

Specification for work:

Heritage Assessment of Significance and impact of bats on project churches involved in the Bats in Churches Project

The Bats in Churches partnership is seeking a heritage professional who can deliver the following by 31st October 2019:

- Produce a Statement of Significance and an assessment of the impact of bats on historic fabric for 20 buildings involved in the delivery phase of the project to inform mitigation measures to be implemented in years 2 and 3 of the delivery phase. This should include a scoring of churches to indicate the level of impact upon heritage. This appraisal will provide the context for the project plans that will be drawn up for each of the project churches and should be backed up by evidence of sources.

Background to the Bats in Churches NLHF project

A partnership of five organisations (Natural England, Church of England's Church Buildings Council, Bat Conservation Trust, Historic England, Churches Conservation Trust) led by Natural England, has been successful in its Bats in Churches project application to the National Lottery Heritage Fund (NLHF) Heritage Grants funding stream.

Churches are used on a daily basis as hubs for the wider community for a range of activities, enabling people to meet and function as a community. They are also of great cultural and heritage significance, not just in terms of their buildings, many of which are listed, but also due to the many fixtures and fittings of local, national and international historical significance.

Bats enjoy strong legal protection because of past population declines. With the continued destruction of their natural habitat, including conversion of previous roost sites into domestic dwellings in many rural areas, some species of bats have developed a high dependence on man-made structures, and churches have been an important refuge for bats for many years. In summer, roof and eave voids can house important maternity colonies. In some cases, these roosts contain several hundred bats. In winter, colder parts of the church can be used for hibernation.

A tension between worshipping communities and the bats roosting in their churches has developed in recent years. The upkeep and continued use of churches is potentially threatened by a failure to resolve the issues of bats producing mess, and placing great burdens on the congregations and clergy as well as damaging heritage of importance. This project is needed to find ways in which both communities and bats can co-exist together.

This is for work during the delivery stage of the NLHF project which runs for 5 years until 2023.

The project aims to:

- Work collaboratively to find practical solutions in 102 of the most severely affected churches in the country to reduce the physical and social impact of bats without causing them harm.
- Engage new and existing audiences in the appreciation and understanding of their built and natural heritage
- Build a sustainable national network of skilled volunteers willing to give their time to support hundreds of churches around the country.
- Facilitate positive communication between bat and church groups to help each understand the issues involved and find collaborative solutions.
- Address the national shortage of professional advice by enhancing networking and skills in the professional sector to implement bat management solutions in churches.
- Inform future heritage management and conservation strategies through the provision of previously unavailable scientific data about the patterns of occupancy and the impacts of bats in churches on a nationwide scale.

The project will deliver across a variety of Grade I, Grade II and Grade II* churches across England.

The project will focus on 102 churches in England where the bats are causing negative social and physical impacts. The project will, through direct interaction and engagement, ensure the negative impact of bats will be significantly reduced over the life of the project. This will be achieved whilst ensuring the bat populations at the churches remain in Favourable Conservation Status.

Description of the brief:

Using a template produced in the project development phase, you will produce robust Statements of Significance and Heritage Impact Statements for 20 of the most at risk project churches (the remaining 62 will be done by the project in-house).

Items of work:

Description of heritage significance and heritage impact statement for 20 church project plans:

1. Statement of significance

The Statement of Significance should be suitable for use in support of any faculty application that is subsequently made to permit changes to the building as part of the Project. Guidance is available on <http://www.churchcare.co.uk/churches/guidance-advice/statements-of-significance-need> and <http://www.statementsofsignificance.org.uk/>

You will prepare a Statement of Significance for each of the 20 churches. In addition to giving a holistic summary of the significance of the whole building, based on published information, data on the Church Heritage Record (<https://facultyonline.churchofengland.org/churches>) and other sources, you will include

specific information about the significance of fixtures, fittings and artefacts that have been and are currently being damaged.

It is expected that the Statement for each building will include an outline footprint plan marked to show the main elements of heritage importance identified in the text and, where possible, photographs. The whole should not exceed ten sides of A4 paper and be available digitally in both Word and pdf formats.

Your Statement of Significance must include:

- Information gathered during a site visit (to ascertain the main fixtures and fittings of historic importance and at risk).
- Any relevant information supplied by the church, Diocese, Church Buildings Council and ecologists' questionnaires.
- Any information gathered from consultation of Historic England regional officers
- Information from further research of the literature
- Details of the heritage within the church including location, what it is and why it is important with the text keyed to a floor plan and any relevant photographs that will be available from light-touch bat survey outputs with which you will be supplied

You will need to identify those areas or elements of the building that are the top priorities for protection and those that are not under threat but are so significant they should not be compromised by any mitigation works.

A Statement of Significance template is provided in Annex 1, which you should follow. An example Statement is provided in Annex 2.

2. Assessment of the impact of bats on the heritage and identification of priorities for mitigation and/or protection

The purpose of this is to provide an informed assessment to put the ecological priorities into the heritage context. This is vital to achieve balance between the Project's management of protected species and conservation of protected historic fabric.

You will review the outputs from the ecologist's light touch surveys of the 20 buildings and, in combination with your understanding from the site visit and wider research of the published material relating to the heritage and cultural significance of these churches, you will describe how the heritage you detailed in the statement of significance is under threat from bats. Ecologists will be developing more detailed management plans in ~9 of these churches following surveys in summer 2019. Work on these surveys will have commenced by the time you start preparing your assessment so working closely with the ecologist is essential to inform your assessment and understand developments in the management proposals.

Your assessment of the impact of bats should address:

- How is the presence of bats affecting the heritage (using data from light touch surveys combined with assessment of vulnerability of heritage)?
- What are the elements of heritage most at risk and of most significance?
- What are the elements of heritage which need to be considered as part of project planning and how?
- Any heritage related risks which need to be considered as part of project planning & delivery?
- What are the most important heritage outcomes in this church?
- Sense check that the ecologist's recommendations meet the heritage outcomes.
- Add any further recommendations to protect heritage, including indicative costs.

Format of the quote:

We expect that this work will require visits to each of the 20 project churches.

Please provide a quote for the work including the following itemisation of elements:

Item	Number of days	Per day rate	Total
Statement of Significance			
Assessment of the impact of bats on the heritage and identification of priorities for mitigation and/or protection			
Total (including VAT if applicable)			

Timescale

Deadline for responses	Date	30 th April 2019
	Time	12:00pm
Evaluation of responses	Start	7 th June 2019
	End	14 th June 2019
Contract award	Date	25 th June 2019
Contract period	Start	1 st July 2019
	End	31 st October 2019
Deadline for delivery of documents for twelve year 2 churches (details in table below)	Date	30 th September 2019
	Time	12.00pm
Deadline for delivery of documents for eight year 2 churches (details in table below)	Date	October 31 st 2019
	Time	12:00pm

Annexes

- ANNEX 1 List and details of 20 project churches where this contract will be focussed
- ANNEX 2 Statement of Significance template
- ANNEX 3 Example Statement of Significance
- ANNEX 4 Light-touch survey example output
- ANNEX 5 Paper on bat impacts to churches

ANNEX 1 List and details of 20 project churches where this contract will be focussed.

Church code	Grid Ref	Name of Church	Church address	County	Diocese	Postcode	Listing grade	Project Year	Report Due
632308	TL 1065 4986	St Lawrence, Willington	Churchend Willington Beds MK44 3PU	Bedfordshire	St. Albans	MK44 3PU	Grade II	Year 2	30 th September 2019
639101	SW 8785 4172	St Moran, Lamorran	St Moran Church Lamorran Probus Truro Cornwall TR2 4HT	Cornwall	Truro	TR2 4HT	Grade II*	Year 2	30 th September 2019
619177	SK 669 173	All Saints' Hoby	Main Street, Hoby, Melton Mowbray, Leics. LE14 3DT	Leicester	Leicester	LE14 3DT	Grade I	Year 2	30 th September 2019
608570	TL 4618 3966	St Nicholas, Elmdon	Elmdon, Saffron Walden, Essex. CB11 4LT	Essex	Chelmsford	CB11 4LT	Grade II*	Year 2	30 th September 2019
621022	TF 0977 2781	St Andrews, Rippingale	High Street Rippingale Bourne Lincs PE10 0SR	Lincolnshire	Lincoln	PE10 0SR	Grade I	Year 2	30 th September 2019
626563	TF 8978 2757	All Saints, Toftrees	Shereford Road Toftrees, Norfolk, NR21 7EA	Norfolk	Norwich	NR21 7EA	Grade I	Year 2	30 th September 2019
628019	SP 5879 4052	St Lawrence, Brackley	Brackley, Northants	Northamptonshire	Peterborough	NN13 5PZ	Grade I	Year 2	30 th September 2019
633137	TM 0085	St Mary the Virgin,	Church Street,	Suffolk	St.Edmundsbury	IP14 3LB	Grade I	Year 2	30 th

	6277	Wetherden	Wetherden Suffolk IP14 3LB		& Ipswich				September 2019
610219	TQ 1710 2068	St Georges, West Grinstead	Rectory Lane, West Grinstead, West Sussex, RH13 8LR	West Sussex	Chichester	RH13 8LR	Grade I	Year 2	30 th September 2019
634566	SU 1484 6869	St Nicholas, Fyfield	Lower Fyfield Nr Marlborough Wiltshire SN8 1PY	Wiltshire	Salisbury	SN8 1PY	Grade II*	Year 2	30 th September 2019
633138	TM 1272 6684	All Saints Church, Wetheringsett	1 Church St Wetheringsett Stowmarket IP14 5PP	Suffolk	St.Edmundsbury & Ipswich	IP14 5PH	Grade I	Year 2	30 th September 2019
626422	TM 2640 8438	St Mary's, Redenhall	1 Church Cl Harleston Redenhall IP20 5PH	Norfolk	Norwich	IP20 9QS	Grade I	Year 2	30 th September 2019
? TF 582 144	TF 5826 1440	Wiggenhall St Mary the Virgin	St Mary the Virgin Church, Church Road Wiggenhall King's Lynn, PE34 3EH	Norfolk	CCT	PE34 3EH	Grade I	Year 3	31 st October 2019
626366	TG 2285 0224	St Remigius, Dunston	Stoke Lane, Dunston	Norfolk	Norwich	NR14 8PE	Grade II*	Year 3	31 st October 2019
? TF 390 091	TF 3902 0908	St John the Baptist, Parson Drove	Main Road, Parson Drove, Wisbech, Cambridgeshire PE13 4LF	Cambridgeshire	CCT	PE13 4LF	Grade II*	Year 3	31 st October 2019

618123	SO 4972 4821	St Margaret of Antioch, Wellington	Wellington Herefordshire HR4 8AZ	Herefordshire	Hereford	HR4 8AZ	Grade I	Year 3	31 st October 2019
618150	SO 3910 5806	St Mary's, Pembridge	Bearwood lane Pembridge Leominster Herefordshire HR6 9EB	Herefordshire	Hereford	HR6 9EA	Grade I	Year 3	31 st October 2019
626642	TF 7449 1852	St Mary's, Gayton Thorpe	Gayton Thorpe Kings Lynn Norfolk PE32 1PN	Norfolk	Norwich	PE32 1PN	Grade I	Year 3	31 st October 2019
626592	TF 7336 4344	All Saints' Thornham	High Street, Thornham, Norfolk, PE36 6LY	Norfolk	Norwich	PE36 6LY	Grade I	Year 3	31 st October 2019
626447	TL 9507 9209	Holy Trinity, Great Hockham	Great Hockham Norfolk, IP24 1NZ	Norfolk	Norwich	IP24 1NZ	Grade I	Year 3	31 st October 2019

ANNEX 2 Statement of significance template

Eg St Paul, Chacewater, Cornwall

Eg Church Hill, Chacewater TR4 8PZ

National Grid Reference:

Photos (up to 6, labelled)

EXECUTIVE SUMMARY

Summary of significance and bat impact

1. Core data

- 1.1 Local planning authority:
- 1.2 Diocese:
- 1.3 Listed Grade: Listing number? (*with hyperlink to list entry on Historic England*)
- 1.4 Church Heritage Record:
- 1.5 Conservation Area:
- 1.6 Scheduled Ancient Monument:
- 1.7 Churchyard:
- 1.8 Date(s):
- 1.9 Date of visit:
- 1.10 Name of report author:
- 1.11 Name and role of church representative met on site:
- 1.12 Parish/church website:
- 1.13 Other sources:

2. Brief history and description of the church, contents, churchyard and setting

To include plan

3. The significance of the church

A passage of prose (about 1 page) setting out the archaeological, architectural, historical, artistic and townscape significance of the church. The assessment should be fairly general, with the focus on those areas most likely to be impacted by bats (usually, not always, internal finishes and furnishings).

Ranking to be used:

High (important at national to international levels)

Moderate-High (important at regional or sometimes higher)

Moderate (usually of local value but of regional significance for group or other value, e.g. vernacular architecture)

Low-Moderate (of local value)

Low (adds little or nothing to the value of a site or detracts from it)

4. Assessment of impact of bats

Second version of plan, showing areas of high significance being impacted by bats

Commentary on heritage impact, with reference to LTS findings. Impact should be judged by the same criteria as significance (five rankings, high to low). Significance and impact to be summarised and set out in tabular form (low significance = 1, high =5):

Area/item	Significance	Impact	Total (significance score X impact score)
Roof structure			
Wall surfaces (plain)			
Wall surfaces (painted or decorated)			
Floor surfaces			
Wall monuments			
Floor memorials/ brasses			
Altar/communion table			
Reredos			

Seating (chancel)			
Rood screen			
Pulpit			
Lectern			
Seating (nave and aisles)			
Seating (other)			
Font			
Organ			
Other			
Overall impact on significance			<i>The higher the number, the higher priority the church should be</i>

5. Recommendations

A response to the LTS recommendations, setting out priorities for mitigation informed by heritage expertise. The aim being to achieve a balance between management of protected species and conservation of historic fabric and features.

ANNEX 3 Example statement of significance

All Saints, Wrabness, Essex

Church Road, Wrabness, Essex CO11 2TG

National Grid Reference: TM 17424 31889



From SW, with bell cage in foreground



From S



N elevation



Interior looking E



Font



Medieval coffin lid re-set in S porch

EXECUTIVE SUMMARY

The church is of high archaeological, architectural, historical and artistic significance for its surviving medieval fabric, including a twelfth century north door, fifteenth century south door and octagonal font, and a reset thirteenth century coffin lid. The church was restored and enlarged in two phases in the late nineteenth and early twentieth centuries and its interior has been subsequently altered, including removal of most of the nave pews. Generally, the later fittings are of relatively lesser significance. The church is located on the edge of the village in a large churchyard containing a number of historic memorials and, at the southwest corner, an unusual detached timber framed bell cage (the original tower was lost in the eighteenth century).

The level of bat activity is low and apart from the cosmetic disfiguring effect of urine staining on the walls has not had a harmful impact on heritage significance. The ecologist recommends that the parish should be offered financial help with redecoration of the walls (which should be specified and overseen by the parish's architect), and after that monitoring should take place on a biannual basis.

1. Core data

- 1.1 Local planning authority: *Tendring District Council*
- 1.2 Diocese: *Chelmsford*
- 1.3 Listed Grade: *II* (NHLE no. [1112074](#))*
- 1.4 Church Heritage Record: [*608545*](#)
- 1.5 Conservation Area: *No*
- 1.6 Scheduled Ancient Monument: *No*
- 1.7 Churchyard: *Yes*
- 1.8 Date(s): *Medieval, much rebuilt in 1907-8*
- 1.9 Date of visit: *11 December 2017*
- 1.10 Name of report author: *Andrew Derrick*
- 1.11 Name/role of parish representative met on site: *Unaccompanied (parish representative cancelled due to illness)*
- 1.12 Parish website: *No*
- 1.13 Other sources:
 - Bettley, J. and Pevsner, N., *The Buildings of England, Essex*, 2007
 - RCHME, *An Inventory of the Historical Monuments in Essex, Volume 3: North East*, 1922
<http://images.lambethpalacelibrary.org.uk/luna/servlet/view/all?sort=identifier%2Cdate%2Ctitle%2Crights>
 - <http://www.crsbi.ac.uk/site/1559/>

2. Brief history and description of the church, contents, churchyard and setting

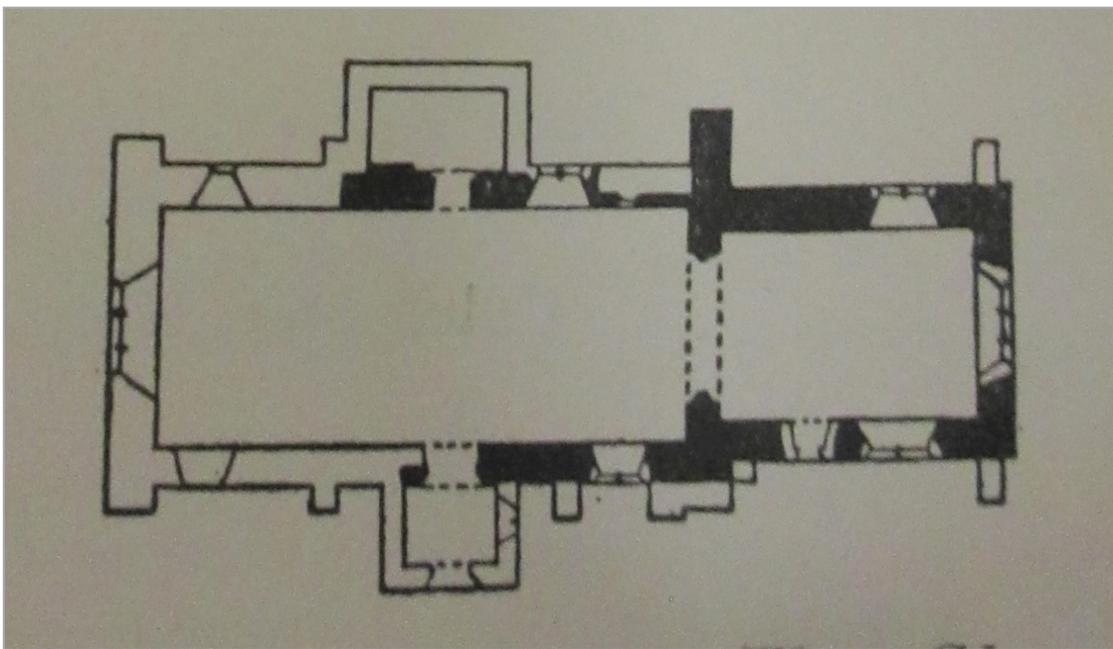


Figure 1: Plan (RCHME, 1922)

Wrabness is a small dispersed village on the south side of the Stour estuary between Harwich and Manningtree. All Saints' church lies at its northernmost extremity, set within a large churchyard. The churchyard is bounded by a brick boundary wall and the church is approached from the road by a straight brick path.

The church is of twelfth century origin, but has been much rebuilt over the years. It is built of septaria rubble, mainly cement-rendered, with some red brick patching and limestone dressings. The roofs are plain tiled. The plan is simple, consisting of an aisleless nave with porch to the south and vestry to the north, and a square-ended chancel. There is no tower, but Morant reported in 1768 that there was 'formerly a stone tower, with 5 bells; now only 2, in a wooden turret'. The two bells are now housed in a freestanding timber framed bell cage in the churchyard, southwest of the church (photo top left at top of report).

The oldest part of the structure are those parts of the nave coloured black in the plan at figure 1. These are twelfth century in origin and include the north doorway, now within the vestry (not seen). The south doorway was mostly rebuilt in the fifteenth century, with fleurons and shields in the voussoirs; however part of its original twelfth century arch and label remain. The hammerbeam roof of the eastern bays of the nave (unusual for Essex) may be contemporary with the south door. The chancel was rebuilt in the fourteenth century, and again after a partial collapse on Easter Sunday 1697. A framed extract from the parish register hanging in the church records that the chancel roof fell in, bringing with it a large part of the walls; the chancel was rebuilt, 'new ceiled, the walls wainscoated, the communion table devoutly railed, the new floor paved and three convenient seats now built, of all which there was non before'. These furnishings were lost in the 1893 restoration or before, and the chancel now has a boarded ceiling.



Figure 2: Late

nineteenth-century photograph of interior before restoration

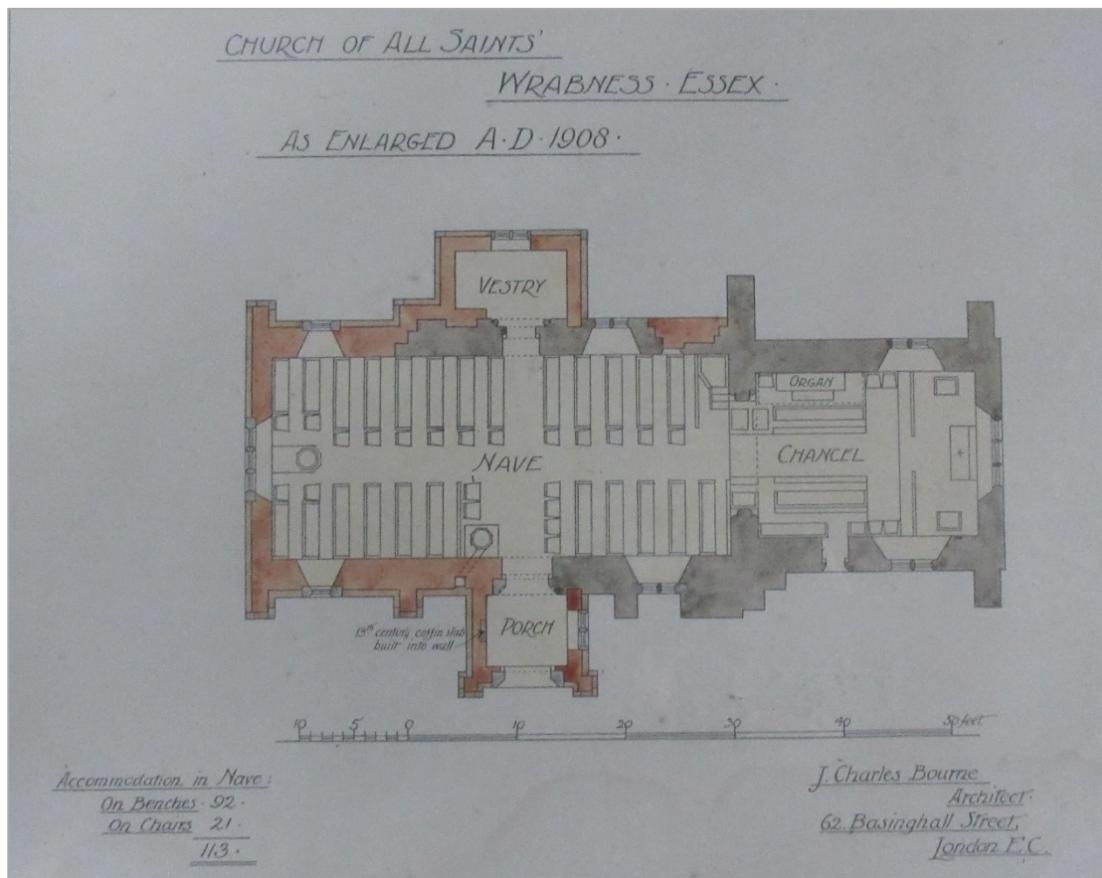


Figure 3: J. C.

Bourne plans for enlargement, 1908 (framed drawing hanging in church)

An undated, late nineteenth-century photograph hanging in the church (figure 2) shows the interior before its early twentieth-century restoration, with high box pews, oil lamps and a brick floor with runner in the central alley. At that time the late medieval font was placed near the south doorway.

The chancel again was restored in 1893, by the architect J. C. Bourne of London. In 1907-08 Bourne carried out a more extensive restoration and enlargement (figure 3), with the nave extended westwards, the south porch (previously a vestry) rebuilt and a new vestry added to the north of the nave. The builders were James Richard Sage and Frederick Cutting. A thirteenth century coffin lid (photo bottom right above), which had been uncovered in the chancel during its 1893 restoration, was reset in the wall of the rebuilt porch. The new additions were faced in flint, contrasting with the largely rendered finish of the older elevations.

Bourne's plans show a conventional post-Tractarian layout, with the font at the west end, pews and some chairs on either side of a central alley in the nave and choir stalls and an organ in the chancel. The restoration provided seating for 113 people in the nave, 92 on benches and 21 on chairs.

In recent years the nave pews have been mostly removed (two survive at the west end) and replaced with individual chairs. The nave floor has been relaid with woodblock and a modern kitchenette installed at its west end. The font (photo bottom left above) is now placed near the vestry door, representing at least the third relocation of this fragile piece, whose carved figures of the four evangelists were mutilated after the reformation, and which is now crudely held together with iron clamps. The chancel retains its late Victorian encaustic tiled floor and plain benches.

Other furnishings include, working from east to west:

- low in the wall at the southeast corner of the chancel, the remains of a medieval piscina
- Modern oak communion table and plain gothic reredos
- A small marble monument in the chancel to the Rev. Robert Riche, 1838 (his tomb is in the churchyard) and alongside this a larger gothic memorial to the Rev. Patrick Fenn, d. 1891 and his wife Mary Ann
- The organ was built by Bevington & Sons, London in 1893, forming part of the chancel restoration (<http://www.npor.org.uk/NPORView.html?RI=D01319>)
- The oak pulpit is also in memory of the Revd Patrick Fenn, and was installed as part of the 1908 works
- A nice carved oak lectern with gothic detail, dated 1893 (i.e. contemporary with the chancel restoration)
- Over the vestry door, a small timber carved Royal Arms over the vestry door, eighteenth century
- A classical marble memorial to the parish dead of the First World War, and below that a smaller and plainer one to those who lost their lives in the Second World War
- At the west end, a framed drawing by J. C. Bourne showing the 1908 enlargement and seating plan (figure 3), and a brass plaque commemorating that restoration and enlargement.

There is no stained glass; the church is provided throughout with tinted cathedral glass, all probably forming part of the 1893 and 1908 works of restoration and enlargement.

3. The significance of the church

The church is listed Grade II* and is of **high archaeological, architectural, artistic and historical significance** for its surviving medieval and sixteenth century fabric. This includes the eastern bays of the nave and its roof, the north and south doorways, the font, the (reset) coffin lid and the bell cage in the churchyard. Amongst later (pre-Victorian) furnishings the Royal Arms is also of high artistic and historical significance.

Fabric, fittings and finishes belonging to the late nineteenth and early twentieth century restorations are of **moderate significance**, with the exception of the pulpit and lectern, which are good carved oak pieces of **moderate-high significance**. The wall plaster (the area most affected by bat damage) appears to be entirely renewed in the nineteenth century or later, and is of **moderate significance**.

The modern communion table and reredos, nave floor, seating and kitchenette are of **low-moderate significance**.

4. Assessment of impact of bats

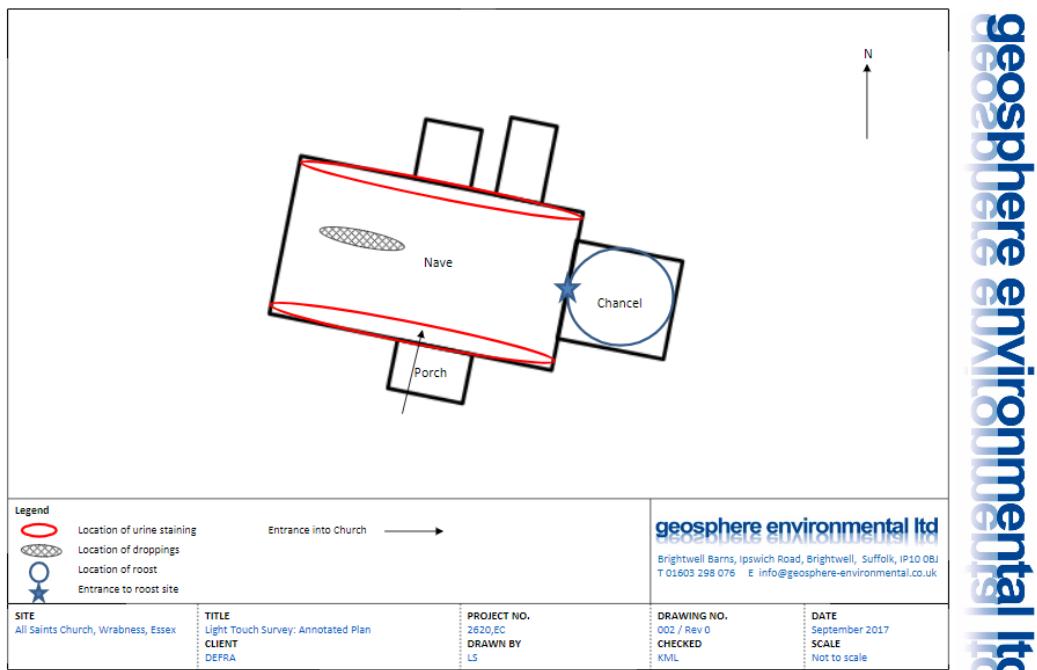


Figure 4: LTS plan, showing bat activity and impact

The LTS noted some droppings from brown long-eared bats, and extensive staining of the walls by urine, particularly in the nave (figure 5). Very minor damage to flooring and monuments was noted. It reported that most people in the parish were happy to share the church with bats.

Area/item	Significance	Impact	Total
Roof structure	5	1	5
Wall surfaces (plain)	3	4	12
Wall surfaces (painted or decorated)	n/a	n/a	n/a

Floor surfaces	2	1	2
Wall monuments	3	1	3
Floor memorials/ brasses	0	1	2
Altar/communion table	2	1	2
Reredos	1	1	1
Seating (chancel)	2	1	2
Rood screen	n/a	n/a	n/a
Pulpit	4	1	4
Lectern	4	1	4
Seating (nave and aisles)	1	1	1
Seating (other)	n/a	n/a	n/a
Font	5	1	5
Organ	3	1	3
Other			
Overall impact on significance			46



Figure 5: Staining from bat urine on nave wall

5. Recommendations

The LTS recommended that the parish should be offered financial help with the scaffolding and redecoration of the walls, and after that bat monitoring should take place on a biannual basis. Otherwise bat activity does not appear to be raising any significance heritage concerns at present, and can be managed by the normal cleaning routine. The parish's inspecting architect advise on whether it would be appropriate to cover over the urine staining on the walls prior to redecoration, as recommended in the LTS survey, or to carefully remove it. The existing plaster and decorative

finishes should be analysed to ensure that any new wall covering is suitable in terms of breathability, and the parish architect should specify and oversee the redecoration.

ANNEX 4 Light touch survey example output

Bats in Churches Heritage Lottery Fund Heritage Grant Bat Roost Visit Report Form

This survey should be conducted June, July or August inclusive to ensure signs of bats are observed by the surveyor. Surveys undertaken in September will also be accepted provided a valid reason is provided.

Part A – Information about the Roost Site Location

Name of bat surveyor		Philip Parker		
Place of Worship				
Name	St John the Baptist			
Parish	Cold Overton			
Address	Main Street, Cold Overton, Oakham			
Postcode	LE15 7QA	Date of Visit 13.9.17		
Site contact				
<input checked="" type="checkbox"/> Church Warden	<input type="checkbox"/> Clergy	<input type="checkbox"/> Other (specify) _____		
Name	xxx	Telephone xxx		
Address	xxx			
Postcode	xxx	Email xxx		
Other contact details				
<input type="checkbox"/> Agent	<input type="checkbox"/> Builder	<input type="checkbox"/> Contractor	<input type="checkbox"/> Pest Controller	<input type="checkbox"/> Other (specify) _____
Name	Present at Interview: xxx		Telephone	
Address				
Postcode		Email		
Quinquennial Architect				
<input checked="" type="checkbox"/> Architect	<input type="checkbox"/> Other (specify) _____			
Name	xxxx	Telephone	xxx	
Address	xxx			
Postcode	xxx	Email	xxx	

Part B – Information about the Bat Roost – the Bat Roost Record

Note: If you have printed this form and are completing it by hand, please add additional sheets if necessary.

Additional documents you must provide:

- Photographs** – in support of this report you must provide external and internal photographs of the church. Please aim to provide at least 4 external and 4 internal photographs that show elevations and areas of interest internally, including bat droppings or damage cause by bats and particular monuments or areas of sensitivity. Please aim to keep the total file size below 10mb – medium quality photos are fine (no RAW format).
- Blank floor plan** – Please provide a blank floor plan specific to the church being surveyed (in electronic format). A blank floor plan might already be available from the Churchwarden but if not you could ask them to draw one for you prior to your visit. Please provide the blank floor plan as a scanned sketch or computer drawing.
- Annotated floor plan** – Please provide at least one floor plan specific to the church clearly showing bat roosting locations (with reference number), bat entry / exit points, areas of bat impact e.g. bat droppings (showing areas as low, moderate or high) and areas of sensitivity e.g. monuments, fabric, fixtures and fittings.

1 Visit details

Date of visit	13.9.17	Total time taken (in hours)	
Time of visit	16:30	Survey	2:00

Please note here any H&S information or other information received prior to the visit from project staff or Site contact (e.g. when was the church last cleaned; which areas were cleaned).

No health and safety issues raised by the PCC. The church was last cleaned for the previous service. A previous survey was undertaken on the 22nd May 2017 as part of repair works to the church. When this was undertaken, it was arranged that the church was not cleaned for 6 weeks prior to that survey. Some of the photographs relate to the initial survey in may 2017, showing the peak of the bat activity.

Risk Assessment: Please undertake a risk assessment before each of your visits (please use a generic risk assessment and ask the churchwarden if there are any site specific hazards when you arrange your visit).

Site specific hazards

Steep steps up the tower – access difficult above the bellframe. Unstable boiler room structure and also the presence of asbestos.

Precautions or actions taken

Use of a torch when accessing the tower – no attempt was made to access above the bellframe so this section of the church has not been surveyed. No attempt was made to access the boiler room.

NB: If you have an accident or a ‘near hit’ you must report it to the Natural England contract manager.

Near hits are unplanned events where there has been no harm or damage but the potential was there to have caused potential harm / loss.

2 Roost Site Grid Reference

Grid Reference of Roost site (2 letters, 8 figures) SK 8102 1014

(Please provide a grid reference at a minimum of 8 figures. This is required to comply with National Biodiversity Network (NBN) requests that roost data is provided at the highest possible resolution)

3 Church Church of England Other (please specify): _____

4 Age - Approx date of construction – please specify if different parts The main sections of the church date from the C13

of the building were constructed at significantly different times
(Information on the age of a church could be found here:
<http://www.britishlistedbuildings.co.uk/england>)

and C14, the tower from C15, much of the church
was restored in C1800.

5 Wall Construction (tick more than one box if applicable)

Material	<input type="checkbox"/> Block	<input type="checkbox"/> Brick	<input checked="" type="checkbox"/> Stone	<input type="checkbox"/> Wood	Coursed and squared ironstone and limestone rubble and ashlar, with ashlar dressings
	<input type="checkbox"/> Other or additional details if ticked more than one box:				

Structure	<input type="checkbox"/> Cavity wall	<input checked="" type="checkbox"/> Solid wall	<input type="checkbox"/> Unsure
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Insulation	Cavity wall insulation	<input type="checkbox"/> Present	<input checked="" type="checkbox"/> Absent	<input type="checkbox"/> Unsure	<input type="checkbox"/> N/A
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Cladding	<input type="checkbox"/> Clay tiles	<input type="checkbox"/> Metal	<input type="checkbox"/> Render	<input type="checkbox"/> Slate	<input type="checkbox"/> Tile	<input type="checkbox"/> Timber shingles	<input type="checkbox"/> Wood
	<input checked="" type="checkbox"/> None						
	<input type="checkbox"/> Specify locations of cladding:						

Hanging tiles Yes No

Additional relevant architectural features

Main features as listed in the listed building citation are as follows:

A Grade 1 Parish church. C13, C14, C15, and c.1800. Restored by J. T. Micklethwaite, 1889.

Coursed and squared ironstone and limestone rubble and ashlar, with ashlar dressings. Lead and Swithland slate roofs. Moulded and chamfered plinths, sill band, some coved eaves. Openings mainly have hood moulds and mask stops.

West tower with spire, nave with clerestory, north aisle, chancel, south aisle, south porch.

Tower, C15, 2 stages, has clasping buttresses, those to west with masks on the plinth. 2 chamfered and moulded string courses and toninuous hood mould. Coved eaves with masks, crenellated parapets with 4 pinnacles. Setback octagonal spire with finial and weathercock plus 2 tiers of gabled lucarnes with double lancets. First stage has to west, blocked moulded doorway and above it, C15 double lancet with panel tracery. Second stage has 4 transomed cusped double lancets. To east, clock. Clerestory, 3 bays, has chamfered band and crenellated parapet with south-east corner and gable pinnacles. Rainwater heads to north inscribed 'J B 1804' and to south 'W S 1793'. On each side, 3 round headed double lancets with moulded pointed openings.

North aisle, 2 bays, has to north 2 buttresses. West end has C19 chamfered single lancet. North side has to east, C15 triple lancet with moulded elliptical head. To west, chamfered C13 blocked door. East end has a restored round headed moulded window. Chancel, 2 bays, has moulded plinth and coped gable with cross. North side has central buttress, 2 setoffs. To west, C14 double lancet with flowing tracery, and to west again, C13 single lancet low side window. East end has angle buttress to right and single buttress to left, 2 setoffs.

Restored C14 reticulated triple lancet with coved and chamfered reveal. South side has central buttress, 2 setoffs. To west, C13 foiled single lancet low side window. Above and to east, 2 restored C14 double lancets with flamboyant tracery. South aisle, 3 bays, has 2 pairs of double gabled angle buttresses with crocketed pinnacles. Chamfered and moulded plinth and sill band. Rainwater head inscribed 'J M 1795'. East end has C14 double lancet with flamboyant tracery and coved reveal. South side has to east of porch, C14 ogee headed triple lancet with intersecting tracery.

West end has late C18 untraceried chamfered triple lancet with coved reveal. South porch has 2 diagonal buttresses and moulded coped gable incorporating restored sundial. C14 double chamfered doorway with octagonal shafts and capitals.

Interior has 2 stone benches, C19 common rafter roof and re-set C16 chamfered span beam and boss. Early C13 moulded round headed doorway with fillets, double ringed shafts with leaf capitals, and hood mould with fleurons. C17 framed and panelled door with late C18 panelled furniture. Double chamfered C13 tower arch has octagonal responds and stiff leaf and crocketed capitals, and hood mould. Early C13 north arcade, 2 bays, has round piers and responds with water holding bases and stiff leaf capitals. Moulded arches with keeled and filleted roll mouldings. Similar, plainer south arcade, mid C13, has responds with nailhead. C19 principal rafter roof with restored mask corbels.

North and south aisles have C19 roofs with arch braces on re-set corbels. North aisle has blocked doorway and stained glass east window c.1920. To its right, arched moulded C19 fireplace with crest in roundel. South aisle has to east, foiled moulded piscina with damaged hood mould. **Above, remains of C14 wall paintings and window with fragments of C14 stained glass.** West end has re-set cross shaft in window sill. Memorial chapel at west end has 3 bay Classical wooden screen with central double doors and metal bars.

Chancel has early C14 double keeled and filleted moulded arch with hood mould and octagonal responds with moulded capitals. Early C20 Perpendicular style traceried oak screen. North side has to east moulded C13 blocked doorway and to its right, small aumbry. East end has Perpendicular style altar, reredos, wall panels and candlesticks, early C20, and stained

glass window, 1926. South side has damaged fillet moulded C13 piscina and similar triple sedilia, both with hood moulds.

Eastern and low side windows have C15 stained glass fragments. Low pitched C19 roof with cambered tie beams, bosses and arch braces on plain corbels. Fittings include linencold panelled oak desks, pulpit, lectern and stalls, c.1918. Plain C19 benches.

Fluted font on baluster stem, 1842. C18 chest with bracket feet.

Wardrobe, 1893, assembled from former roof timbers.

Memorials include large pedimented Classical marble tablet by W. G. Nicholl, 1829, with brackets carrying cushion and inscribed open book. Re-set slate tablet with painted heraldry to John Turner, 1753. Slate tablet to Selina Frewen, 1784. Corniced marble and slate tablet, 1791. 3 mid C19 marble and slate tablets to Frewen-Turner family. Marble and slate tablet, 1879. Painted slate tablets signed 'Burton' 1819 and 1832. Brass, 1866. Green stone cross, 1911.

If you have ticked more than one box, please provide details here (e.g. different parts of the church may be constructed in different ways)

6 Roof covering (tick more than one box if applicable)

Covering Asbestos Concrete tile Copper Corrugated iron Lead Pan tile

<input type="checkbox"/> Peg tile	<input type="checkbox"/> Shingle	<input checked="" type="checkbox"/> Slate	<input type="checkbox"/> Steel	<input type="checkbox"/> Steel (tearne-coated)	<input checked="" type="checkbox"/> Stone	<input type="checkbox"/> Thatch
<input type="checkbox"/> Other (specify) Lead on all of the principle roofs (nave, aisles) stone steeple. The boiler room was covered with slate (heavily mossed) whilst the porch was covered with lead						

Please note details of any roosting potential under the roof covering

On all of the lead covered roofs, the lead appeared to be tight to the underboards so there is no roosting potential directly beneath. Castellated parapets were present on the nave. Rafters were exposed on the chancel and the aisles. Exposed rafters were tight on the south aisle and the north side of the chancel, those on the south side of the chancel and the north aisle had a few gaps beside them – therefore there is some roosting potential at eaves level in these locations.

Lined with	<input type="checkbox"/> Underfelt (specify bitumen/breathable membrane type if known)	Unknown if there is any felt between the lead and the boards
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Boards Metal Nothing Other (specify) _____

Loft space/roof void present (provide details of location)	Absent, all of the boards are tight to the underside of the roof covering
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Insulation	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent <input type="checkbox"/> Roof felt <input type="checkbox"/> Fibreglass on floor
	<input type="checkbox"/> Other (specify) _____

7 Bat information obtained on site and roost detail

Please use the table and codes below to record evidence of bats. If a species is roosting in multiple locations, please use as many lines of table as required. The following are a count of bats made by the surveyor on the 13.9.17. Other count data (surveys undertaken in 2017) is given in Section 9).

Species	How identified (please use below ID method codes)	No of bats seen during visit?	Count or estimate? (count/estimate)	Maternity roost? (Definitely/possibly/not present)	Other roost type (specify)	Roost location (please use below roost location codes)	Area of church (please use below area location codes)	Position of bat access points (please use below access location codes)	Floorplan reference – (see notes above)
Soprano pipistrelle	DR/HET/FD	32	Count	Definitely	Probable hibernation as bats reported in the winter, likely transitional roost also	RA/GR	NA	EA	Roost R1 at the time of the survey (principle) also from evidence at other times R2, R3 and R4 Access A1 (principle), A2 (secondary)
Common pipistrelle	HET/FD	1	Count	Not present	Potential transitional/hibernation	UN	NA	Presumed EA	Presumed A1 or A2
Pipistrelle sp	DR/VID	1	Estimate	Depends on the species	Potential transitional/hibernation	OT (behind wall post)	CH	Presumed EA	Roost R5, Presumed A1 or A2

Natterer's	DR/HET/FD	6	Count	Unlikely (only 3 present in the breeding season)	Potential transitional/hibernation	GR	Not recorded in September but SI (north) during the summer	EA (north SI behind organ)	Not recorded in September but Roost R4 in summer. Presumed Access A3
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ID method codes for section 7

CVI	Close visual, such as during a hibernation, roost or bat box check
DB	Dead bat
DNA	DNA test
DR	By droppings
FD	Frequency division detector (including Anabat)
FR	Feeding remains
FVI	Far visual, for example if bat has been seen foraging
HT	Heterodyne detector
IH	Live bat identified in the hand following trapping or rescue
PH	Photo
TE	Bat detector used
UD	Unspecified detector. Detector used but type not specified
UN	Method of ID unknown
VID	Seen and also heard on a detector

Roost location codes for section 7

BC	Behind cladding
EA	Eaves
GR	Gaps in roof timbers
CW	In cavity wall
RA	In roof apex
SF	In soffit/facia
PR	Purpose built roost
HT	Under hanging tiles
RT	Under ridge tiles
RS	Under roof slates/tiles
WG	Wall gaps
WF	Window frame
UN	Unknown
OT	Other, please specify:

Behind wall post in the chancel

Area of church codes for section 7

CH	Chancel
CR	Choir
CE	Clerestory
KI	Kitchen/communal area
NA	Nave
PA	Parvise (room above porch)
PO	Porch
SA	Sanctuary
SI	Side aisle

TS	Tower/spire
VE	Vestry
OT	Other, please specify: <input type="text"/>

Estimated position of bat access points codes for section 7

BT	Between tiles
DG	Door gaps
EA	Eaves
GA	Gable apex
MT	Missing tiles
UF	Under flashing
US	Under soffit
WF	Window frame/broken pane
OT	Other: <input type="text"/>

Droppings: Quantity, distribution, age & any spp ID

Droppings distribution is shown on Drawing D1. This is a plan of combined surveys in 2017 supplemented by data obtained during survey on the 13.9.17. Mostly droppings on floors and pews were fresh as the church is regularly cleaned but those on walls at height were apparently of mixed ages.

Number and species of bats captured/taken (handled) during the visit: (please also detail method of capture, e.g. by hand, static hand held net)

None

Please provide details of any dead or injured bats noted during the visit or records of such from previous surveys:

A soprano pipistrelle pup was found during a visit by Madeline Ryan of Natural England on the 15th July 2016. No grounded bats have been found on any of the visits undertaken by Philip Parker during 2017.

Please provide any additional notes here about the bat roosts not captured in the table above (e.g. details of any grounded bats found in recent years):

N/A

Please provide any additional information about other taxa using the church (e.g. the presence of breeding birds)

A starling was noted to be nesting in the south west corner of the chancel in May 2017 whilst a tit species was nesting in the south-east corner of the chancel. A swallow was nesting above the south door and the entrance to the porch was left open to prevent the birds from becoming trapped. Finally, there were a large numbers of sticks in the bell chamber suggesting that jackdaws were nesting although no evidence was noted during the survey.

9 Other visits and records. Please note details of previous visits you have made to this roost and or records held about the roost held by others (refer to bat group, county recorder / local records office or NBN). Provide dates, times and counts.

Philip Parker (and colleagues) has surveyed the church on the 22nd May 2017 and 29th/30th June 2017 as well as during the visit on the 13th September 2017. In addition, Madeline Ryan visited the church on the 15th July 2016. It is known that other interested people have visited the church in the past but no further information was made available. The Bat group or local records office have not been contacted. Details of the surveys undertaken by Philip Parker are provided in Document 1. Information provided by Madeline Ryan can be found in Document 2.

10 Description of issues/works proposed (tick more than one box if applicable)

- | | | | | | |
|--|--|--|---|---|--|
| <input type="checkbox"/> Bats in church interior | <input checked="" type="checkbox"/> Building repair work | <input checked="" type="checkbox"/> Damage | <input checked="" type="checkbox"/> Damage to furnishings/artefacts/memorials/organ | | |
| <input checked="" type="checkbox"/> Droppings | <input type="checkbox"/> Fear | <input checked="" type="checkbox"/> Impact on community activities/use | <input type="checkbox"/> Impact on worship | <input type="checkbox"/> Insulation | |
| <input type="checkbox"/> Intolerance | <input type="checkbox"/> Pest control | <input checked="" type="checkbox"/> Smell | <input type="checkbox"/> Noise | <input type="checkbox"/> Timber treatment | <input type="checkbox"/> Other (specify) _____ |

Further details _____

Is there a specification for any proposed works? Yes No

Is there a quinquennial inspection? Yes No

If yes to either of above please send a copy with RRF and note the date of the specification here and another brief details:

Quinquennial inspection is given in Document 3. A report relating to the wall paintings is given in Document 4.

Following section must be answered by the Churchwarden or PCC member (someone who fully understands the impacts that bats are having on their church). The bat surveyor should talk through the questions with the church representative and record answers.

Please rate all impacts on following scale: 1 = tolerable, 4 = severe

How long have you experienced bat related issues at your church?		<input type="checkbox"/> Less than 2 years	<input type="checkbox"/> Less than 5 years	<input checked="" type="checkbox"/> More than 5 years																		
In your opinion, do bats cause damage to: (if yes, please rate on scale of 1-4)	the fabric of your church monuments fixtures and fittings		<table border="0"> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input checked="" type="checkbox"/> 2</td> <td><input type="checkbox"/> 3</td> <td><input type="checkbox"/> 4</td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 2</td> <td><input checked="" type="checkbox"/> 3</td> <td><input type="checkbox"/> 4</td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 2</td> <td><input type="checkbox"/> 3</td> <td><input checked="" type="checkbox"/> 4</td> </tr> </table>		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4																	
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4																	
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4																	
Please provide details of damage, if any:	<ol style="list-style-type: none"> 1. Fabric – This has been graded 2 because whenever attempts are made to clean the walls, plaster falls off. 2. Monuments – Medieval wall paintings (Figure 18) – a report mentions that the bats are damaging the wall painting (a copy of this report is provided in Document 4). Some minor staining to the stone floor tombs 3. Fixtures and fittings - Bad staining on the pews (particularly those at the rear of the church – Figure 16) – rear pew – carpets are wet – staining on the organ pipes (see Figure 22), rust on the radiator (Figure 17) 																					
In your opinion, do bats disrupt or stop worship taking place at your church? (if yes, please rate on scale of 1-4)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4																				
If yes, please provide details:	<p>2 services are held each month in the spring – Autumn period (key bat period) less frequently in the winter</p> <p>The presence of bats has not stopped any services taking place but there is evidence that it has stopped some young families coming to the church because of the bat populations/mess</p>																					
In your opinion, do bats disrupt or stop the church being used for: (if yes, please rate on scale of 1-4)	weddings funerals community activities	<table border="0"> <tr> <td><input checked="" type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 2</td> <td><input checked="" type="checkbox"/> 3</td> <td><input type="checkbox"/> 4</td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input checked="" type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 2</td> <td><input type="checkbox"/> 3</td> <td><input type="checkbox"/> 4</td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> <td><input type="checkbox"/> 1</td> <td><input type="checkbox"/> 2</td> <td><input type="checkbox"/> 3</td> <td><input checked="" type="checkbox"/> 4</td> </tr> </table>			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4																	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4																	
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4																	
If yes, please provide details:	<ol style="list-style-type: none"> 1. Weddings - People have refused to get married on the church due to the bats. One wedding was pushed back to the winter to avoid the bat period. 2. Funerals – The presence of the bats has not really disrupted funerals but does involve a lot of cleaning prior to the funeral services taking place. 3. Community activity - The church is not useable for events where there is food involved – particularly where people are paying – this includes potential 																					

	art shows and concerts				
When bats are present, how often do you need to clean up bat droppings and urine?	<input type="checkbox"/> Daily		<input type="checkbox"/> Twice a week +	<input checked="" type="checkbox"/> Weekly	<input type="checkbox"/> Monthly
Do you feel that you have adequate support to undertake the cleaning of your church?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If not, why not?	<p>The church is cleaned before each fortnightly service and in between times if particularly bad.</p> <p>Currently there is enough support in the village for the cleaning but in the summer, all of the cleaning relates to the bats – there is no time to do anything else. The cleaning can take anything between an hour and 4 hours depending how bad and how thorough the cleaning is needed.</p>				
If you have called the National Bat Helpline, has a Volunteer Bat Roost Visitor ever visited your church?				<input type="checkbox"/> Yes	
However Madeline Ryan from Natural England has visited on the 15/07/16 (Document 2).				<input checked="" type="checkbox"/> No	
If yes, please provide details of the advice you were given:					
What measures have you taken to tackle the problems you experience in relation to bats? (please continue on a separate sheet if necessary)	<p>Lots of regular cleaning is required.</p> <p>The vulnerable pews at the west end of the nave are covered with plastic sheets. The top of the organ is also covered. The chancel is used more in the active bat season as this is cleaner (supported by PP observations that few bats appear to use the chancel during the active bat season)</p>				
To your knowledge, have professional bat surveys ever been undertaken by an ecologist at your church (this could be in relation to repairs or renovation works)? If yes, please provide a copy of the report.	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No		
Refer to Document 1 attached.					
To your knowledge, has a bat licence ever been issued to your church (this could be in relation to repairs or renovation works)?	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No		

11 Attitude of site contact towards bats

Attitude: Positive Negative Neutral

Please provide details:

The people interviewed were generally positive about bats but negative about them being in the church. There would be no issue if the bats did not deposit anything.

13 Preferred solutions and outcomes

After discussing the aims of bats in churches project with the church representative(s), please describe what outcomes they would like to achieve through working with the project?

The preferred option would be firstly to have the bats roosting on the outside or the church the secondly by them being still able to roost in the church in a contained way. They are quite happy for the bats to stay in the church if the problems of the droppings and urine can be eliminated. Some interpretation of the bats would be useful. A bat night to raise awareness and raise funds for the church would be welcomed.

14 Recommended solutions

Given the results of your survey, the aspirations of the church representatives and your knowledge of the bats in churches project, please provide your detailed opinion on possible solutions that could be implemented to reduce the negative impacts of bats.

The following recommendations have already been given to the PCC in the PPA report relating to the proposed repair works (Document 1).

Provision of a bat box under the boards on the south side of the roof close to the existing roosting location. The box could be constructed between the common rafters close to where the bats access, by attaching 18mm deep battens to the side rafters to avoid damage to the lead. Oak boards (to match the existing) should then be attached to the battens to create an enclosed box 18mm deep. This could be further sub-divided into chambers through the use of vertical battens. These boards would extend as far as the purlin giving a potential box size half the height of the roof. Once the use of the box has been demonstrated, the box could be connected to the new access to create a contained bat box.

The precise location of the box (ie which rafters it is between) should be given further consideration to maximise the levels of solar gain. The further to the east the box can be constructed whilst still in connectivity to the access point will provide more solar gain for a longer period of the day (ie limiting any shading effects of the tower)

Although the proposals to the PCC only suggested a box on the south side of the roof, giving further consideration, an additional box on the north side to match that on the south might be preferable as it would give the bats further roosting opportunities.

15 Estimated costs

Please provide a breakdown of estimated costs to complete the recommended solutions. You will need to consult with the church architect and relevant statutory heritage bodies before completing this table.

Type of work	Cost	How long will it take
<p>Detailed bat surveys</p> <p>I have assumed 3 emergence and 1 re-entry survey to meet the requirements of the Low impact Class Licence (note that I do not believe that a licence would be required to install the box)</p> <p>I have allowed for 4 surveyors (2 licensed and 2 experienced assistants) – costed from Kings Lynn so could be cheaper if surveyors are more local</p> <p>The re-entry survey would be on an evening following an emergence survey</p> <p>Costs allow for writing up surveys on completion</p> <p>Dropping deposition survey each time the church is cleaned (locations of main dropping accumulation) marked on a plan and photographed</p>	<p>£3500</p> <p>Assumed FOC</p>	Summer 2019 to ascertain full use of the church and use of the boxes
<p>Capital works (breakdown further as required, e.g. scaffolding etc.)</p> <p>Installation of southern bat box including internal camera</p> <p>Installation of northern bat box Including internal camera (additional to that originally proposed)</p>	<p>£2000 – £2500</p> <p>£2000 - £2500</p>	Winter 2018/19
<p>Following the blocking of the 2 boxes</p> <p>Monitoring</p> <p>2 emergence surveys per year as per the Bats in Churches Class Licence (assumed 4 surveyors as above but could be less)</p>	£2300 including reporting per year	Summer 2020 and 2021
Bats in churches poster (attached document 5 a typical poster we already have up in a number of Norfolk Churches)	£250	
Bat night at the church (assuming licensed bat worker to run plus volunteers)	£500	

16 Monitoring

Please describe how monitoring of both bats and solutions will be conducted and the length of the monitoring period.

Following installation of the bat boxes, monitoring of use in the first year prior to connecting the boxes to the access points.

I have then allowed for monitoring the boxes for another 2 years post connecting to the access points to see what effect this has on the internal use of the church and numbers of the bats present.

* Please note that all information and materials which are included within this form or attached to it (including for the avoidance of doubt photographs and drawings) shall remain your intellectual property. By submitting the information and materials, you hereby grant to Natural England a non-exclusive, perpetual, royalty free licence to use such information and materials, and sub-lisence the use of the same as Natural England, at its sole discretion, deems reasonable from time to time.

Confirmed bat roost records are shared by Natural England (See Privacy Notice at end of this form).

Do you agree that this record is accurate to the best of your knowledge? Yes No

Do you agree for this record to be shared? Yes No

Nb. If you do not give permission to share this record, your name will not appear on the National Biodiversity Network (NBN) in association with this record.

