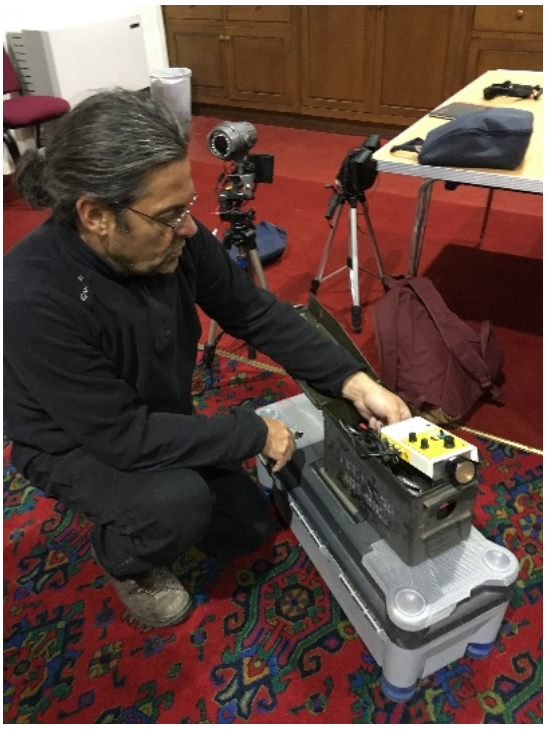
Bats in St Paul's Church
Summary of a Survey completed in August 2017
By Maggie Morland

The survey was commissioned to assess any potential impact upon bats from the proposed work. A volunteer bat warden visited in October 2016. This visit noted a small number of droppings in the body of the church sufficient to suggest that pipistrelle and long eared bats may utilise the structure.



Barry Collins with the passive bat detector

Bat emergence and activity surveys were undertaken over the active season of 2017
The surveys identified no established roosting within the body of the church. The emergence and activity surveys identified that common pipistrelle bats are roosting underneath the roof tiles, the ridge tiles and the coping stone on the apex of the eastern gable. The amount of animals present at the peak was 3, they were roosting in 3 separate locations.

The works therefore will impact upon day roosts for common pipistrelle bats. However, the timing of the works are such that it is normal for these type of roost to have dispersed, firstly to mating roosts and beyond that to hibernation sites. The report describes timing of works and methods to be undertaken, including the provision of the same roost features once the roof is replaced.

All species of British bat and their roosts are protected under British law by the Wildlife and

Countryside Act 1981 (as amended), and bats are classified as European Protected Species under The Conservation of Habitats and Species Regulations 2010 (as amended). This makes it an offence to kill, injure or disturb a bat and/or to damage or destroy a breeding site or resting place for a bat. It is also an offence to disturb the animals such that it impairs their ability to survive, to reproduce, to nurture their young, or such that it impairs their ability to hibernate or migrate. Under this legislation development work that could affect a bat or bat roost can only be permitted under a licence from Natural England.

The general village landscape is one that is suitable for all of the species of bat found in this part of England.

Equipment used included a powerful torch, camera and binoculars. The search included looking for feeding remains, droppings, staining, worn surfaces and the bats themselves (alive or dead). Remote monitoring inside the church done by an Anabat II plus Zcaim to operate remotely overnight between 20:00 hours and 06:00 hours daily, a period of 10 hours, for a total of 13 nights between 9th August and 21 August 2017. This equates to a total of 130 hours of monitoring inside the body of the church during the peak bat active season.

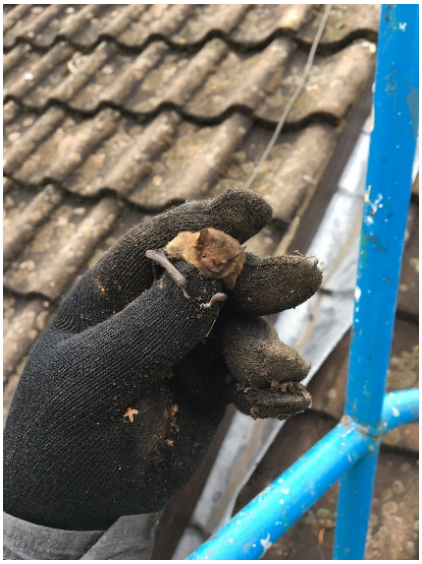
For the first emergence and activity survey (9 August 2017) 3 ecologists with bat detectors were deployed. The first was located inside the body of the church monitoring for any bat activity inside. This was further supported by a night video recorder (Sony plus Raytec floodlights) monitoring the interior of the chancel. For the second survey the chancel was monitored externally only from the south-east and north-west corners by two bat ecologists.

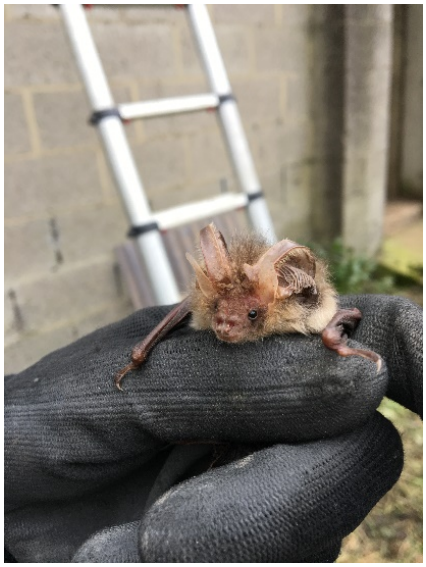
The survey undertaken by BJ Collins on 9 August 2017 located just 3 bat droppings. All 3 were associated with the chapel to the south of the aisle and immediately west of the organ. The droppings were typical of those voided by a pipistrelle bat species. As a result, there was an Anabat unit placed on the screen within this section of the church, but with the microphone pointing into the nave and towards the chancel. There was no bat dropping aggregation to indicate an established roost location or indeed a large number of bats. The conclusion by the surveyor monitoring the church within the peak bat activity season was that there were no bats roosting within the structure. The surveyor located inside the building, monitoring bat activity inside (as well as observing utilising a night vision viewer) the interior of the chancel, recorded no bat activity over the survey period.

Externally, the chancel provides multiple opportunities for roosting by bats by gaps between the heavy stone slate, gaps underneath ridge tiles and gaps underneath coping stones.

The surveyor located on the south-east corner of the chancel recorded the first bat, a common pipistrelle (*Pipistrellus pipistrellus*) emerging from under the top coping stone on the eastern gable of the chancel and flying away to the east. The next bat recorded was a Noctule (*Nyctalus noctula*) flying high and unobserved at 21:05. From this point on there was activity by common pipistrelle bats throughout with continuous activity of three-minute periods up until 21:23 when the number of passes reduced and comprised some 25 passes between 21:23

and 21:35 when continuous activity began again. This activity ceased at 21:36 and between that period and the end of the survey there were 4 passes by common pipistrelle. The surveyor also recorded 2 passes by a soprano pipistrelle *(P. pygmaeus*). Throughout the survey period the pipistrelle bats were foraging with feeding buzzes regularly recorded.





Pipistrelle bat ***Brown long-eared bat***

(Both by Barry Collins)

The surveyor located on the north-west corner of the chancel recorded the first bat at 2058 when a common pipistrelle emerged from the lower tiles and flew away to the north-east. The surveyor then also observed the pipistrelle emerging from out of the apex of the gable reported above. At 21:06 a second common pipistrelle emerged from underneath the tiles in the same location as the first bat. The surveyor then recorded common pipistrelle bat activity with occasional soprano pipistrelle activity with a similar abundance to that observed by the surveyor on the south-east. At 22:10 there was a single pass by a quiet echolocating bat assumed by the surveyor to be that of a Brown long-eared bat (*Plecotus auritus*).

At the close of the survey total of 3 common pipistrelle bats had emerged from 2 different areas on the roof covering of the chancel. Bat foraging was continuous and relatively abundant within the church yard close to the chancel.

6th September 2017 - Emergence and Activity Survey
The survey commenced at 19:25 and sunset was at 19:40. The surveyor monitoring from the south-east corner of the chancel recorded the first bat, a common pipistrelle at 19:48. At 19:54 a common pipistrelle emerged from the apex of the ridge tile on the south side of the chancel close to the eastern gable and was observed by both surveyors emerging from the structure. At 20:06 a second common pipistrelle emerged from the same location.

From this point on common pipistrelle activity was abundant across the church landscape with feeding buzzes and occasional social calls. In total there was a minimum of 41 passes of the surveyor in this position. Only one other species of bat was observed during this period, a soprano pipistrelle at 20:08 and 20:13. The surveyor monitoring from the north-west corner of the chancel recorded the first bat at 19:50 hours, a common pipistrelle foraging in the distance. From this point on the surveyor recorded only common pipistrelle with a total of 101 separate passes by common pipistrelle with social calls and continuous feeding buzzes. There was a single observation of a soprano pipistrelle at 21:08.

The recordings from the remote monitoring unit were checked and analysed by a licensed and experienced bat ecologist. This identified a total of 6 triggers across the period of monitoring, some 130 hours. The first of these was a very faint trigger at 03:33 on the 11th August, this had the potential to be a Brown long-eared bat but the call recorded was no longer than 2 pulses. On 12 August there was a single call at 02:10 of a common pipistrelle which could have been a bat flying externally close to a window. On 14 August there were a total of 3 triggers, 2 of those were at 23:53 and 23:56 and were most likely attributed to a soprano pipistrelle, again flying close to one of the windows externally. The third of these was a Brown long-eared bat pass which would suggest an individual of this species had entered the church at 01:56 hours for a short period.

The conclusion of the emergence and activity surveys are that the works to the interior of the church will not have an impact upon roosting bats.

The emergence and activity surveys have identified that a small number of common pipistrelle bats roost underneath the roof tiles on the church. A grand total of 3 bats were found to be utilising this roost feature residing in different locations on both survey cycles. This type of behaviour is indicative of small numbers of males, or potentially post breeding females prior to the formation of mating roosts. There is also the potential this could be individual bats which are not mating.

The survey determination is that the reroofing of the chancel will not have a significant impact upon the bats roosting in the church or upon a bat roost of conservation significance. The reason for this is that the works are due to be undertaken at a time of year when these types of roosts disperse and that the roof will be replaced before the middle of November 2017, well in advance of the bat activity season commencing in April 2018.

Constraints to works

- The removal of the roof should be timed for a period of year when the bats are absent.
- The roof should be re-installed with the same bat roost features available as those previous. To facilitate this, the bat ecologist will point out to the roofing contractor locations where similar gaps between the heavy stone slates should be installed.
- Beyond this, to ensure that there is no harm to any bat which may be roosting outside of the active period the following will be implemented. The ecologist will visit site and supervise the removal of all of the roof ridge tiles and sections of slate where bats were previously observed roosting. This will also include lifting the loose coping stone at the apex of the eastern gable where roosting was observed beneath.
- Throughout the removal of the slates, and in particular when lifting slates off of a section where there is a gap between and beneath, the contractor will be briefed to be vigilant regarding the potential to uncover a bat.

Summarised from 'Bat Survey Of The Church Of Saint Paul, Church Hill, Woodhouse Eaves, Loughborough' by B J Collins – Protected Species Surveyors Ltd - September 2017.