Young – Licensed Bat Worker (2015-12474-CLS-CLS)

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Aimmie Woodman BSc (Hons) ACIEEM

Aimmie holds a BSc (Hons) degree in Conservation Biology and Ecology from the University of Exeter. Her ecological experience includes Preliminary Ecological Appraisals, Ecological Impact Assessments (EcIA) and surveying for notable / European Protected Species, with particular experience with bats as a volunteer bat carer since 2016. She has held Natural England survey licences for bats (Class 2) and great crested newts since 2021. Aimmie is an Associate member of the Chartered Institute of Ecology and Environmental Management and is accredited to undertake the approved field and desk study measures required to generate the River Condition outputs for Biodiversity Net Gain (BNG) calculations.