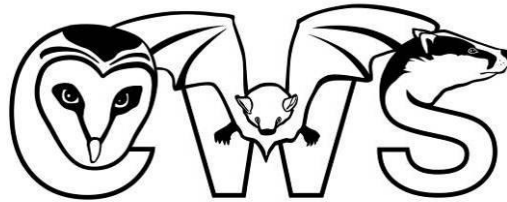


**Bat Survey Report for
Crockwell Farm,
Manor Road, Great Bourton,
Banbury, OX17 1QT**



Cotswold Wildlife Surveys

15th April 2016

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SUMMARY

At Crockwell Farm in Great Bourton, Oxfordshire, planning permission is being sought for the conversion of existing barns and agricultural buildings into residential dwellings. The works will also include the demolition of a large, open barn at the northern end of the site.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 15th April 2016, to assess the buildings for signs of bat occupation. All the internal and external structures, especially those associated with the roofs and walls of the buildings were examined.

The potential for roosting pipistrelles *Pipistrellus sp.*, was considered to be negligible, as there were no suitable external cavities.

Although no evidence of pipistrelle activity was found, a single Brown Long-eared Bat *Plecotus auritus* was found within a gap in a timber rafter in the open barn. The bat was considered to be hibernating as there was no evidence of any droppings, urine stains or feeding remains nearby.

In addition, there was an old Swallows' *Hirundo rustica* nest inside the stable block.

As the proposed works will result in the loss of the Brown Long-eared Bat hibernation site, appropriate mitigation will be needed, along with a licence from Natural England consenting to the loss of the roost.

It is therefore suggested that a large timber garden store, with an open front, is erected at the northern end of the site, potentially straddling the two gardens.

The structure will contain two Schwegler 1FF bat boxes (one in each gable end) to act as hibernation/roosting sites, whilst it will also provide a replacement nest site for the Swallows.

1. INTRODUCTION

In March 2016, Cotswold Wildlife Surveys was instructed by Roger Coy Partnership, on behalf of their client Ms L Bywaters, to undertake a bat survey of Crockwell Farm in Great Bourton, Oxfordshire. On 15th April 2016, a visit was made to the property to carry out a diurnal inspection of the buildings to check for signs of bat occupation.

The result of the survey is contained in this report.

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines 'European protected species of animals'.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- *Intentionally or deliberately kill, injure or capture (or take) bats*
- *Deliberately disturb bats (whether in a roost or not)*
- *Recklessly disturb roosting bats or obstruct access to their roosts*
- *Damage or destroy roosts*
- *Possess or transport a bat or any part of a part of a bat, unless acquired legally*
- *Sell (or offer for sale) or exchange bats, or parts of bats*

The word 'roost' is not used in the legislation, but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2. METHODOLOGY

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent but likelihood of roosting is considered to be medium to high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus*/*M. brandtii*), and Lesser Horseshoes *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where these butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum, and a minimum of 2 or 3 surveys are required. The season can be extended into October, although particularly cold weather will render this inadvisable.

At moderate to high value sites, one of the nocturnal surveys should comprise a dawn re-entry (dawn swarm) survey. For sites < 5 ha in size, two surveyors should be present, with more surveyors at complex buildings, e.g. those with multiple elevations and/or roof structures.

On the 15th April 2016, a thorough inspection of Crockwell Farm was made by Andy Warren (Natural England bat licence No. 2015-16489-CLS-CLS), including the exterior and interior walls, roof coverings, roof spaces, eaves, gable, roof and ceiling timbers, fascias, window casements and door frames.

10x42 Nikon binoculars and a Fenix TK75 torch were used for the inaccessible/unreachable areas. On this occasion an endoscope was not used, as there were no crevices and cavities that could not be inspected with a torch or by use of binoculars.

The result of the inspection is detailed in Section 3.

3. RESULTS

3.1 Location

Great Bourton is a small village located approximately 4.0 km north of Banbury in Oxfordshire. Manor Road lies to the north of the village, with Crockwell Farm situated on the corner with Stanwell Lane, at Ordnance Survey Grid Reference SP 45510 45679 (Appendix 1).

3.2 Site Description

The site comprised six buildings, which included a garage block, a storage barn, a pigsty, a stable block, an open barn and a derelict barn (Figs. 1 and 2). The buildings were a combination of stone, brick and block construction, with a range of different roofs.



Figs. 1 & 2 Crockwell Farm

The surrounding area was dominated by pastoral farmland, with the village to the southeast (Figs. 3 and 4).



Figs. 3 & 4 Surrounding area

The layout of the site is shown in the aerial photograph in Appendix 2.

3.3 Bats

3.3.1 Diurnal inspection

The daytime inspection was carried out on 15th April 2016, commencing at 10:00 hrs. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	10.0
Cloud cover (%)	100
Precipitation	Light drizzle at times
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey





Despite the number and style of buildings, none of the barns or other structures contained any features suitable for roosting bats apart from the large, open barn at the northern end of the site, in which a Brown Long-eared Bat was found hibernating within a timber rafter.

All the buildings were unlined and the majority were brightly illuminated inside, and although there were gaps under some of the roof tiles, these were in buildings with no roof lining, and the gaps led straight into the interiors. The latter were all heavily cobwebbed, especially the roof timbers and corners where bats would usually roost.

There were no suitable cavities for roosting bats within the block, brick or stonework, despite several large cracks, and the windows and doorframes were all tightly fitting, with no gaps or crevices.

Excluding the Brown Long-eared Bat, no signs of bat activity or occupation were found in or around any of the buildings.

Images of the barns with descriptions are given overleaf.

Building Name	Description	Figures
Garage block	<p>The garage block was a brick building with a pitched tiled roof (Figs. 5 and 6). This was generally sound throughout, with just a few slipped tiles on the roof verge. There were no suitable gaps for roosting bats and the brickwork was sound throughout. The front was open to the inside of the building.</p> <p>Internally the garage block was open to the underside of the roof which was unlined (Figs. 7 and 8). The building was brightly illuminated through the open front and was very heavily cobwebbed. The open nature of the building also made it very cold and quite drafty.</p>	  <p style="text-align: center;">Figs. 5 & 6 Garage block</p>   <p style="text-align: center;">Figs. 7 & 8 Unlined roof of garage block</p>

Storage barn

The storage barn was a brick building with a pitched tiled roof (Figs. 9 and 10). This was generally sound throughout, with just a few slipped tiles on the roof verges and ends. There were no suitable gaps for roosting bats and the brickwork was sound throughout. There was also a small, corrugated metal lean-to on the north elevation which was highly unsuitable for roosting bats.



Internally the garage block was open to the underside of the roof which was unlined (Figs. 11 and 12). The building was quite brightly illuminated and was very heavily cobwebbed. The open nature of the building also made it very cold and quite drafty.



Figs. 9 & 10 Storage barn and lean-to



Figs. 11 & 12 Interior of storage barn

<p>Pigsty</p>	<p>The pigsty consisted of two adjoining brick structures with a sloping corrugated metal roof (Figs. 13 and 14). The walls were in a very poor state of repair, with areas which had collapsed. However, despite this, there were no suitable crevices for roosting bats.</p> <p>Internally the pigsty was cold and damp due to the poor state of repair and gaps and holes in the roof.</p>	 <p>Figs. 13 & 14 Pigsty</p>
<p>Derelict barn</p>	<p>On the western side of the stable block were the remains of a derelict barn which had since collapsed (Fig. 15). There were several timber posts left, but these held no suitable roosting features for bats.</p>	 <p>Fig. 15 Derelict barn</p>

Stables

The stables were a combination of block, brick and stone (Fig. 16), with the rear brick wall having collapsed in one corner (Fig. 17). The roof was covered with corrugated metal sheets, which had some gaps between the panels and along the ridge.

The building was lined with timber sarking, the boards tightly fitting. On one of the beams an old Swallow's nest was noted. The walls were in a poor state of repair and there were no suitable crevices for roosting bats.



Figs. 16 & 17 Stable block



Figs. 18 & 19 Timber sarking lined roof of stable block

Open barn

The open barn was a large structure which had been extended several times (Figs. 18 and 19). It had a timber and metal frame, with a corrugated metal roof and walls in places. There were a number of skylights in the roof, which along with the open sides made the barn very brightly illuminated (Figs. 20 and 21).

The open barn was generally highly unsuitable for roosting bats, given the bright interior and exposed nature. However, some of the timber rafters were made from two boards, separated by blocks (Fig. 22). The latter were recessed creating deep, triangular shaped gaps. These appeared suitable for bats and in one of the gaps a single Brown Long-eared Bat was found (Figs. 22 and 23 overleaf).



Figs. 18 & 19 Open barn



Figs. 20 & 21 Interior of open barn



Figs. 22 & 23 Hibernating Brown Long-eared Bat in gap in rafter (arrowed)

4. CONCLUSIONS AND RECOMMENDATIONS

Bats tend to be seasonal visitors to properties, and are not usually in occupation all year round. The females normally form maternity colonies during May or June and then leave for adjacent trees and/or woodland during July or August once the young bats are able to fly and become independent. Here they will spend the winter months in hibernation before returning to the house or barn the following spring.

Male bats generally live alone and have a number of favoured roosts. During the summer they visit each of these for a few days at a time, before moving to their chosen hibernation site in mid-late October.

Different species have different habits, but this seasonal movement is common to all.

Bats choose their roosts carefully. During the summer they look for sites which are warmed by the sun, and as a result are most often found on the south and western side of buildings.

Pipistrelles, our smallest and commonest bats, prefer to roost in very confined spaces around the outside of buildings, typical places being behind hanging tiles, weather boarding, soffit, barge and eave boarding, between roof felt and roof tiles or in cavity walls. As such they can be difficult to find, so likelihood for roosting was also assessed.

This was considered to be negligible, since despite the number and style of the different buildings, there were no suitable bat roosting places.

Another bat frequently encountered in buildings is the Brown Long-eared. This is also a common species, but unlike pipistrelles, they prefer the dry, warm space of the loft or roof void, and can often be found hanging from roof timbers, especially rafters and the ridge board next to chimney breasts.

A single Brown Long-eared Bat was found hibernating within a gap in a rafter in the large, open barn. The bat was considered to be hibernating as there was no evidence of any droppings, urine stains or feeding remains.

In addition, there was an old Swallows' nest inside the stable block.

As the proposed works will result in the loss of the Brown Long-eared Bat hibernation site, appropriate mitigation will be needed, along with a licence from Natural England consenting to the loss of the roost.

It is therefore suggested that a large timber garden store, with an open front, is erected at the northern end of the site, potentially straddling the two gardens.

The structure will contain two Schwegler 1FF bat boxes (one in each gable end) to act as hibernation/roosting sites, whilst it will also provide a replacement nest site for the Swallows.

5. REFERENCES

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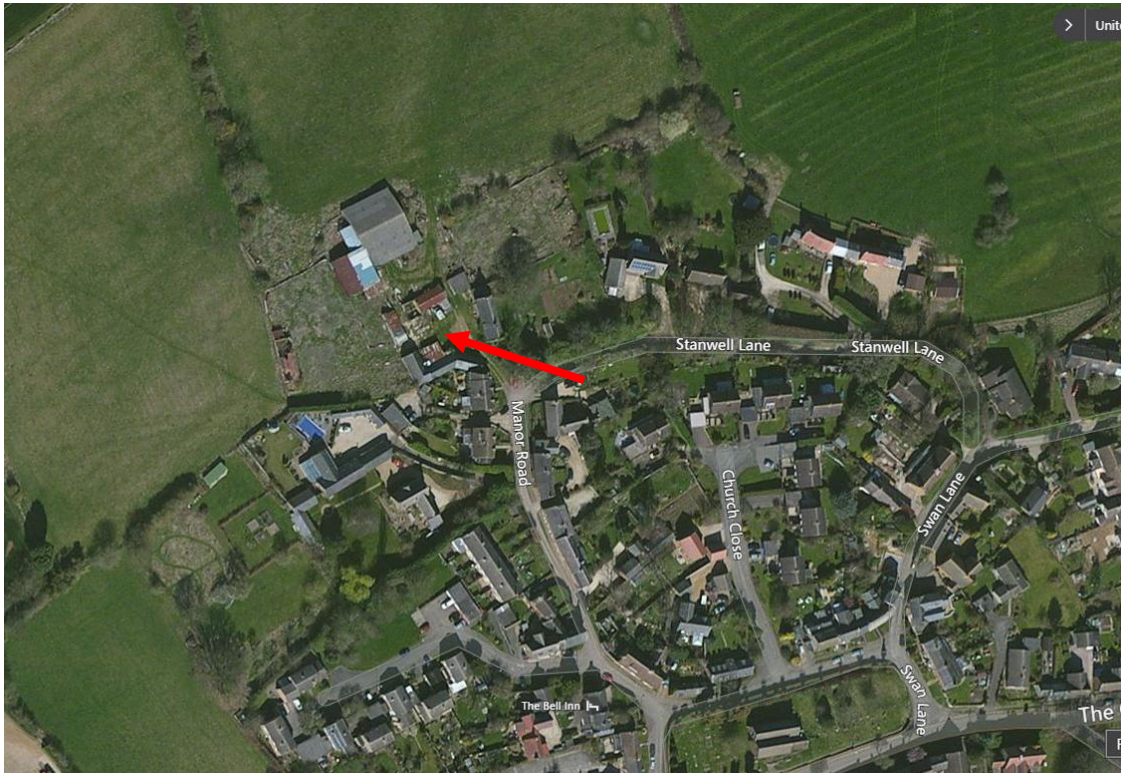
APPENDICES

Appendix 1: Location plan

Appendix 2: Site layout

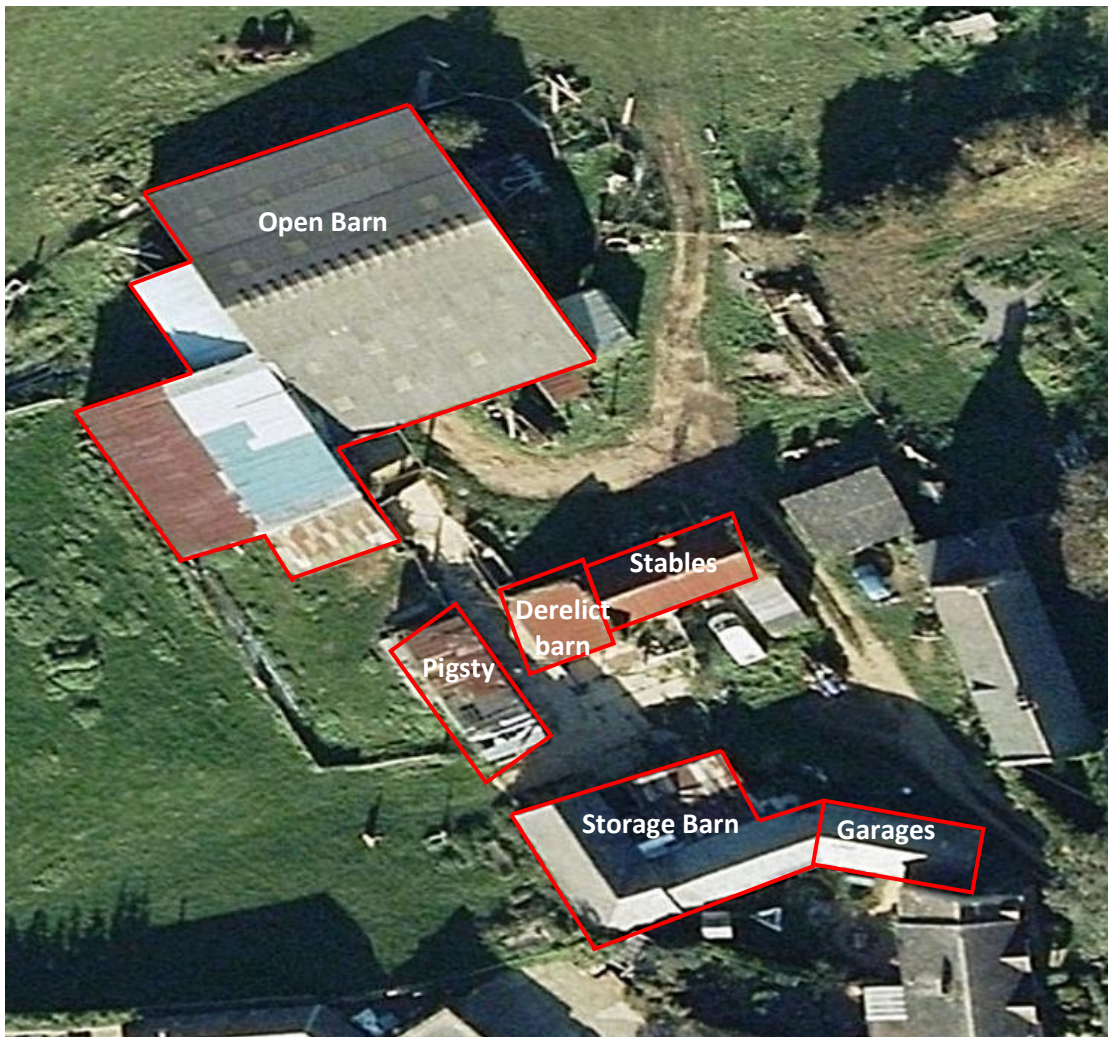
Appendix 3: Location of hibernating bat

Appendix 1: Location plan



Crockwell Farm, Great Bourton, Oxfordshire

Appendix 2: Site layout



Crockwell Farm

Appendix 3: Location of hibernating bat



Hibernating Brown Long-eared Bat 

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