

2020 BAT SURVEY RESULTS

HOLY TRINITY CHURCH, TATTERSHALL, LINCOLNSHIRE

January 2020



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1 2020 Report against the Objectives

B J Collins Protected Species Surveyors Ltd and Inspired Ecology Ltd (formerly Scarborough Nixon Assoc. Ltd) have undertaken post-implementation bat monitoring works in accordance with the Bats in Churches Class Licence (BICCL) B32RC002-02, and the published management plan, over 2020. This work was carried out in accordance with the actions set out within Objective 1 of the Management Plan presented as part of the licence approval.

Over 2020 the population monitoring has seen figures for both Soprano pipistrelle (*Pipistrellus pygmaeus*) and Daubenton's bat (*Myotis daubentonii*) increase to the highest level since 2017. The peak count was 726 individuals on 23 June 2020, compared to 632 individuals on the NBN peak count on 22 June 2019. The numbers for the Daubenton's bats were also high, after a low count in 2018 of 48 individuals. The 2020 results were a total of 154 individuals compared to the peak count on 28 August 2019 of 126 individuals.

Less positive was the uptake of the new bat access features installed within windows within the north transept, present since 2017, and the new window installed in the summer of 2019 in the south transept. Over the 2019 survey period there was a peak count of some 9 individuals using the north transept window and no individuals using the south transept window. Over the 2020 post objective 1 monitoring surveys recorded no individuals utilising the window accesses.

The result of the closure of the bat access in the South door, a main public area, when combined with a lack of use of the alternative access points in the windows, has been a significant increase in bat activity at both the West door and significantly at the main entrance to the church, the North door. The increase in urine and droppings occurring on and around these two doors correlates with the dropping loads removed from the South aisle and the South door.

Over the 2019 season Objective 1 actions, to reduce the impact upon the Heritage Centre and the Servedy, were implemented at the close of the bat active season in September 2019. These works had a significant positive impact with a decrease in bat activity in the south aisle and a significant decrease in the amount of droppings and urine encountered within that area. The bats have moved to other areas of the church as was the ideal situation.

During June 2020 there was a minimal impact from droppings within the south aisle. At this time there

were over 700 Pipistrelle bats present. However, by September 2020 it was evident that a small section of timber had come away from the roof closure in the south aisle and there was a small aggregation of droppings on the roof of the servery.

This needs to be addressed in advance of the 2021 season.

Therefore, the aims of Objective 2, whilst successful over 2019 and 2020, have had a knock-on effect of increasing the dropping impacts in other areas. This objective has therefore been considered and reviewed. A new management prescription was agreed and is proposed.

The works to implement the actions to Objective 3 were outstanding over the 2020 season. As a result, bats have increased their occupancy of the chancel and with a lack of services and regular cleaning the dropping load has increased within the chancel significantly. Works to fit the door closure have been rescheduled for completion before April 2021.

2 2020 Surveys

B J Collins Protected Species Surveyors Ltd and Inspired Ecology Ltd (formerly Scarborough Nixon Assoc. Ltd) undertook the required post installation monitoring activity in support of Objective 1 over the 2020 season. The surveys were completed under the project with the licence number B32RC002-02. These were the post-closure surveys originally specified for the active season of 2019 but pushed back with the closure of the south aisle roosts, which were moved from the spring to the autumn of 2019.

There is a management plan in support, and a condition of the licence, which includes the delivery of annual actions up to the end of 2023.

2.1.1 Personnel

The Church was surveyed over 2020 by the project ecologists only. For the first time since 1998 the church was not subject to the annual cycle of surveys as part of the National Bat Monitoring Programme, due to the Covid 19 pandemic.

As part of the BICCL survey requirement, a total of two post installation emergence and activity surveys were undertaken in June 2020, inside the recognised peak season of bat activity as per the National Best Practice Guidelines. These surveys were carried out by representatives of BJ Collins Protected Species Surveyors Limited and led by a combination of Barry Collins (registered to use Natural England Class Licences WML-CL18 to survey bats, WML-CL21 Low Impact Bat Class Licence and Bats in Churches Class Licence Holder; registration numbers 2015-13152-CLS-CLS, RC110 and B32RC002 respectively) and Ian Nixon (registered to use Natural England class licences WML-CL19 and WML-CL20 to survey bats; registration numbers 2015-12336-CLS-CLS and 2015-12338-CLS-CLS respectively). There were a further four assistant surveyors used across the two survey cycles.

2.1.2 Methods

The surveys were undertaken by deploying a team of 5 surveyors in order to monitor all of the bat access points into and out of the Church. This involved deploying surveyors watching the North door, the West door, the missing windowpane in the north transept, the new bat access point in the south transept (on survey dates after the feature had been installed), and a surveyor monitoring internally using night-vision video technology. The south door was also observed by remote night vision video to confirm that it remains unavailable to bats following its closure over 2019. The post Objective 1 surveys were undertaken on the dates and with the climatic conditions as per the tables below:

Date	Details
9 th of June 2020	5 surveyors carried out monitoring from the access points, including the south aisle internally
23 rd of June 2020	5 surveyors carried out monitoring from the access points, including the south aisle internally

Dates and number of surveyors for the 2020 Bat Surveys

The surveys were carried out in the following climatic conditions:

Tattershall Church, 9th June 2020

	Temp (°C)	Humidity (%)	Cloud	Wind	Rain
Start	12.4	66.1	2/8	Light (F1)	Dry
Finish	11.8	69.4	4/8	Light (F1)	Dry

Tattershall Church, 23rd June 2020

	Temp (°C)	Humidity (%)	Cloud	Wind	Rain
Start	24.6	75.3	2/8	Light (F1)	Dry
Finish	18.2	80.4	1/8	Light (F1)	Dry

Climatic conditions for the 2020 Bat Surveys

Equipment utilised across all of the surveys included for Anabat Walkabout full spectrum bat detector, Anabat Scout full spectrum bat detector, Pettersson D-1000 and a D-240x ultrasonic time expansion bat detectors x 2, Anabat SD1 and SD2 x 3. Internally and monitoring the south aisle were a Canon XA20 plus Dedolight Iredzilla infrared floodlight, Sony handycam DCR-SR32e video camera and infrared 144 LED light, a handheld Yukon NVMT are 3x42 infrared night vision monocular, Sony TRV14 digital night-vision camcorders supported by Raytec floodlights.

3 SURVEY RESULTS

3.1.1 National Bat Monitoring Program Surveys

Due to restrictions as a result of the Covid 19 pandemic, 2020 was the first year since 1998 when the NBMP bat survey was not undertaken.

3.1.2 Emergence and Activity survey – 9th June 2020

The following bats were counted during this emergence and activity survey:

Bat access point	No. Soprano pipistrelles	No. of Daubenton's
North door	91	104
West door	594	4
South door	0	0
North transept window	0	0
South transept window	0	0
Grand total all bats	685	108

3.1.3 Emergence and Activity survey – 23rd June 2020

The following bats were counted during this emergence and activity survey:

Bat access point	No. Soprano pipistrelles	No. of Daubenton's
North door	150	150
West door	576	4
South door	0	0
North transept window	0	0
South transept window	0	0
Grand total all bats	726	154

4 MANAGEMENT PLAN ACTIONS - 2020

The approved Management Plan for the project included a range of key actions which were due for delivery over the 2020 season. A screenshot of the approved Gantt chart details the management actions that were required over the 2020 season is included below:

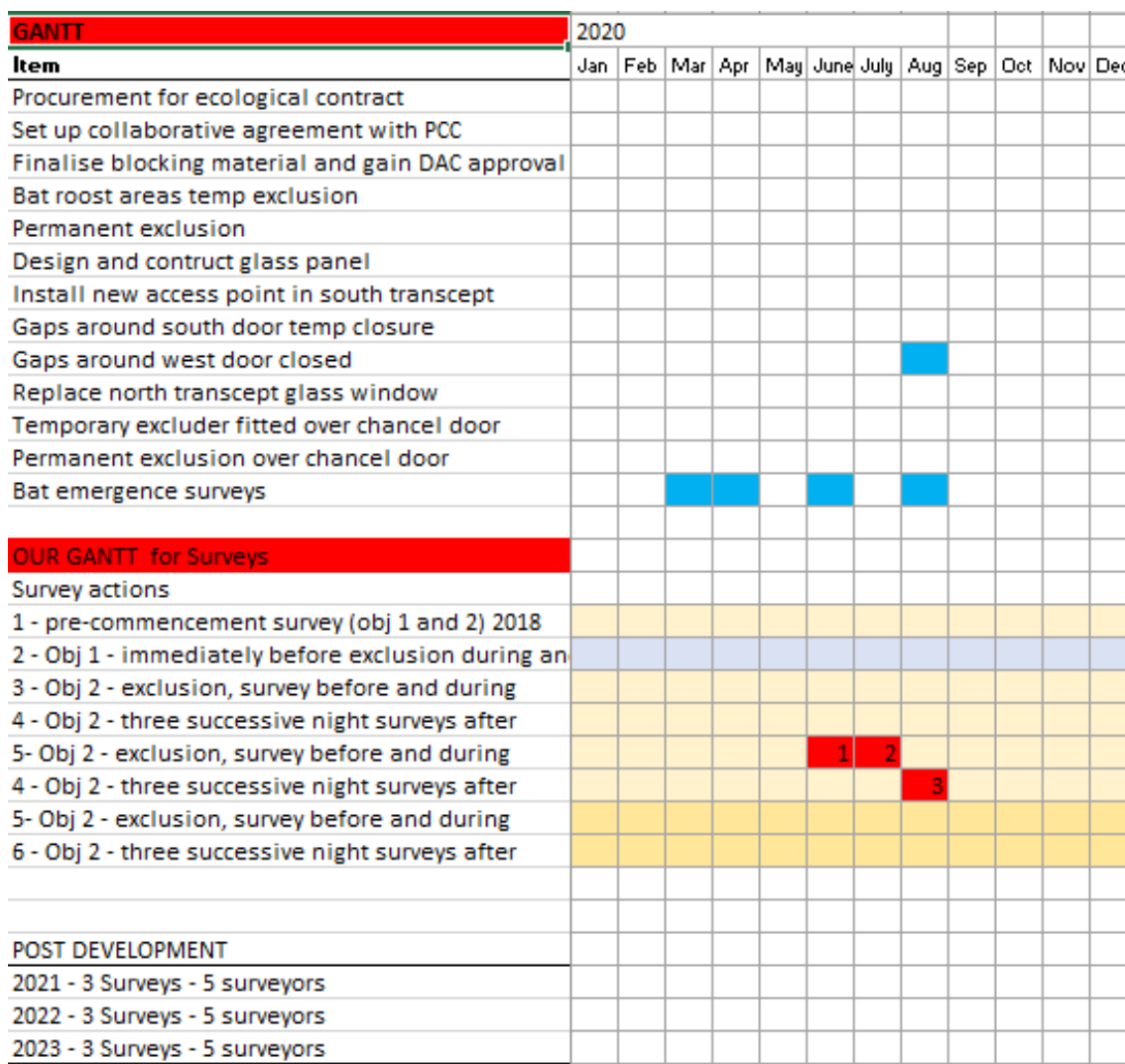


Figure 1 - management actions required over the 2020 season

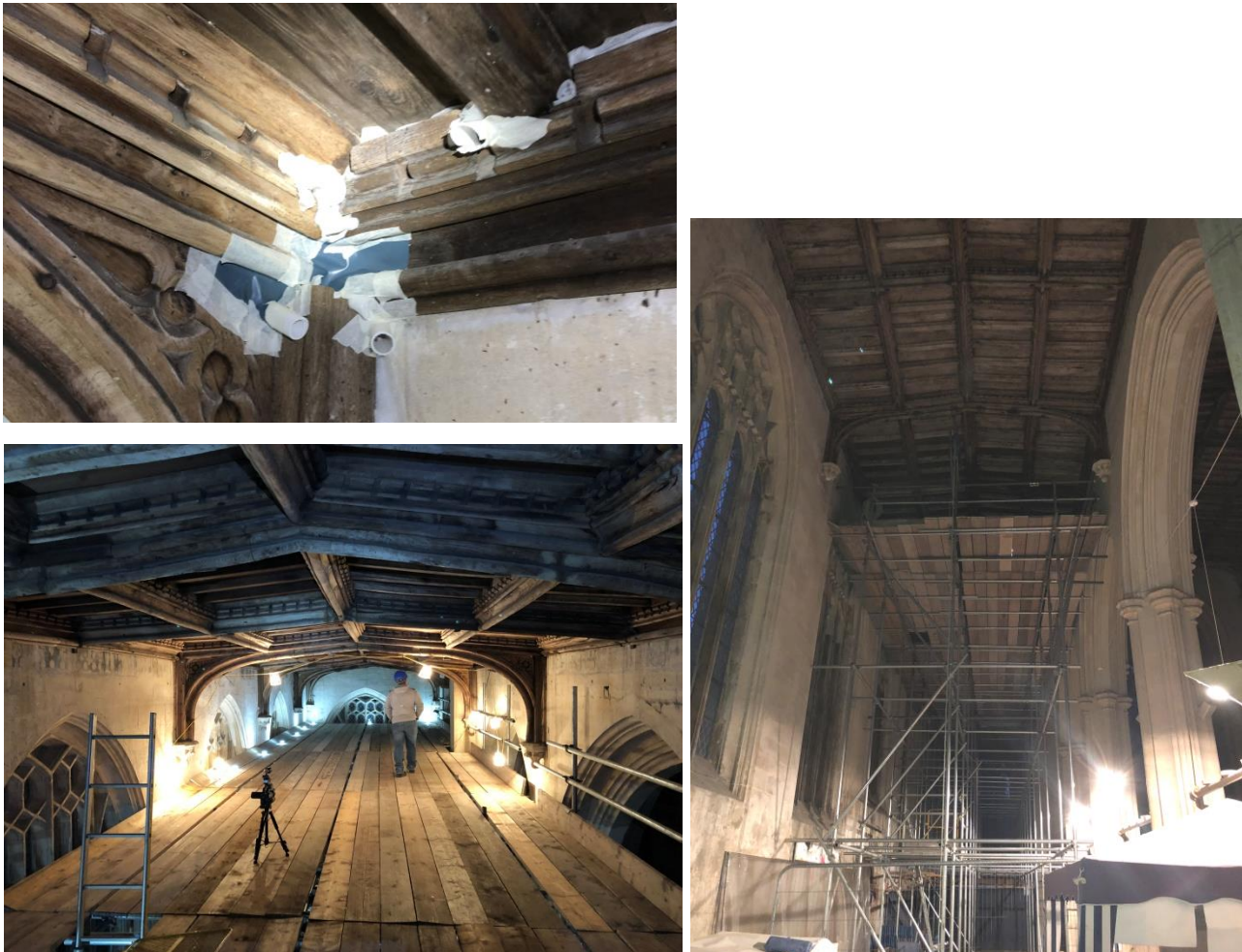
There were therefore actions required over 2020, which overrun from the 2019 season and were required to demonstrate that the closure of the south door had not impacted upon the maternity colonies of bats. This work was identified as item 4 on the GANNT (See 2019 report) and was specifically required to address Objective 1.

As the west door was not closed over the 2020 season none of the actions listed above were implemented. Furthermore, the plan work proposed for completion by the Church themselves, directly, which addressed the requirements of Objective 3, was not complete.

The following describes the actions undertaken to the relevant Objectives and the alterations and amendments to the management plan as a result of the stakeholder review on 21 September 2020

4.1 Objective 1 - Objective 1: Manage the roosting behaviour of the soprano pipistrelles to avoid excessive droppings over the Heritage Centre and Served area

Over 2019 the actions to address Objective 1 were undertaken in September 2019, rather than the initial April/May proposal in the management plan. Photographs of these actions are visible in photograph 1 below.



Photographs 1- showing the birdcage scaffold installed to allow access to carry out the exclusion of roost features above the Heritage Centre and Served area, and the exclusion work undertaken.

The contractors attended site and commenced the permanent closure of all of the gaps using sections of timber cut and spliced into the various gaps.



Photograph 2 - showing the gaps following infilling by the contractors' joiners

The work was completed by the end of October 2019 and the scaffolding was removed.

The site of the Objective 1 work, notably the south aisle and the servery/Heritage Centre, was then visited and inspected in June 2020 at a time when there was a peak count of bats present within the church.



Photograph 3 - showing the lack of droppings on the roof of the Heritage Centre and on the floor of the South aisle



Photographs 4 - showing the lack of droppings on the carpet of the Served area of the south aisle in June 2020, alongside the plastic screen protecting the display cases alongside the south wall of the south aisle

4.2 Objective 2: Manipulate the pipistrelle bat access points to reduce droppings in key public areas and in the long-term reduce bat activity within the north transept

The work delivered to Objective 2 over 2019 was to commence with the manipulation of the access points used by the Soprano pipistrelle maternity colony to gain access to the Church. The objective was to reduce the amount of droppings over the Served area caused by the bats swarming in front of the South door, to subsequently leave by that access.

To achieve this, the edges and surrounds of the South door were sealed and is no longer used by the bats. The combination of this work and the work on Objective 1 has resulted in a significantly reduced impact in the south aisle and at the Heritage Centre and Served.

The objective required the installation of a new bat access feature into the south transept, with a view to providing an opportunity for bats to leave by this point and as such in the future allow the closure of the emergence points provided by the other doors, this was the ideal situation moving the focus of bat activity away from the principal public areas, the entrance doors, to a quieter less used part of the Church.

To achieve this a new bat access point was installed high on the Western side of the south transept. Due to difficulties the Church have been experiencing with birds entering via these open window features the access had to be closed to a smaller diameter than was anticipated and hoped.

A large opening was originally anticipated as this would be more easily identified by the bats, allowing them to habituate to it. Instead in order to keep birds from out of the building a much smaller access point was installed, but one that is typical of window access features identified in use by bats in other churches studied by this consultancy.



Photograph 5 - showing the new bat access point which was installed in the high-level windows on the Western south of the south transept

Over 2020 there was no evidence as to the use of this bat roost feature observed during the emergence and activity surveys and there is no evidence that bats are accessing and using the new feature.

Therefore, whilst the project has achieved the principal goal of reducing the impact of droppings in the South aisle, the amount of dropping depositions on the West door, and with the Pipistrelle bats reverting to using the North door in numbers, the amount of droppings on the north door have increased exponentially.

The management plan was therefore reviewed during a stakeholder meeting on 21 September 2020.

An outcome of this meeting was that the window access proposal would be trialled on the north and west sides of the church, with sections of windowpane removed from the window directly above the North door and the West door of the church. It may be necessary to remove more than one triangular section alongside the frame to provide a large enough focus for the bats to locate.

The project will then assess the use of these alterations over the 2021 season.

4.3 Objective 2 – The Heritage Assets

The initial phases of the project have been focused upon addressing the use of the church by the congregation and members of the public. This has been attempting to reduce the impact from droppings and urine in high public areas.

This had been achieved in one key public area and works are ongoing with a revised management plan for the principal access into the church, the North door, as well as the West door.

The management plan also had to consider the Heritage Assets within the church. Whilst the report from Historic England discusses the overall area of the church it highlights the brasses in the north transept as being an area of high priority.

At the stakeholders meeting in September 2020 there was a discussion with regards to utilising remaining resources from the closure of the South aisle roost area, subject to a surplus of funds remaining after the remedial works required in April 2021, to carry out the same specification of works in the North transept. This would reduce the current bat roost area and the extent of deposition over the historic brasses and floor area in general.

The church has a proposal to carry out essential repairs to the roof covering and the timber work within the North transept and therefore this work should be carried out in conjunction with this. The architects, Peter Rogan Associates, are investigating this issue as an action point from the stakeholder meeting.

4.4 Objective 3 - Retain the chancel as a 'bat free area'

The chancel is screened off with plastic above the pulpitum, principally to prevent heat loss from the chancel but also to try and ensure there is one space in the Church where services can take place without the need to clean up the bat droppings. However, bats are accessing via the gaps in the door and an increasing number of Common pipistrelles have started to use the chancel over the 2020 season.

The management objective is to seal the gap in the Chancel doors to prevent bats getting access into the chancel, once it has been determined that bats are no longer residing within and could therefore not be entombed. Excluding bats from the chancel will be by using a temporary excluder to be fitted over the door.

The works was originally planned for April/May 2019 but the specification for the sealant was not in place at that point. This has subsequently been agreed and sourced.

This will now be fitted in spring (before April 2021) and left in place for up to two weeks. The temporary exclusion device will be the installation of clear plastic strips on the external face of the door fitted utilising a non-staining adhesive, which can be removed once the excluders are removed. This will result in a surface on the external face of the doors which bats cannot grip and therefore cannot gain re-entry into the chancel. The timing of the proposed exclusion ensures that any bats hibernating within the chancel can exit into the body of the Church during the first period when they are active and therefore not become entombed.

During the exclusion period the chancel would be monitored using a remote static detector in order to ensure the bats have left the area prior to permanent exclusion. The information on the remote detector would be downloaded every two days and the results used to assess the success of the exclusion. Once three consecutive 'bat free' nights have been recorded over a period when conditions are suitable for bats to be active, then the excluder will be removed.

Once the excluder is removed a permanent installation would be required using a leather based draught excluder fitted to the top edge of the door. The plastic sheeting above the pulpitum is not thought to have any gaps or areas where bats could pass through.

The original budget for management works did not include sufficient resources to carry out Objective 3, and as a result the Church undertook to carry out this work under their own volition. The Lincolnshire bat group agreed to provide specialist support and to work in liaison with the Bats in Churches Class Licence Holder to deliver the work via the licence.

4.5 Revised GANNT Chart

A revised GANNT Chart is required which sets out the available budget and the proposed works going forward from 2021.

The content of this Gantt chart is heavily reliant upon the following items:

- Completion of the remedial works to the south aisle where the section of timber has fallen, and a roost has re-established.
- The closure of the door to the Chancel thereby addressing Objective 3.
- The installation of new window openings above the North and West doors in advance of the 2021 active season.
- Monitoring of those said window openings over the 2021 active season.
- Advising as to the potential progress of roof repair works to the North transept, and therefore the utilisation of funding for the bats in churches project in combination with funding to repair the roof covering.

Once these elements have been decided and agreed a revised Gantt chart is necessary.

4.6 Management actions going forward – 2021

The following list of actions are those from 21 September 2020 stakeholder meeting, and the actions proposed for the coming season:

1. The church architect and the church were to liaise with Arthur Wood, with regards to gaining access above the Heritage Centre to close off the bat roost feature in the fallen section of timber. In advance of May 2021
2. The church architect and the church were to discuss with Arthur Wood the removal of sections of glass above the north and south doors in advance of the active season, May 2021.
3. BJ Collins will revise the management plan in the short term and in the long-term once all items are determined and approved by the Bats in Churches Project.
4. The church architect will advise as to a timeline and budget with regards to the roofing repairs to the north transept. Once this is available BJ Collins will approach the bats in churches project with a view to diverting funding from the first phase of works to repeating the same specification in the north transept, thereby reducing bat activity above the historic brasses.
5. BJ Collins will prepare and submit the licence documentation as required at the close of the 2020 season.