

St Marks Church Phase I and 2 Bat Survey Results

By Elizabeth Kimber

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Executive Summary

Survey dates: 10/05/2019, 6/7/2019, 9/8/2019
Location: St Marks Church, Wallisdown Road, Talbot Village, Bournemouth, BH10 4HY
Grid Reference: SZ 06971 94009

St Marks Church has a maternity roost of brown long-eared bats, day roosts for common pipistrelle and serotine bats.

The church has been aware of the presence of a bat population for several years, due to the inconvenience caused by the presence of bat droppings. As such, surveys have been undertaken to establish the presence of bats within the church and to establish how they are using the church to roost.

A phase 1 bat survey was undertaken in the church during May 2020 to establish areas where bats may be roosting. The survey found there were no obvious void spaces for roosting bats, and the tiles are all in good condition so there is limited access under tiles for bats. Some bat droppings were recorded in the north of the church by the speakers, and numerous bat droppings were recorded within the alcoves. Bat droppings were also recorded scattered throughout the church building.

Phase 2 bat surveys were undertaken to establish bat use of the church. Surveyors were set up around the perimeter of the church, and one surveyor was inside the church with video cameras to establish how bats utilised the inside of the church before emergence, and prior to re-entry. A peak count of 89 brown long-eared bats was recorded re-entering the church in various locations, with a peak count of up to six common pipistrelle bats and one serotine bat. This represents a maternity colony of brown long-eared bats, with day roosts for common pipistrelle and serotine bats.

A variety of mitigation measures have been considered to enable the bat population to be segregated from the church, however, no satisfactory solution has been reached that would be favourable to both the bat population and to the church.

I Scope

I.1 Survey

I.1.1 Phase 1 and 2 bat surveys were undertaken at St Marks Church to establish how bats use the church at St Marks, and whether there is a possible solution to separate the bat population from the main church to reduce the amount of disruption to church life caused by the presence of bats.

I.2 Site

I.1.2 St Marks church is located in the north-west of Bournemouth, in a residential area. The church is surrounded by a wooded area to the east, with residential development to the south and west. There is a small area of greenspace present to the north of the church.



Figure I: Site Location, red outline is location of church

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2 Legislation

2.1 All bat species are legally protected under the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019. All species of bat are also protected under the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to:

- Deliberately kill, injure or capture bats;
- Deliberately disturb bats in such a way as to be likely to significantly affect: (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or (ii) the local distribution or abundance of bats;
- Intentionally or recklessly disturb any bat whilst it is occupying a roost;
- Damage or destroy bat roosts; and
- Intentionally or recklessly obstruct access to a bat roost.

2.2 This legal protection means that where activities have the potential to impact on bats, the results of a bat survey and an appropriate mitigation strategy must be submitted to Natural England. Due to the presence of bats within a church, the Bats in Churches Project has been involved with the management for the bat population at St Marks.

3 Methodology

3.1 Preliminary Roost Appraisal

3.1.1 A consistent search effort for evidence of bats was applied to all areas of the church. The methodology used to search the church is consistent with the guidelines provided in the Bat Conservation Trusts Bat Survey Guidelines (2016).

3.1.2 The presence of roosting bats can be recorded through signs such as accumulations of bat droppings, moth or butterfly wings, and staining around potential entrance and exit points. The absence of these cannot, however, be treated as conclusive evidence that bats are not using the buildings. An assessment was therefore also made of the potential of the building to support bats based on the following scale (Table 1):

Table 1: Criteria for assessing bat roosting potential of buildings

Confirmed Roost	Evidence of bat occupation recorded
High Roosting Potential	Significant roosting potential present, either because of a large number of suitable features, or features present are optimal
Moderate Roosting Potential	Features with moderate access to the roost locations, with roosting features which are less suitable
Low or Negligible Roosting Potential	Buildings with few, if any, features suitable for roosting bats, and few access points.

3.1.3 The habitat surrounding the site was assessed for its suitability for use by bats, identifying features such as possible commuting corridors and foraging areas. These features assist bats with orientation in the dark, allowing bats to successfully navigate between roosts and foraging areas.

3.1.4 A direct search for evidence of bats was therefore conducted in May 2019 by Elizabeth Kimber (Licenced bat worker). This included a thorough search inside the church for presence of bat droppings, noting any droppings which had accumulated within the church, either on the floor or stuck to the walls.

3.2 Phase 2 bat surveys

3.2.1 A series of evening emergence and dawn re-entry surveys were conducted on the 10th May 2019, 6th July 2019 and 9th August 2019. The evening emergence surveys commenced 20 minutes before sunset and continued for at least 1.5 hours after sunset. The dawn re-entry survey commenced 1.5 hours before sunrise and continued until 5 minutes after sunrise, when bat activity had stopped for 30 minutes.

3.2.2 Surveyors were situated at key points around the building. A combination of detectors were used including iPad + Echometer Touch 2, Elekon Batlogger M, Magenta and Peterson. These detectors were used to record any bats seen leaving/entering the buildings. Visual observations were also used to record flight patterns and feeding behaviour to aid identification to species level. Due to the volume of bat calls recorded, a selection of calls were analysed using Kaleidoscope to ensure bat species were accurately recorded.

3.2.3 General bat activity within the vicinity of St Marks was not noted, as our primary focus was on the bats emerging from the church. From previous survey experience in the local woodland there was no indication of a large population of brown long-eared within the woodland.

3.2.4 Video cameras with InfraRed lighting was used within the church to record bat activity in different areas of the church and establish where the bats are roosting within the building. This was altered for each survey to move around the location from which recordings were taken to establish an over view of how bats are using the building. Additional video surveys were undertaken on the 18th and 26th August 2019.

4 Results

4.1 Phase I Bat Survey

4.1.1 St Marks Church was built in phases, as the local population increased. The original part of the church was completed in 1820, constructed from masonry partly from Swanage (Purbeck) and partly from Stalbridge in the Blackmoor Vale, North Dorset. The extension to the church, situated to the north of the original nave, was completed in 1986.

4.1.2 Descriptions of the church are provided below, along with a series of photographs:

- The building is constructed from stone.
- The roof is pitched and constructed from slate roof tiles.
- There are wooden soffits and fascia boards present.
- There is an open porch on the southern elevation of the church.
- The window frames are constructed from a variety of materials including stone and wood.
- There are stained glass windows present.
- There is a clock tower on the south of the church.
- Internally there is no void, the roof is open to the apex. The ceiling is lined with wood internally.
- There are wooden beams across the ceiling.
- Photos are included below to illustrate the construction of the church



Photo 1: Southern elevation of church



Photo 2: Eastern elevation of church



Photo 3: Eastern elevation of church



Photo 4: Northern elevation of church



Photo 5: Northern elevation of church

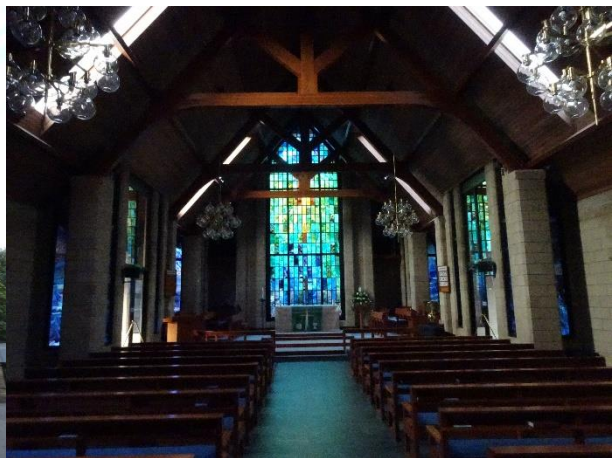


Photo 6: Inside the extension to the church



Photo 7: Inside church



Photo 8: Inside original church



Photo 9: Inside original church



Photo 10: Plastic covering main altar to protect it

4.1.3 Bat droppings were recorded in numerous locations throughout the church, with areas where larger numbers of droppings were recorded marked on figure 2 below. There were scattered droppings recorded throughout the church. No bat droppings were recorded in the clock tower, or in the new church hall.



Figure 2: Location of larger numbers of bat droppings within church



Photo 11: Bat droppings present near speakers



Photo 12: Bat droppings present in alcove

4.2 Phase 2 bat surveys

4.2.1 Phase 2 bat surveys were conducted on the 10th May 2019, 6th July 2019 and 9th August 2019, with surveyors situated outside the church covering all aspects of the building. Video footage was also taken inside the church to establish how bats are utilising the inside of the church. Bat emergence locations are illustrated in figure 3, and shown in the photographs below:



Figure 3: Bat emergence and re-entry locations (10/05/2019 shown in purple, 06/07/2019 shown in red and 09/08/2019 shown in pink)

4.2.2 Total bat emergence numbers on the 10th May 2019 were 33 brown long-eared bats, and 1 serotine.

4.2.3 Total bat re-entry numbers on the 6th July 2019 were 89 brown long-eared bats, and 6 common pipistrelle bats.

4.2.4 Total bat emergence numbers on the 9th August 2019 were 12 brown long-eared and 6 bats which are a combination of brown long-eared and common pipistrelle emerging from the same location at the same time.

4.2.5 The video surveys inside the church on the 10th May 2019, 6th July 2019, 9th, 18th and 26th August 2019 established the patterns of bat activity inside the church. Bats were recorded emerging from the area above the speakers, either side of the stained glass window in the extension to the church. The bats then flew around all areas of the church, using all levels to pre-fly before emerging from a variety of locations. The primary emergence and re-entry locations were the alcoves on the south-east and south-west of the church. Photographs of the bat roosting locations, and emergence/re-entry points are included below.



Photo 13: View of church looking towards altar showing bat roost locations



Photo 14: Bat roost location – under wooden sarking on roof. Entrance to roost above speakers, either side of stained-glass window



Photo 15: Emergence location on south-west



Photo 16: Emergence location on south-west



Photo 17: Bat pre-flying in the church (in red circle)



Photo 18: Bats hanging above the Lady Chapel (original church)



Photo 19: Levels at which bats are flying within the church

4.2.6 The surveys have recorded a brown long-eared maternity roost of County importance within St Marks, due to the presence of 89 brown long-eared bats in July. A summer day roost for serotine bats and a summer day roost for common pipistrelle bats were also recorded.

5 Recommendations

5.1 Mitigation

5.1.1 Different options have been considered for mitigation within the church at St Marks. They include excluding the bats and moving the roost to a purpose-built bat house; or installing a false ceiling to catch the bat droppings.

5.1.2 The brown long-eared bat roost within St Marks Church is considered to be of county importance due to the number of bats roosting within the church. Brown long-eared bats show high roost fidelity, and are unlikely to successfully be moved into a new, purpose built bat roost.

5.1.3 The alternative option of installing a false ceiling is not acceptable, as it will negatively alter the architecture of the church and impact the lighting within the church as it will block the windows. This is not considered to be acceptable to the church; and would not support the different levels at which the bat population uses the church.

5.2 Current solution

5.2.1 The current proposed solution is for the Bats In Churches Project to help with the costs associated with cleaning the church, by funding an in-depth clean once a year and to provide assistance with any cleaning items such as long-handled brooms which the church may require to facilitate cleaning.

5.2.2 The Bats in Churches Project will also help with running community engagement events, to enable the church community to understand how the bats are utilising the church, and the importance of the roost. This will be through a series of different events, including an evening showing the footage of the bats using the church, cleaning events and running craft events for children.

6.0 References

Collins, J (ed) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.