



Mr Matthew Saunders
Director, Friends of Friendless Churches
c/o Colin Staff

03 October 2017

Dear Matthew

Re: Church of St. Denis, East Hatley

I am writing to set out the findings of my bat survey work completed at the Church in August 2017 in support of the current restoration proposals discussed with Colin Staff.

Building Inspection

I completed a building inspection survey in the company of Colin Staff on 3 August to understand the nature and extent of the proposed work and how it may impact bats. This verified that bats were using the interior of the church (as evidenced by the presence of scattered bat droppings on the floor of the building), with bat access into the building appearing to be via a gap at the top of the removable door to the chancel on the north side of the building. A few bat droppings were stuck to the exterior of this door indicating bat access. I saw no other obvious evidence of bat access to the building, and saw no obvious bat roost location inside the church.

Automated Bat Detector Survey

An Anabat Express electronic bat detector was set up centrally in the interior of the church to record bat calls automatically between 3-15 August (13 consecutive nights) with the detector turning on and off automatically 15 minutes before and after sunset and sunrise respectively. The detector recorded bat calls inside the church every night, with the majority being the calls of brown long-eared bats *Plecotus auritus* at various times during the night and indicating use of the church by day roosting bats. The calls of a barbastelle bat were recorded on two separate nights but not at times to suggest the bat had been day roosting inside the building.

Bat Roost Emergence Survey

A three person bat roost emergence survey of the church was completed on the evening of 15 August, in weather conditions that were suitable for bats to be active – 0% cloud, gentle breeze, air temperature 23.5°C at the start of the survey, falling to 17.0°C by the end, and no rain. The survey commenced at 20.10 (sunset was at 20.25) and continued for 60 minutes after sunset. Two staff each equipped with a hand-held Pettersson D230 bat detector with earphones were stationed at opposite corners on the outside of the church and were supplemented by six tripod mounted Anabat express detectors set up around the exterior of the building. A third surveyor was located inside the church and was equipped with a Pettersson D230 and a Cobra night vision scope.

The survey confirmed the presence of a small maternity group of brown long-eared bats inside the church that were social calling and light sampling from 20.45 of which at least three left the church via the gap at

the top of the removable door to the chancel on the north side of the building. It was estimated that a maximum of six brown long-eared bats were in the church, but it was difficult to be certain. At the end of the survey three bats appeared to be still in the church.

In addition to the brown long-eared bats inside the church, a total of five common pipistrelle bats emerged from day roosts on the south facing roof of the chancel from under roof tiles between 20.32 and 20.48.

Restoration Proposals

It is considered essential that bat roost access to the interior of the church is maintained in its current location via the door to the chancel on the north side of the building. It is understood that the current temporary door is to be replaced with a hinged door that will completely infill the doorframe leaving no gap for bats to access/egress the church. In light of this, an appropriate gap should be maintained in the new door as a vertical slot with minimum dimensions 25mm wide by 120mm long which could be designed in the shape of a cross or similar. The slot would need to be located centrally close to the top of the door. I do not see a need to provide other bat access points into the church.

Proposals to remove the boards that currently cover the window openings and replace with glazed windows are unlikely to have any direct adverse impacts on roosting bats, but will inevitably increase light levels inside the church during the day which could theoretically have an adverse impact on day roosting bats inside the building. Given the probable presence of a small maternity roost inside the church I would recommend that works to the windows are timed to avoid the period May-August, and would also suggest that a **Schwegler 3FF colony bat box** is installed high inside the church on the western end wall of the Nave to provide a dark cavity suitable for bats to reside prior to the works to the window as a precautionary measure against potential adverse impacts relating to increased light levels.

Yours sincerely,



Dr Duncan Painter CEnv MCIEEM

Director

On behalf of Applied Ecology Ltd

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