

**2020 Updated Bat Survey Report for
former Pentecostal Chapel, Aston Magna,
Gloucestershire, GL56 9QQ**



Cotswold Wildlife Surveys

20th January 2011 and 15th & 23rd July, 9th August & 11th September 2020

QUALITY CONTROL

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The information in this report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. The conclusions and recommendations expressed are reasoned judgements based on the evidence.

Every reasonable attempt has been made to comply with BS42020:2013 *Biodiversity – Code of practice for planning and development*, *CIEEM Guidelines for Ecological Report Writing* (CIEEM, 2017) and Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

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SUMMARY

At the former Pentecostal Chapel in Aston Magna near Moreton-in-Marsh, north Gloucestershire, planning permission is being sought to convert the existing building into a dwelling.

As this could impact on features commonly used by bats as roosting places, an initial daytime inspection was undertaken on 20th January 2011 to assess the chapel for signs of bat occupation.

All the internal and external features, especially those associated with the roof and walls of the building were examined.

In a temporary external porch, c6 Brown Long-eared Bat *Plecotus auritus* droppings were found, along with a small cluster of c30 droppings on the floor of the main room, the latter lying beneath a hole in the ceiling. A further c20 scattered Brown Long-eared Bat droppings were found in the basement rooms, these mixed in with several moth and butterfly wings.

The basement also contained a tight cluster of c100 Lesser Horseshoe Bat *Rhinolophus hipposideros* droppings lying on the floor below a wall-mounted light fitting. There was no sign of the animal in the building, and it was not identified as a hibernation site for this species.

However, in the roof void, a single adult Brown Long-eared Bat was found hibernating against the ridge board. There were very few droppings in the roof space, suggesting only recent use of the building, and the bat entrance to the void was through a gap in the north facing gable apex.

No further surveys were undertaken until 15th July 2020, when the chapel was re-inspected. The outside of the building was more overgrown with Ivy *Hedera helix*, but otherwise was little changed, except for a 10 cm gap in the external boarding on the ground floor.

Internally, Lesser Horseshoe Bat droppings were found everywhere, and at least 35 individuals were counted in the roof void. The bat entrance was clearly through the gap in the external boarding.

No fresh evidence of Brown Long-eared Bat occupation was found.

Given the presence of the bats, emergence surveys were undertaken on the evenings of 23rd July and 9th August 2020.

During the first survey, at least 21 Lesser Horseshoe Bats emerged from the aforementioned gap, with some bats noted returning to the chapel. Common Pipistrelle *Pipistrellus pipistrellus*, Noctule *Nyctalus noctula* and Whiskered/Brandt's Bats *M. mystacinus*/*M. brandtii* were also recorded flying around the site having emerged elsewhere.

On the second visit a minimum of 25 Lesser Horseshoes emerged from the gap, but at least 15-20 animals were still present flying around and perched inside when the survey ended. These were assumed to be fully-flying juveniles. Also recorded were Common and Soprano Pipistrelles *Pipistrellus pygmaeus*, a Natterer's Bat *Myotis nattereri*, a Whiskered/Brandt's Bat, a Daubenton's Bat *M. daubentonii*, a Noctule and a Brown Long-eared Bat, these all flying past having emerged somewhere else.

A fourth visit to the chapel was carried out on 11th September 2020 to specifically count the Lesser Horseshoes. A total of 48 animals were noted, these a mixture of adults and juveniles. Most were roosting in the roof void, but a couple were found in the basement rooms. The entrance through the boarding gap led into these rooms.

In order to convert the former chapel, a development licence from Natural England will be required, as the maternity roost site is to be modified and bats will be disturbed unless there is a mitigation strategy.

Although the main roost site in the roof void will be retained, there will be no access from it to the rest of the building. A purpose-built entrance will therefore be provided in the south facing roof slope.

Timing of works will also be critical, as the roost is not to be disturbed between mid-April and the end of October. As such the roof void will be fully isolated from the rooms below, with the new entrance created before the boarding gap is closed up.

When the doors and windows are replaced, the openings will have to be blocked up at the end of each working day to prevent bats returning to the interior during the night. Any bats which do find a way in will have to be re-located to the bat roost in the roof void the following morning by a licenced ecologist.

A monitoring programme over three years post works will also be implemented, with the roost counted in years one and three. To facilitate this a loft hatch will be installed, this measuring no more than 600 mm² to prevent the roof void being used for storage.

No lights will be installed in the bat loft to prevent accidental disturbance, and the future owners will be made aware of the roost within and their legal responsibilities.

1. INTRODUCTION

In mid-January 2011, Cotswold Wildlife Surveys was instructed to undertake a bat survey of the former Pentecostal Chapel in Aston Magna, north Gloucestershire. On 20th January 2011, a visit was made to the property to carry out a diurnal inspection of the building to check for signs of bat occupation.

No further surveys were undertaken until 15th July 2020, when the chapel was re-inspected. Internally, Lesser Horseshoe Bat droppings were found everywhere, and at least 35 individuals were counted in the roof void. The bat entrance was clearly through a gap in the external boarding.

Given the presence of the bats, emergence surveys were undertaken on the evenings of 23rd July and 9th August 2020.

A fourth visit to the chapel was carried out on 11th September 2020 to specifically count the Lesser Horseshoes.

The results of all these surveys are contained in this report.

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines 'European protected species of animals'.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats*
- ❑ *Deliberately disturb bats (whether in a roost or not)*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts*
- ❑ *Damage or destroy roosts*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats*

The word 'roost' is not used in the legislation but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2. METHODOLOGY

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent, but suitability of roosting is considered to be medium to high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats, Myotis bats (Natterer's and Whiskered/Brandt's), and Lesser Horseshoe Bats, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where these butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e. that bat use is confirmed, the number and timing of visits will be decided by the ecologist and will be appropriate for the type of roost. In general, at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal emergence survey is required, this to be in the optimum period.

For medium suitability a minimum of two visits are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three visits will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g. those with multiple elevations and/or roof structures.

At the former Pentecostal Chapel, thorough daytime inspections of the building were made by Andy Warren (Natural England licence No. 20103393) on 20th January 2011, on 15th July 2020 by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS), and on 11th September 2020 by Andy Warren (current Natural England bat licence No. 2015-16489-CLS-CLS). All the surveys included the exterior and interior walls, roof covering, roof void, basement, eaves, gables, roof and ceiling timbers, window casements and door frames.

10x42 Nikon binoculars and a Clulite CB2 Torch were used in 2011, with 8x42 binoculars and a Fenix TK75 torch in 2020.

In 2011 an endoscope was also used to examine any suitable crevices and cavities that could not be inspected closely with a torch. In 2020 an endoscope was not used.

On the evenings of 15th July and 9th August 2020, nocturnal emergence surveys of the building were undertaken by Neil and David Musgrave (15th July) and Andy and James Warren (9th August) to confirm the number of Lesser Horseshoe Bats roosting within the former chapel.

Both emergence surveys began quarter of an hour before and continued for one and three-quarter hours after sunset.

The surveys were aided by the use of electronic Echo Meter Touch and BatBox Duet bat detectors and iPads. This facilitates the detection of bats, and computer analysis of recordings aids in the identification of individual species, in particular those which might be utilising different frequencies simultaneously.

The results of the inspections and nocturnal surveys are detailed in Section 3.

3. RESULTS

3.1 Desk Study

A search of bat data held by Gloucestershire Centre for Environmental Records (GCER) was not made, as personal observations of bats have been made in the village over the last few years.

At The Old Vicarage 230 m southeast, a small non-breeding roost of up to 8 Brown Long-eared Bats was found in 2011, with observations of small numbers of foraging Common and Soprano Pipistrelles, and Whiskered/Brandt's Bats also made during nocturnals on 8th and 19th July 2011.

At the Coach House 244 m southeast, evidence of a Lesser Horseshoe Bat roost was found in June 2011, although no bats were present at the time. Common and Soprano Pipistrelles, and single Whiskered/Brandt's and Natterer's Bats were recorded during subsequent nocturnal surveys in July 2011.

Lesser Horseshoe and Brown Long-eared Bat droppings were also found in the implement shed at Aston Magna Manor 340 m west-northwest in October 2009, whilst a nocturnal emergence survey on 10th October revealed 6-8 Common Pipistrelles flying round the garden.

A Lesser Horseshoe maternity roost is present in a garage at Stretton-on-Fosse 3.5 km to the northeast, with numbers varying between 20 and 50 animals.

3.2 Location

Aston Magna is a small village lying approximately 3.5 km northwest of Moreton-in-Marsh in Gloucestershire. The former Pentecostal Chapel lies in the centre of the village, just west of the mainline railway bridge, at Ordnance Survey Grid Reference SP 197 357 (Appendix 1).

3.3 Site Description

The site comprised a detached brick building with a pitched tile roof (Fig. 1). Constructed on the side of a slope, there were two main rooms at upper floor level and a basement below (Fig. 2).



Fig. 1 Chapel – S & E elevations



Fig. 2 North elevation

There was a temporary timber porch on the south elevation and a bay window in the east facing wall.

The chapel sat within its own grounds, these lightly wooded with no shrubs or field layer (Fig. 3). To the west there were neighbouring houses, to the south and east Batsford Timber yard, and to the north a large block of broadleaved woodland.



Fig. 3 Lightly wooded garden of chapel

The layout of the site is shown in Appendix 2.

3.4 Building Survey

3.4.1 Bats

The initial survey was conducted on 20th January 2011, commencing at 09:30. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	1.3
Cloud cover (%)	0
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

The roof of the former chapel had been replaced several years previously, and it was in good condition (Fig. 5), with the ridge intact and sealed except for five missing tiles spread out along south roof slope (Fig. 6 – arrowed).

These provided opportunities for roosting pipistrelles, but it was not possible to examine the holes closely.

The lead flashing around the chimney was tightly moulded and all the remaining tiles were closely overlapping.

The gable ends were finished with timber barge boards (Figs. 7-10), behind which the ends of the tile batons were exposed.



Figs. 5 & 6 Roof of chapel and missing tiles (arrowed)



Figs. 7 & 8 West gable end showing barge boards and cavity in roof end



Figs. 9 & 10 East gable end sealed

At the east gable end the spaces between the batons were sealed with cement, but at the west end, there were gaps between many of the batons on the south side (the north side being sealed), as well as a large cavity in the end of the roof (Fig. 8 – arrowed). The hole was free of cobwebs and opened directly into the roof void.

Apart from an old Blackbirds which had been built on the external security light in the west gable end (Ref. Fig. 8), there were no signs of animal use.

The eaves were closed and sealed and the verges were tight (Fig. 11).

With the exception of a small cobwebbed hole, the brickwork was sound throughout, whilst all the door frames and window casements were tightly fitting.

Several of the windows had been smashed, but this had occurred in the last twelve months, and the windows had actually been boarded up three years previously when the building was vacated.



Fig. 11 Eaves closed



Fig. 12 Temporary porch

On the south elevation there was a temporary timber porch covering the basement doors (Fig. 12). The latter were boarded over and there was no access to the inside of the chapel.

The porch had a sloping tiled roof, the ends of which were open, providing multiple roost sites for bats (Fig. 13).

Each gap was carefully examined with an endoscope, but all were cobwebbed over and no evidence of bats was found (Fig. 14).



Fig. 13 Porch roof end



Fig. 14 Holes cobwebbed and dusty

In the top left hand corner of the porch (Fig. 15), c6 Brown Long-eared Bat droppings were noted, all caught in cobwebs on the timberwork (Fig. 16).

This was the only sign of bat activity around the outside of the building.



Fig. 15 Porch interior



Fig. 16 Brown Long-eared Bat dropping

Internally there was an upper floor divided into two meeting rooms, a small entrance lobby and a tiny kitchen. The ceiling of the eastern meeting room (Fig. 17) was lower than the main room, and there was no loft hatch.

No hatch was present in the main room either, but part of the ceiling had been removed in September 2010 to examine the underside of the roof (Fig. 18).



Fig. 17 Eastern meeting room



Fig. 18 Hole in ceiling of western room

On the floor below the hole a small, loose cluster of c30 Brown Long-eared Bat droppings were found, these evidently deposited by a bat roosting since September 2010 (Fig. 19).

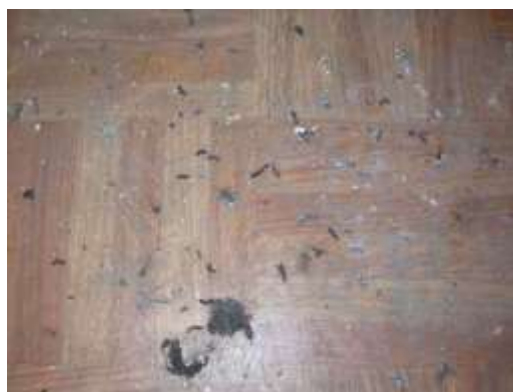


Fig. 19 Cluster of Brown Long-eared Bat droppings below hole in ceiling

In the corner of the eastern meeting room there was an opening leading to the basement (lower ground floor) via a space-saver staircase. Scattered around the two basement rooms (Fig. 20), were c20 Brown Long-eared Bat droppings (Fig. 21) and several moth and butterfly wings (Fig. 22), these presumed to be bat feeding remains.



Fig. 20 Basement room



Fig. 21 Brown Long-eared Bat dropping



Fig. 22 Butterfly wings

In the basement lobby (Fig. 23), more bat droppings were discovered (arrowed).



Fig. 23 Basement lobby



Fig. 24 Lesser Horseshoe Bat droppings

These were in a tight cluster consisting of about 100 Lesser Horseshoe Bat droppings (Figs. 24 and 25), all slightly swollen due to the damp conditions. The bat had evidently roosted on a wall-mounted light fitting (Fig. 26).

There was no sign of the animal and the chapel was not identified as a hibernation site for the species.



Fig. 25 Lesser Horseshoe Bat droppings



Fig. 26 Light fitting used as perch

There was a single roof void measuring approximately 1.6 m high and running the full length and width of the building (Fig. 27). It was lined with bitumen felt, except for a horizontal gap about two thirds of the way up the south slope (Fig. 28 – arrowed). This connected with a gap in the western roof end and provided ventilation to the void. There were no other sources of light penetration.



Figs. 27 & 28 Roof void with horizontal gap in felt (arrowed)

The timbers were relatively lightly cobwebbed, and about halfway along the void a hibernating adult Brown Long-eared Bat was found (Fig. 29).



Fig. 29 Hibernating Brown Long-eared Bat



Fig. 30 Bat entry point

The bat entry point was obviously through a wide, uncobwebbed gap in the west gable end (Fig. 30 – arrowed). This corresponded to the cavity noted in the roof end from outside.

No other evidence of bat activity was found in the void, and there did not appear to be any bat droppings, although the floor of the void was very dusty making droppings hard to see.

The locations of the various bat droppings in the building are shown in Appendix 3, along with the position of the hibernating bat and the bat entry point.

*

The updated survey was conducted on 15th July 2020, commencing at 14:45. The weather conditions during the time of the survey were recorded and are presented in Table 2 below.

Parameter	Value
Temperature (°C)	17.5
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0

Table 2 Weather conditions during the updated diurnal survey

The ridge still was intact, and the gaps observed in the previous survey were covered with moss.

All the roof tiles were closely overlapping and the lead flashing around the chimney was tightly moulded (Figs. 31 and 32).



Figs. 31 & 32 Ridge and roof tiles to both front (L) and rear (R)

As found on the previous survey, on the east gable end the spaces between the batons were sealed with cement, but at the west end, there were gaps between many of the batons on the south slope (the north side being sealed) (Figs. 33 and 34).



Figs. 33 & 34 Gable ends – with west gable gaps (L) and sealed east gable (R)

The eaves were still closed and sealed, and the porch over the lower entrance was still in the same condition as found in 2011. The Blackbirds' nest was smothered in Ivy.

The brickwork was sound throughout and the window casements and doorframes were tightly fitting. A 10 cm gap was observed between the door and the doorframe of the entrance door on the lower floor (Fig. 35 – arrowed). No evidence of bat activity was found around the outside of the building.



Fig. 35 Gap to the side of the lower entrance door

Internally the layout of the building was the same. On the floors of both the upper and lower levels, hundreds of Lesser Horseshoe Bat droppings were found and a check of the roof void revealed at least 35 Lesser Horseshoe Bats at roost (Figs. 36-38).



Figs. 36 & 37 Lesser Horseshoe Bat droppings



Fig. 38 At least 35 Lesser Horseshoe Bats at roost

Little light penetrated the roof void, and the bat entry point was clearly through the hole in the ceiling (Ref. Fig. 18).

A second inspection was carried out on 11th September 2020 to specifically count the Lesser Horseshoes. A total of 48 animals were noted, these a mixture of adults and juveniles. Most were roosting in the roof void (Fig. 39), but a couple were found in the basement rooms (Fig. 40). The entrance through the boarding gap led into these rooms.



Figs. 39 & 40 A total of 48 Lesser Horseshoe Bats at roost

3.5 Nocturnal Surveys

3.5.1 1st Emergence Survey

The first emergence survey was carried out on 23rd July 2020, commencing at 20:55 and finishing at 23:00. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	16.0 start; 22 finish
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:10

Table 3 Weather conditions during the 1st emergence survey

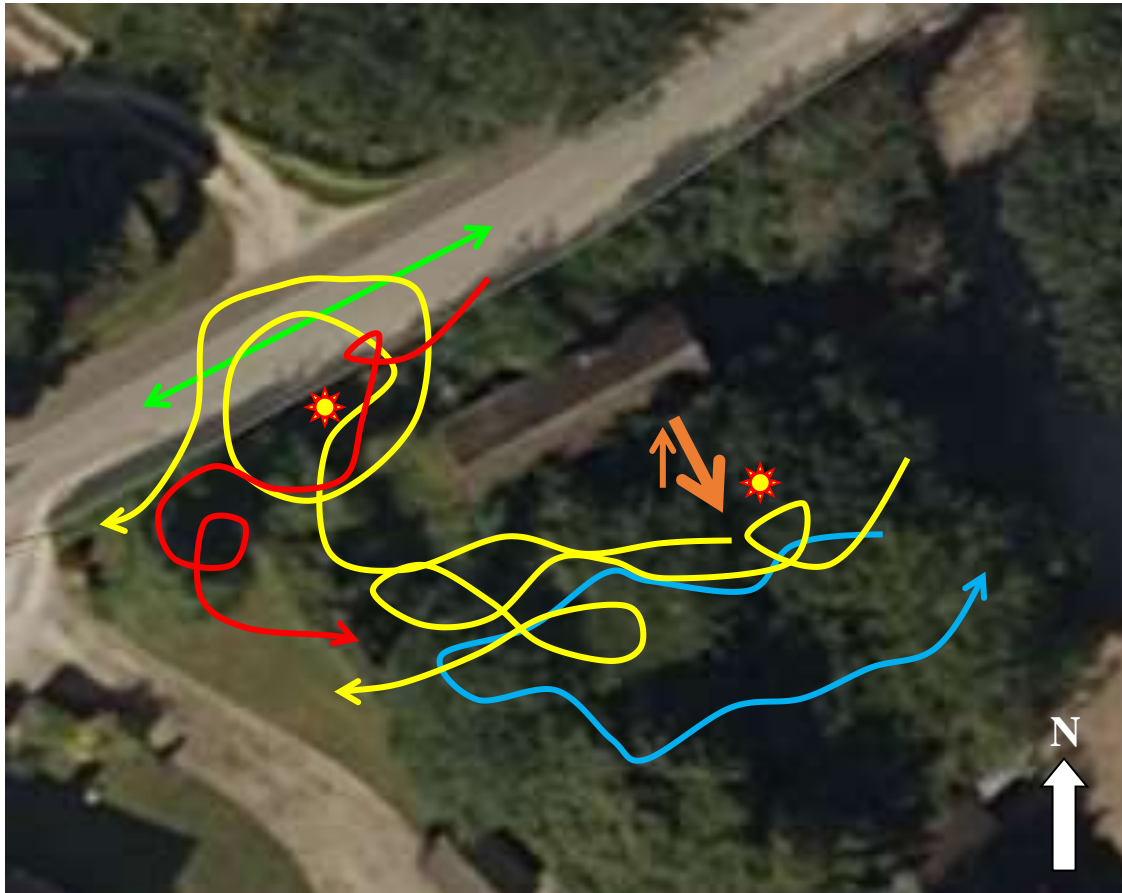
Small numbers of Common and Soprano Pipistrelles flew around the site, but none were observed to emerge from the building. A Noctule was recorded flying up and down the road and a Whiskered/Brandt's flew around the rear of the site. 21 Lesser Horseshoes Bats emerged from the building through the gap in the boarding in the lower floor. 3 Lesser Horseshoe Bats were noted returning to building through the same gap.

The times of bat observations and detections are shown below.

Time	Observation
21:06-21:15	Soprano Pipistrelle flying around the rear of the site
21:15-21:19	Soprano Pipistrelle departed the rear and started doing circuits over to the road
21:16-21:24	Common Pipistrelle doing circuits over the gate
21:23-21:38	Soprano Pipistrelle doing circuits over the gate
21:19-21:37	Soprano Pipistrelle doing circuits round the rear
21:30-21:40	Whiskered/Brandt's Bat flying round the rear
21:39-21:54	21 Lesser Horseshoe bats emerged from the gap by the lower door
21:46	Noctule flew up the road
21:49	Noctule flew down the road
21:59	Noctule flew up the road
22:12	Soprano Pipistrelle foraging round the rear
22:20	3 Lesser Horseshoe bat returned to the chapel through the gap by the lower door
23:00	Survey ended with no further observations or detections

The bat flight paths at emergence are shown on Plan 1 overleaf.

Plan 1 Bat flight paths at 1st emergence on 23rd July 2020



Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Lesser Horseshoe Bats →

Noctule Bat →

Whiskered/Brandt's Bat →

Positions of observers *

3.5.2 2nd Emergence Survey

The second emergence survey was carried out on 9th August 2020, commencing at 20:30 and finishing at 22:15. The weather conditions during the time of the survey were recorded and are presented in Table 4.

Parameter	Value
Temperature (°C)	24.0 start, 21.0 finish
Cloud cover (%)	20
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	20:42

Table 4 Weather conditions during the 2nd emergence survey

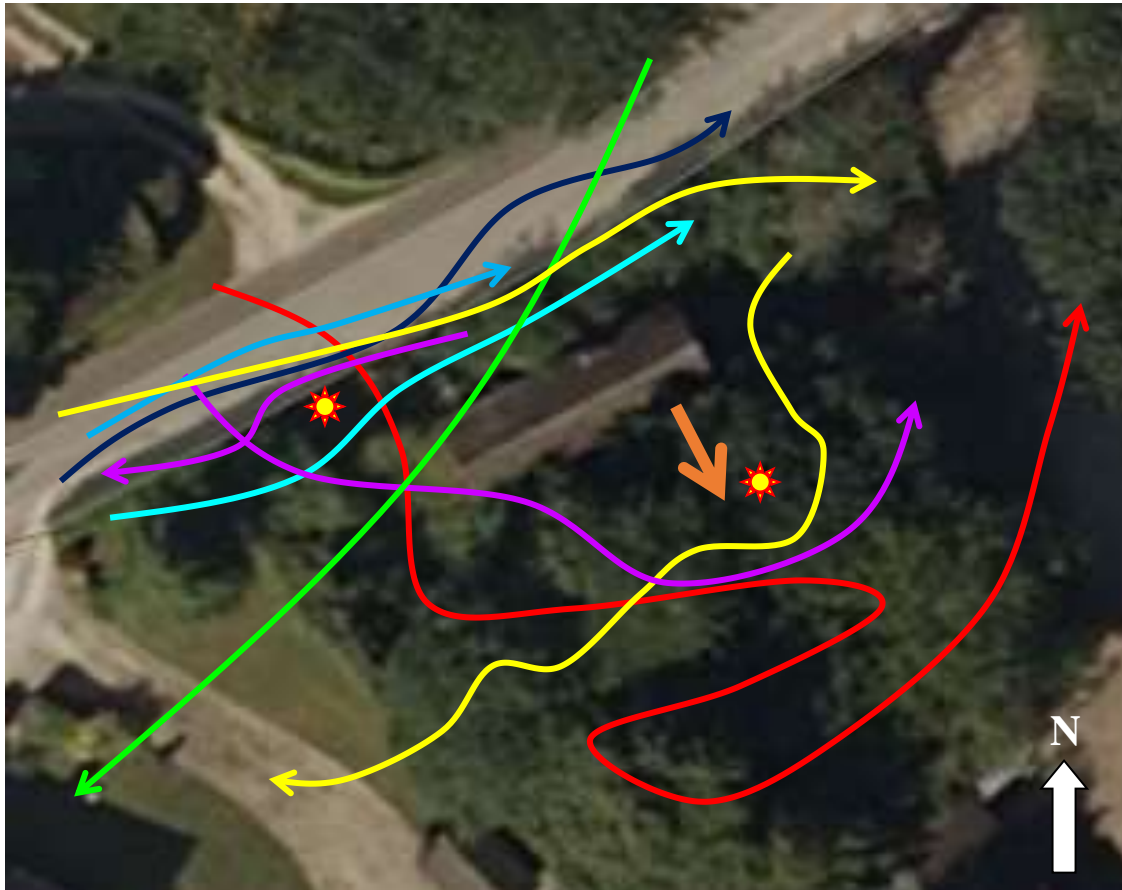
A minimum of 25 Lesser Horseshoes emerged from the gap, but at least 15-20 animals were still present flying around and perched inside when the survey ended. These were assumed to be fully-flying juveniles. Also recorded were Common and Soprano Pipistrelles, a Natterer's Bat, a Whiskered/Brandt's Bat, a Daubenton's Bat, a Noctule and a Brown Long-eared Bat, these all flying past having emerged somewhere else.

The times of bat observations and detections are shown below.

Time	Observation
20:50	Soprano Pipistrelle flew past
20:53	1 st Lesser Horseshoe emerged followed by 2 nd , then both back in
20:55	Soprano Pipistrelle and Common Pipistrelle flying round
20:57	Lesser Horseshoe emerged and flew off
20:59	2 nd Lesser Horseshoe flew off
21:00	Common Pipistrelle flew over and Soprano Pipistrelle around
21:04	Natterer's Bat flew past down the road and both Common Pipistrelle and Soprano Pipistrelle still present
21:09	Now 10 Lesser Horseshoes out
21:13	Daubenton's Bat flew past down the road and Common Pipistrelle still present
21:16	Brown Long-eared Bat flew past with Common Pipistrelle still around
21:20	Noctule overhead and Soprano Pipistrelle pass
21:32	Both Common Pipistrelle and Soprano Pipistrelle around. 25 Lesser Horseshoes out now
21:37	Whiskered/Brandt's Bat flew past and both Common Pipistrelle and Soprano Pipistrelle still around

21:44	Daubenton's Bat flew past again
21:45	Brown Long-eared Bat detected briefly
22:15	Intermittent Lesser Horseshoe and pipistrelle activity and survey ended

Plan 2 Bat flight paths at emergence on 9th August 2019



- Common Pipistrelle Bat** →
- Soprano Pipistrelle Bat** →
- Lesser Horseshoe Bats** →
- Noctule Bat** →
- Whiskered/Brandt's Bat** →
- Natterer's Bat** →
- Daubenton's Bat** →
- Brown Long-eared Bat** →
- Positions of observers** ☀

4. CONCLUSIONS AND RECOMMENDATIONS

Bats tend to be seasonal visitors to properties, and are not usually in occupation all year round. The females normally form maternity colonies during May or June and then leave for adjacent trees and/or woodland during July or August once the young bats are able to fly and become independent. Here they will spend the winter months in hibernation before returning to the house or barn the following spring.

Male bats generally live alone and have a number of favoured roosts. During the summer they visit each of these for a few days at a time, before moving to their chosen hibernation site in mid-late October.

Different species have different habits, but this seasonal movement is common to all.

Bats choose their roosts carefully. During the summer they look for sites which are warmed by the sun, and as a result are most often found on the south and western side of buildings.

Pipistrelles, our smallest and commonest bats, prefer to roost in very confined spaces around the outside of buildings, typical places being behind hanging tiles, weather boarding, soffit, barge and eave boarding, between roof felt and roof tiles or in cavity walls.

As such they can be very difficult to find, so suitability for roosting was also assessed.

In 2011 this was thought to be medium in the roof of the chapel, as there were five missing tiles directly below the ridge, and gaps in the west gable end. The latter were still present in 2020, but the roof was now covered in moss, with Ivy also encroaching.

The absence of roosting pipistrelles was confirmed by the 2020 nocturnal surveys, when no bats emerged from the building, although both Common and Soprano Pipistrelles were noted flying round the site.

Another bat frequently encountered in buildings is the Brown Long-eared. This is also a common species, but unlike pipistrelles, they prefer the dry, warm space of the loft or roof void, and can often be found hanging from roof timbers, especially rafters and the ridge board next to chimney breasts.

The locations, shape, size and texture of the droppings found in 2011 were typical of Brown Long-eared Bat, and the relatively low number suggested that just a single animal had been involved, most likely an adult male. It had also only been present since September 2010, as this was when the hole had been made in the ceiling thereby providing access to the meeting rooms and basement.

It was initially thought that the bat may have used the chapel as a transitory autumn roost, but it was subsequently found hibernating in the roof void, wedged in against a rafter and the ridge board.

The location of the Lesser Horseshoe Bat droppings found in 2011 was also typical, although the droppings were slightly swollen in size due to the damp conditions (bat droppings are hygroscopic and swell up when moist).

By 2020 it was evident that a significant number of Lesser Horseshoe Bats were roosting in the building, as their droppings were found everywhere. At least 35 individuals were subsequently counted in the roof void on 15th July, with 48 counted on 11th September 2020, this a mix of adults and fully-flying juveniles. The bat entrance was clearly through a gap in the external boarding.

A third nocturnal survey was considered unnecessary, as the Lesser Horseshoe Bats were relatively easy to count, and no other species were recorded emerging from the building during the first nocturnals. Indeed, no fresh evidence of Brown Long-eared Bat occupation was found.

In order to convert the former chapel, a development licence from Natural England will be required, as the maternity roost site is to be modified and bats will be disturbed unless there is a mitigation strategy.

Although the main roost site in the roof void will be retained, there will be no access from it to the rest of the building. A purpose-built entrance will therefore be provided in the south facing roof slope.

Timing of works will also be critical, as the roost is not to be disturbed between mid-April and the end of October. As such the roof void will be fully isolated from the rooms below, with the new entrance created before the boarding gap is closed up.

When the doors and windows are replaced, the openings will have to be blocked up at the end of each working day to prevent bats returning to the interior during the night. Any bats which do find a way in will have to be re-located to the bat roost in the roof void the following morning by a licenced ecologist.

A monitoring programme over three years post works will also be implemented, with the roost counted in years one and three. To facilitate this a loft hatch will be installed, this measuring no more than 600 mm² to prevent the roof void being used for storage.

No lights will be installed in the bat loft to prevent accidental disturbance, and the future owners will be made aware of the roost within and their legal responsibilities.

5. REFERENCES

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APPENDICES

- | | |
|-------------|---|
| Appendix 1: | Location plan |
| Appendix 2: | Site plan |
| Appendix 3: | Location of bat droppings, hibernating bat and bat entry point (2011) |
| Appendix 4: | Location of bat droppings, roosting bats and bat entry point (2020) |

Appendix 1: Location plan



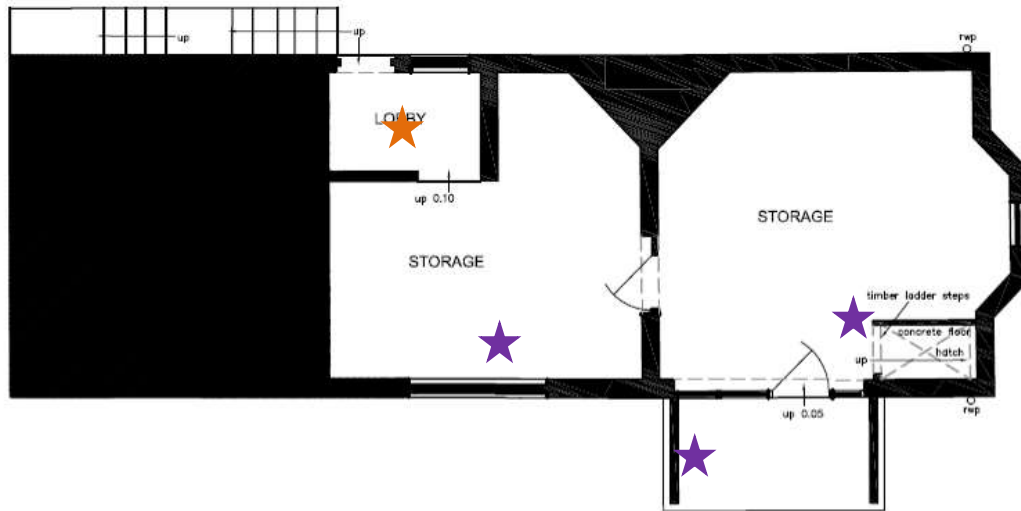
Former Pentecostal Chapel

Appendix 2: Site plan

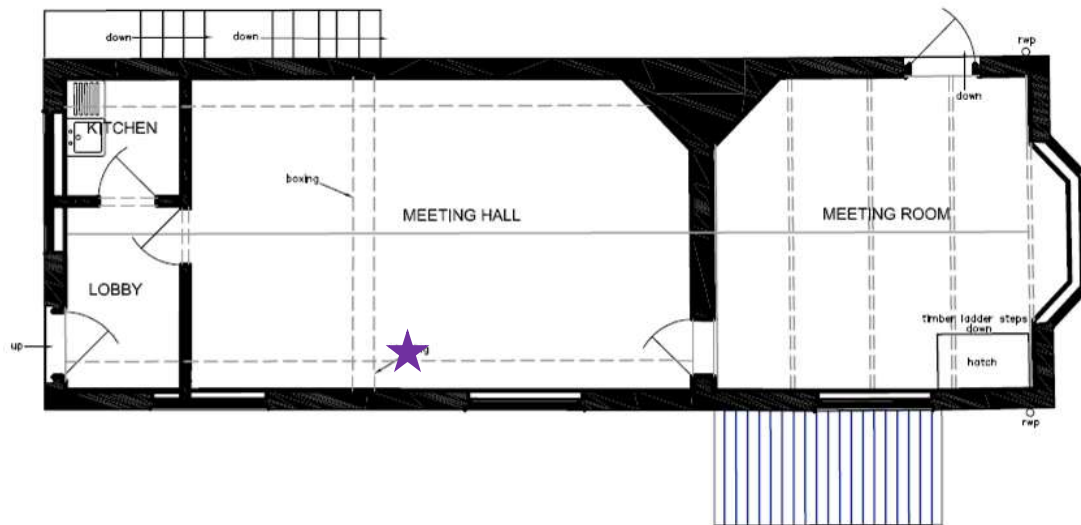


Former Pentecostal Chapel

Appendix 3: Locations of bat droppings, hibernating bat and bat entry point in 2011



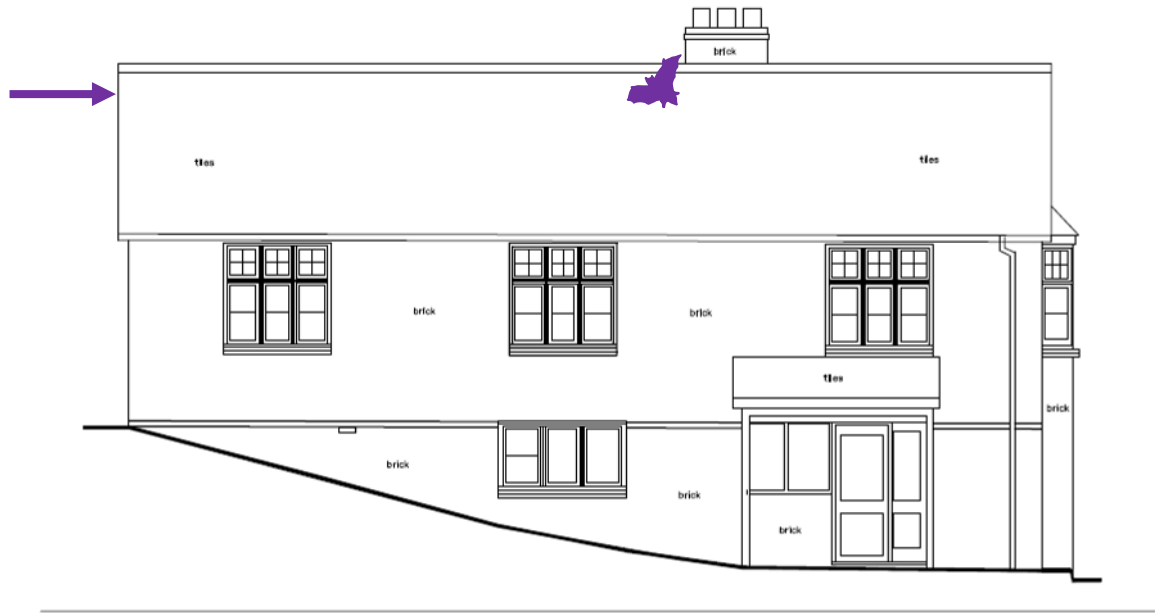
LOWER GROUND FLOOR PLAN



GROUND FLOOR PLAN

Brown Long-eared Bat droppings ★

Lesser Horseshoe Bat droppings ★

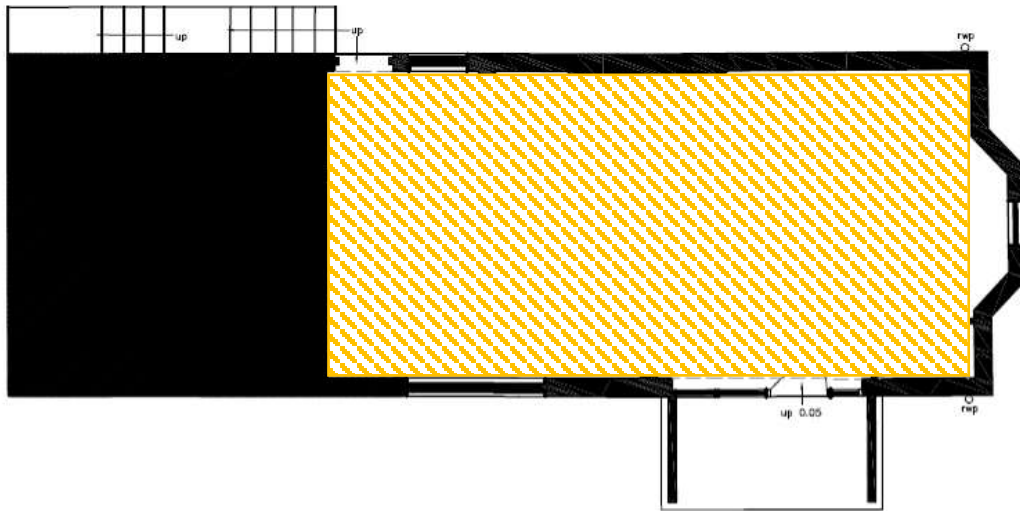


SOUTH ELEVATION

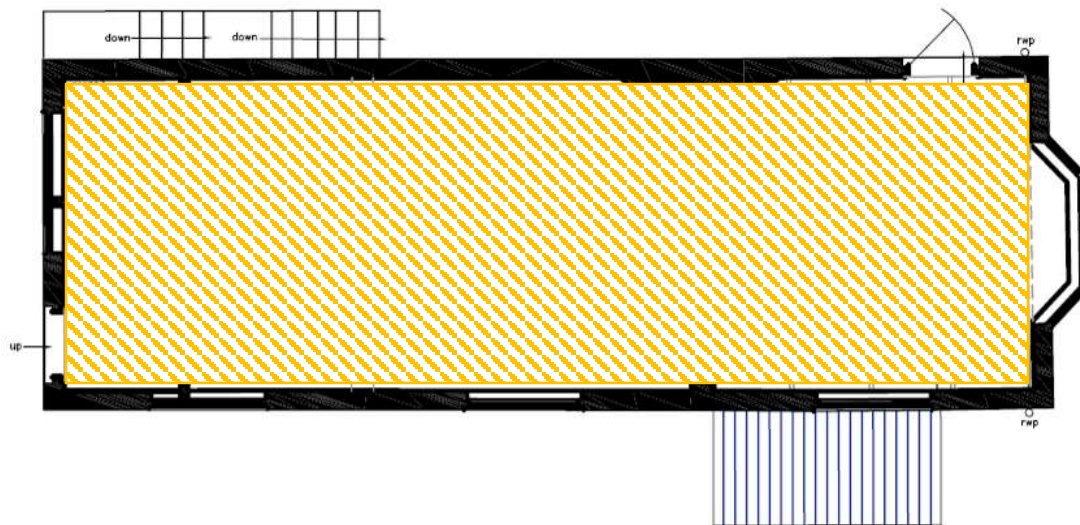
Hibernating Brown Long-eared Bat 

Bat entry point 

Appendix 4: Locations of bat droppings, roosting bats and bat entry point in 2020



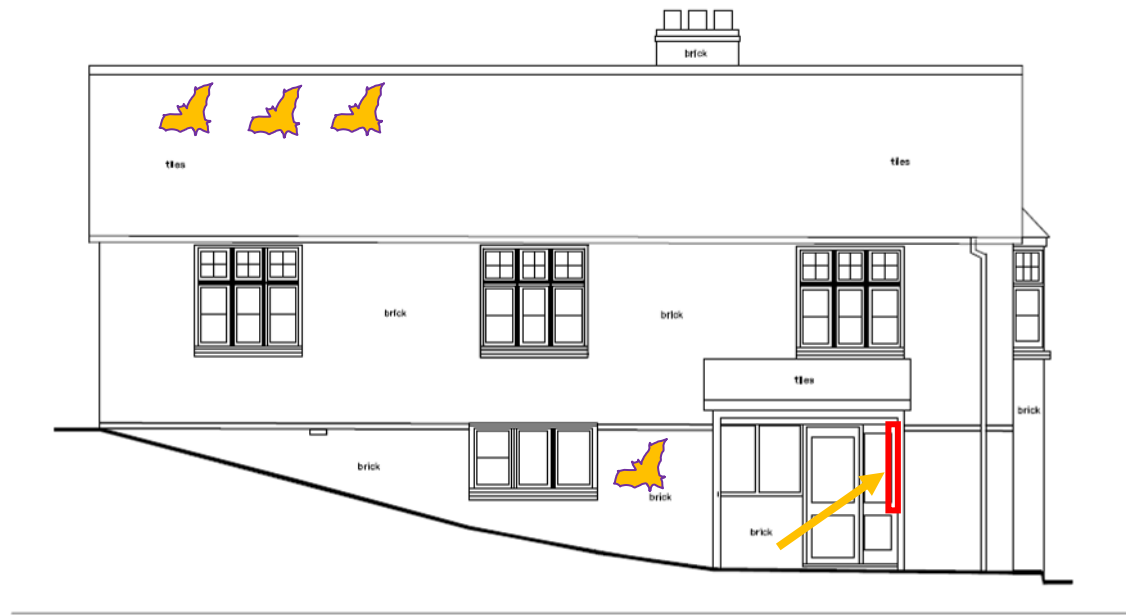
LOWER GROUND FLOOR PLAN



GROUND FLOOR PLAN

Lesser Horseshoe Bat droppings





SOUTH ELEVATION

Locations of roosting Lesser Horseshoe Bats (on both sides of the ridge) 

Bat entry point 

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To: Batsford Estate

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