

# Churches, bats and building works

**Bats are often blamed for adding cost and causing delays to church building works, but proper understanding of roost habits can provide simple and sustainable solutions, Nicholas Kelly explains**

Churches represent about 5% of the UK's listed buildings, but nearly half of its Grade I-listed heritage. They also provide important safe and stable roosts for eight of the 18 UK bat species, including some of the largest and most important bat populations. Within that context, it should come as little surprise that bats take the blame when they are discovered in the lead up to building works and planned programmes and budgets become disordered. However, it does not and should not have to be the case.

## How bats use churches

Although the exact extent of use is unclear, it is now well established that churches provide important roosting opportunities for bats, providing relatively stable occupancy and environmental conditions in areas where natural and man-made roosts are being removed.

Bats will use churches year round, as shown in Figure 1. But maternity and hibernation are the most evident, leaving spring and autumn, when bat populations and their ability to survive are least affected by disturbance, as optimum times for building works.

During the summer months, female bats form social maternity roosts to rear their young, while the males tend to separate off to roost in isolation. Female bats will be relatively active during maternity, choosing roosts that offer favourable microclimates and good connectivity to foraging habitat. As well as actual sightings of bats (alive and dead), evidence of occupation can be deduced from droppings, insect remains, urine spotting, grease marks and sometimes sound.

By contrast, hibernation roosts often display little evidence of use, with bats looking for cool humid and stable conditions, generally between 0-6°C, where they can survive the winter using body fat reserves. Suitable areas include below ground structures (cellars and crypts), cracks and crevices, and roofs (within voids and below tiles). Other than the bats themselves, there is usually little peripheral evidence of hibernation use.

Understanding how bats use churches is crucial to assessing the level of impact that proposals for building works may have. Bats can inhabit roof and wall voids; spaces behind tiles, boards, membranes and clocks; and cracks between and within timber frames and masonry. Historic churches will generally provide more opportunities for bats to roost than modern buildings. It is not unusual to find several species using a church – but use can be broken down into four broad categories:

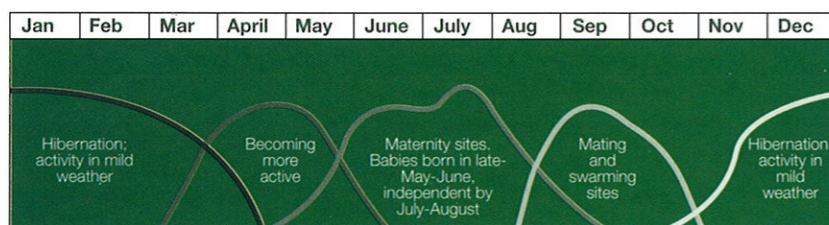


Figure 1: The bat year, from Bat Mitigation Guidelines, English Nature, 2004

- crevice dwelling species: pipistrelle, whiskered and Brandt's bats
- roof void dwelling species: serotine, Leisler's, Daubenton's and barbastelle bats
- species requiring void flight space: Natterer's and long-eared bats
- species requiring void flight space with flight entry: greater and lesser horseshoe bats.

Access points can be anywhere on a church with a large enough access hole (15x20mm), although smaller gaps around doors, windows, clocks, at eaves level and through or around roof coverings are often used – often only evident through emergence/entry surveys.

## Legal protections

Bats frequently reuse roosts year after year and thus roosts are protected even if bats are not present. It is illegal to disturb, capture, injure or kill a bat, or to damage, destroy or obstruct a bat roost. But similarly to heritage protections, the regime, which is independent of the planning system, is one of management rather than absolute prevention to control the rate and extent of change.

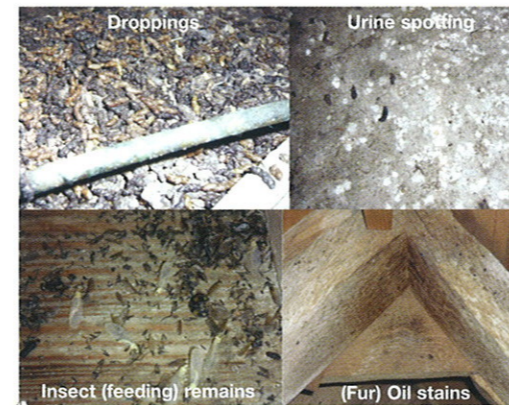
Licensing to legitimise otherwise unlawful operations can be issued by the Statutory Nature Conservancy Organisation (SNCO), which in England is Natural England, to prevent serious damage to property, to preserve public health and safety, or for other reasons of overriding public interest. Licences, however, are not designed for minor issues and can be both expensive and protracted to obtain. It also should be remembered that bat roost disturbance can also be caused during surveys for the preparation of building works. In the absence of an appropriate SNCO licence, access should only be sought when bats are not present.

## Bats and building works

Bats often arise as an issue when building works are proposed and reactive surveys indicate roost activity, or when they are discovered during building works. Building works that have significant potential to affect bat roosts include: roofing; pointing; structural masonry and timber repairs; installation and repairs of services, security and lighting systems; pest-control and timber treatments; fire compartmentation; and installation of insulation.

## An informed approach

With the Church Buildings Council estimating that around 6,400 parish churches in England are used by bats for roosting, a precautionary approach is recommended, assuming that bats are present until established otherwise. Carrying out bat surveys during a five-yearly inspection provides a prudent method of establishing legal obligations prior to issues arising. Effective project management requires early consideration of all material issues. The impact of bats on building projects should be established before grants and faculties are applied for and before programmes are agreed or works



Peripheral evidence of bat occupation



Enabling works associated with reroofing  
Photo by Barry Collins



Pipistrelle bat discovered behind tiles during works

commissioned. If bats or evidence of bats are found, the relevant SNCO and Diocesan Advisory Committee should be consulted.

An inspection of suitable features, followed by detailed visual inspections and bat emergence/re-entry surveys by an ecologist will allow the importance of any bat roost to be assessed, informing the impact on bat species. The Bat Conservation Trust *Bat Surveys: Good Practice Guidelines* provides further advice. The data then collected can also be used to inform mitigation proposals, should any protected species licensing be required, thus keeping potentially expensive precautionary measures to a minimum. It can also help to avoid expensive delays and prosecutions if bats are subsequently discovered during building works. Ecologists' recommendations should be formalised within a method statement, showing how the works have been ordered to take account of the needs of bats, including a work plan.

Given the differing seasonal needs of bats from buildings, early-stage involvement of the SNCO or an ecologist can be of benefit. They can often make recommendations on the rescheduling or phasing of work to avoid disturbance to a roost and thus the costs and delays associated with formal licensing, and usually without compromise to the project aims. Where simple accommodations cannot be made for whatever reason, protected species licensing will be required from the SNCO, which the ecologist will usually administer.

## Minimising impacts

Having established the presence of bats or their roost, consideration is needed of the potential impacts of any works proposed. Roosts are chosen by bats based on both their physical and environmental conditions and their proximity to foraging habitat, and an adverse impact on any factor may constitute an illegal act. Roost voids, whether above, below or beyond a roof-line, below ground or within walls or timber joints need to be maintained or reinstated on completion of works. Likewise, entry/exit points, flight and crawl paths and landing areas by which bats access their roosts must be protected or reinstated. Particular care is also needed when carrying out building or enabling works adjacent to undisturbed roosts to avoid the enclosure, illumination or other environmental changes that might affect their use.

## Mitigation and compensation

Dependent on the level of impact of any work on bat roosts, the significance of resident bat populations and the requirements of any licensing conditions, mitigation (on site) and/or compensation (nearby, off-site) may be required. The *Bat Mitigation Guidelines* produced by former SNCO English Nature provide a structured

approach to the assessment of need and level of mitigation and compensation required.

Where negative impacts on bat populations cannot be reduced by alternative practices, rescheduling or the creation of secure undisturbed areas, mitigation or compensation can be used as offset measures, by the provision of new or alternative roosting opportunities under the supervision of an ecologist and the aegis of SNCO licensing. These might range from simple bat boxes to the creation of new roost voids and should aim to mimic, maintain and/or improve the level of roost opportunities in terms of crevices, voids, flight spaces, entry points and environmental conditions. Materials and techniques used should be non-corrosive and non-toxic (see Natural England *Bat Roosts and Timber Treatment Products*, 2011), not alter roost environmental conditions and not present any risk of bat entanglement (membranes, insulation). Even with data and procedures in place, bats may still be discovered during building works, at which time works must stop in that area, but excepting rare species, both downtime and costs will be minimised by the proactive approach.

## Conclusions

Churches are important buildings in a living landscape, but equally important is the fauna housed. All buildings require periodic maintenance and improvements and bats do not preclude such works. They do, however, require an extra layer of consideration, which if properly planned can be sustainably managed with minimal adverse impact on churches, bats, budgets, programmes and congregations.

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## Further information

*Bats in Traditional Buildings*, English Heritage, National Trust and Natural England, 2009

*Bat Surveys: Good Practice Guidelines*, Bat Conservation Trust, 2nd edition, 2012

*Bat Mitigation Guidelines*, English Nature, 2006

Bat Conservation Trust advice on roosts, <http://roost.bats.org.uk>



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