Grade Church
Ruan Minor, Cornwall

Bat and Barn Owl Surveys
and Bat Mitigation Statement

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1. INTRODUCTION

It is proposed to carry out roof and tower repairs to Grade Church. The church is located at OS Grid ref SW 71220 14306, approximately 1.2km southwest of Ruan Minor on the Lizard in Cornwall.

Bright Environment were commissioned by Scott & Co in April 2019 to carry out bat and barn owl surveys to inform the works. Bats and barn owls are legally protected (see Appendix 1). This report details the results from the above surveys and includes the mitigation measures to be adopted to maintain the favourable conservation status of the bat population.

2. METHODOLOGY

The surveys were carried out following the guidance given in 'Bat Surveys for Professional Ecologists – Good Practice Guidelines' (Collins, 2016) and Barn owl survey methodology and techniques for use in ecological assessment (Shawyer, 2011).

Evaluation of the ecological value of the site for bats was undertaken following the framework provided by CIEEM (2018). The biodiversity value of ecological features is assessed according to various characteristics; including non-statutory designations, rarity, threat, diversity (species-richness), connectivity and size of populations. Each ecological feature is assigned a biodiversity value at the following geographical scale:

- International or European
- National (England)
- Regional (South West)
- County
- Local

Impact assessment and mitigation follows the guidance provided by CIEEM (2018) and the 'Bat Mitigation Guidelines' (Mitchell-Jones, 2004).

2.1 Visual survey methodology

A visual survey of the church was carried out on 6th June 2019. During this survey the suitability of the building and surrounding habitats to support bats and barn owls was assessed. A detailed search of the interior and exterior of the church was carried out using a high powered torch to illuminate all areas thought suitable for bats and barn owls. Any accessible cracks and crevices were investigated with the use of a torch and endoscope.

The survey involved looking for bats and barn owls and for evidence of their use, including droppings, pellets, staining, liming, feathers and feeding remains.

2.2 Bat emergence surveys methodology

Two emergence surveys were carried out, on 6th and 20th June 2019, to record any bats emerging from the church. The surveys commenced 15 minutes before sunset and continued until one hour after sunset. Three surveyors were employed to provide coverage of all elevations. All surveyors used Echometer Touch bat detectors, employing heterodyne and frequency division methods of detection. Bat calls were recorded (on a SongMeter SM2+) for computer analysis.

2.3 Remote monitoring methodology

A remote monitoring survey was carried out from 6th to 20th June 2019. A SongMeter (SM2+) detector was placed in the vestry and set to record bats from one hour before sunset to one hour after sunrise. This was the only place within the church where bat droppings were found during the initial visual survey.

Table 1 Survey details.

Date	Type of survey	Personnel - bat licence number	Weather conditions
06.06.19	Visual survey	Dr Janine Bright 2015-13156-CLS-CLS	Dry, calm, full cloud. Temp 12C
06.06.19	Emergence survey	Dr Janine Bright 2015-13156-CLS-CLS Eldon Douglas Emma Pethick	Dry, calm, full cloud. Temp 12C
20.06.19	Emergence survey	Dr Janine Bright 2015-13156-CLS-CLS Eldon Douglas Emma Pethick	Dry, light breeze, patchy cloud. Temp 13C
06.06.19 to 20.06.19	Remote monitoring	Dr Janine Bright 2015-13156-CLS-CLS	Temperature range for period 10-17C. Good conditions for bat activity throughout. The temperature range recorded by the detector inside the building was 11-19C.

3. SURVEY RESULTS

3.1 Habitat description

Grade church is a listed building. Parts of the church date to the 13th Century and it is understood that parts were rebuilt in the 1860's. The church is constructed of stone (granite and serpentine). There is a stone tower and the roof of the church is steeply pitched with a covering of natural slate with clay ride tile. Within the church the ceiling is vaulted with exposed beams.

Grade church is an isolated rural location. It is entirely surrounded by agricultural fields and the church appears to be sited on an elevated area of ground within the fields. The church is accessed via a green lane that is lined by native species-rich Cornish hedgerows with trees.

The small settlement of Grade is 300m to the south, Cadgwith is 700m to the northeast and Ruan Minor 1.2km to the northeast. The coastline is 900m to the east.

The habitats near the church provide good foraging opportunities for bats and barn owls.

3.2 Visual bat survey results

During the visual survey carried out on 6th June 2019 the only location at the church where evidence of bats was found was a small number (<10) of bat droppings on the floor of the vestry/organ room. Whilst it was possible to climb the tower stairs, it was not possible to enter the floors of the tower as these were deemed unsafe. It is possible that some evidence of bats was missed in the tower.

A search around the outside of the church identified many potential bat access points. It is possible that bats could gain entry via the many gaps at the overhanging eaves (see Photograph 5) or at the junctions between the stonewalls and the slates on the roof slopes (see photograph 6). There were many areas where bats could roost unseen. There are louvers on the tower. It is not known whether these provide potential access for bats or whether they have a wire mesh behind. On the 20th June 2019 a single bat dropping was also noted on the alter.

Photograph 1 South elevation of church.

Photograph 2 North and west elevations of church.

Photograph 3 North and east elevations of church.

Photograph 4 Inside of the church.

Photograph 5 Potential bat accesses at the eaves

Photograph 6 Potential bat access under slates.

3.3 Emergence survey results

6th June 2019 – Four common pipistrelle bats emerged from the church. Two bats were clearly seen to emerge from the north elevation at the eaves (see Photograph 7). The other two were seen to drop from the tower on the east elevation; it is presumed that they emerged from the louvers (the exact point of emergence was not seen).

Common pipistrelle bats foraged around the church for 45minutes after sunset.

20th June 2019 – Two common pipistrelle bats emerged from the church. One was seen to emerge from the north elevation at the eaves. The other dropped from the tower on the east elevation; it is presumed that this emerged from the louvers, the exact point of emergence was not seen.

Photograph 7 Points of bat emergence

3.4 Remote monitoring bat survey results

No bats were recorded within the organ room / vestry during the remote monitoring event. During the remote monitoring period a bat had entered the church as a single bat dropping had appeared on the alter in that time.

3.5 Interpretation and evaluation of bat survey results

The surveys indicate that Grade Church is used as a day roost by up to four common pipistrelle bats. Two bats roost near the wall tops at the eaves on the north elevation as indicated on Photograph 7. The other two bats appear to roost within the tower and their access point being the louver windows.

Common pipistrelle is common and widespread throughout the UK. The population is currently showing a significant increase (BCT, 2014). Common pipistrelle is listed as vulnerable within the red data book for Cornwall (Williams, 2009). Common pipistrelle is a priority species for conservation in the Cornwall BAP.

Through evaluation of the number and nature of bats using the building and their conservation status (following the guidance given in IEEM, 2006 and the Bat Mitigation Guidelines), the building is considered to be of *local* importance for the conservation of bats.

3.6 Barn owl survey results

No barn owls or evidence of barn owls was found at the time of the survey. There is no suitable access point into the church for this species.

Nesting swallows are present in the porch. The nests and eggs of all wild birds are protected against taking, damage or destruction under the Wildlife and Countryside Act 1981.

4. BAT IMPACT ASSESSMENT

The proposed works involve roof and tower repairs.

Without mitigation there is the potential to harm or injure bats and the potential to block or loose bat access points. This will impact upon a day roost used by four common pipistrelle bats.

The works will be subject to obtaining a Euopean Protected Species (EPS) licence. There are two types of EPS bat licenses as follows:

- A standard EPS mitigation license. This takes 30 working days to process and involves a comprehensive application process where details of survey methods, results, mitigation proposals and post completion monitoring are required, along with supporting figures and documents.
- A bat low impact class license (BLICL). This takes 10 working days to process and involves a short application form and no requirements for post completion monitoring. The BLICL is only for small numbers (less than 10 as a guide) of common specices (common pipistrelle, soprano pipistrelle, brown long-eared, whiskered, brandts, daubentons and natterers) affecting no more than three roosts across no more than three structures. Only certain bat roost types apply.

Works affecting bats at Grade Church qualify under the BLICL. Only consultants registered under the BLICL can apply. Dr Bright of Bright Environment is a registered consultant.

Through consultation with the architect a mitigation plan has been designed to minimise impacts on bats and maintain the population in favourable conservation status. Following successful implementation of the proposed mitigation detailed in section 5, the impacts of the works involve temporary disturbance to a maximum of four common pipistrelle bats. Using the guidance given in the Bat Mitigation Guidelines (Mitchell-Jones, 2004), this impact is considered to be *low*.

5. BAT MITIGATION STATEMENT

5.1 Mitigation summary

Through consultation with the architect this mitigation plan has been designed to minimise impacts on bats and maintain the population in favourable conservation status. Works affecting bats will be carried out at a time of year when bats are active and able to move to safety. All works affecting bats will be carried out under an ecological watching brief. The current bat accesses will be retained. Mitigation measures are summarised on Figure 1.

5.2 Timing of works and watching brief

The BLICL application needs to be submitted between 3 and 12 weeks before works commence and must be informed by surveys undertaken within the previous 12 months.

Stripping of the north elevation roof slope and works affecting the tower will be carried out under an ecological watching breif when a BLICL has been obtained. These works will be done between between mid-March and Mid-November when temperatures are above 10C. Once the ecologist is satisfied that all potential bat features have been uncovered, works may progress unsupervised and may continue without any seasonal restriction.

If bats are encountered they will either be allowed to leave the site of their own accord or will be captured by the registered consultant and placed within a temporary Schwegler 1FQ bat box, which will be temporarily installed on a neighbouring tree. The box will remain *in situ* until roofing works are complete. At this time the ecologist will take down the box and transfer any bats to the bat accesses in the completed roof.

5.3 Retention of bat accesses

North elevation wall plate/eaves access – along the north elevation of the church gaps (at least 6 along this elevation) will be left on the top of the stonework to allow bats to land on the stone wall and crawl onto the wall top as shown on Photograph 8. These gaps will be at least 50mm x 25mm and their locations will be indicated by the ecologist to the site manager.

Retention of louver access on the tower – if any modifications are to be made to the louver windows these will be agreed with the ecologist. Any modifications will ensure that there are 50mm x 25mm gaps between the louver openings and the surrounding stone edging.

Photograph 8 Location of proposed bat access points

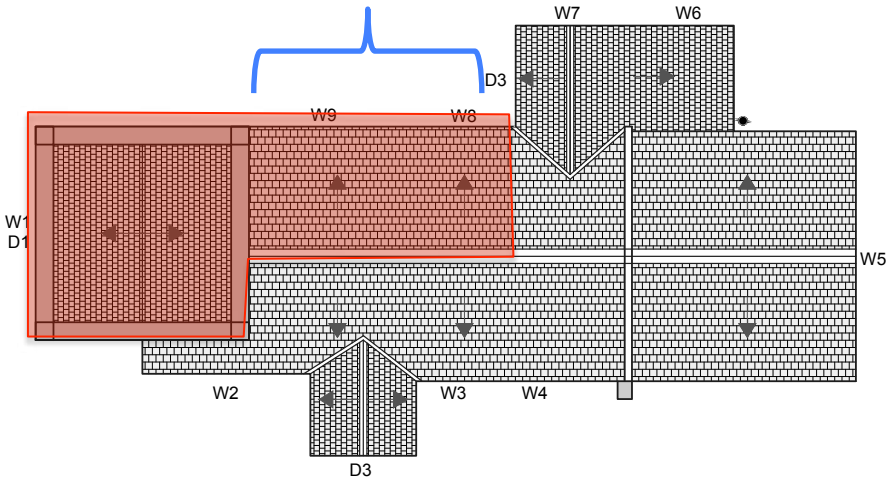
5.4 Insulation and roof membranes

Care will be taken to ensure that bat access points are not inadvertently blocked by insulation. If roof membranes are to be used these must be traditional bitumen felt as modern breathable membranes are detrimental to bats.

5.5 Monitoring

The licenced bat ecologist will be responsible for monitoring the work schedule and ensuring that the measures outlined are followed in accordance of the licence conditions. Through a pre-commencement 'tool box talk' given by the licensed ecologist, all workers will be made aware of the presence of bats, legislation relating to bats, details of the licensable activities and the proposed mitigation to be adopted, and what to do if bats are encountered. A copy of this mitigation statement and EPS license will be held on-site and the licensed ecologist will be available to assist when required. Once the works are completed the ecologist will visit the site to check that all bat accesses have been installed correctly. There is no requirement for post completion bat surveys.

Figure 1. Grade church roof plan showing bat mitigation summary



- Works will only commence once a bat license has been obtained.
- Works within the red shaded area will commence between mid-March and Mid-November when temperatures are above 10C and will be carried out under ecological supervision.
- If memebranes are used they must be traditional bitumen felt.
- Bat access to to retained at louvered windows on tower by retaining 50mm x 25mm gaps between the louver openings and the surrounding stone edging.

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Appendix 1 Summary of relevant legislation, policies and case law

Bats

All British bat are European protected species and are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. Together, this legislation makes it illegal to:

- Intentionally kill, injure or capture a bat;
- Intentionally or recklessly disturb a bat;
- Intentionally or recklessly damage, destroy or obstruct access to a place of shelter or breeding (for example, bat roosts), and this applies regardless of whether the species is actually present at the time (for example, a bat roost used in the winter for hibernation is protected throughout the year, even during the summer when it is not occupied).
- Possess or transport a bat or any part of a bat, unless acquired legally;
- Sell, barter or exchange bats, or parts of a bat.
- Intentionally handle a wild bat or disturb an bat whilst using a place of shelter/ breeding unless licensed to do so by the statutory conservation agency (Natural England).

Barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe bats are priority species for conservation on the UK BAP and protected under the NERC Act 2006. Barbastelle, pipistrelle, greater and lesser horseshoe bats are county priority BAP species (CBI, 2004).

Case Law

There are several case laws in Britain relating to the duty of developers and planning authorities with respect to wildlife, resulting in several key principles summarised in the table below:

Case / Appeal	Providing support for
Morge v Hampshire County Council (2011)	'Disturbance' under the Conservation Regulations 2010 applies to an activity likely to impact negatively on the local population of a European Protected Species.
R v Cheshire East Council 'The Woolley Case' (2009)	Regarding European Protected Species, Local Authorities must apply the 'three tests' under the Conservation Regulations 2010 when deciding on planning applications: that there is no satisfactory alternative, there is an appropriate reason for the development, and that the development will not affect the favourable conservation status of protected species present.
APP/P9502/A/08/2070105 (Appeal decision, Brecon, 2008)	Para 18: Local Planning Authorities cannot condition provision of a mitigation scheme; detailed mitigation must be provided prior to determination.
APP/C0820/A/07/2046271 (Appeal decision, Padstow, 2007)	Para 18: Full survey information must be provided prior to determination; not just for protected species, but also for BAP species (in this case corn buntings).
R v London Borough Council Bromley (2006)	Para 30: Environmental Impact Assessment required at outline planning stage.
R v Cornwall County Council 'The Cornwall Case' (2001)	Surveys for protected species cannot be conditioned; must be undertaken prior to determination.

Barn owls and other birds

The nests and eggs of all wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981. Barn owls are given greater protection against disturbance while breeding under Schedule 1 of the Act.

National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) sets out national planning policy that is committed to minimising impacts on biodiversity and providing net gains in biodiversity where possible. Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of Priority habitats, ecological networks and the protection and recovery of Priority species as identified under the Natural Environment and Rural Communities Act (2006). Section 118 of the NPPF also requires enhancements for biodiversity. The NPPF also recognises the wider benefits of ecosystem services.