

Wheal Grey
Ecology Ltd



RESULTS OF FURTHER BAT SURVEY WORK

on

**BUILDINGS AT TREWORLAS FARM, TREWORLAS,
RUAN HIGH LANES, TRURO, CORNWALL**

May 2021



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RESULTS OF FURTHER BAT SURVEY WORK ON BUILDINGS AT TREWORLAS FARM, TREWORLAS, RUAN HIGH LANES, TRURO, CORNWALL

O.S. Grid Ref: SW 8938 3857

Survey date: Emergence survey – 26th May 2021
Remote detector survey – 24th to 31st May 2021

Lead Surveyor: Simon Barnard BSc (Hons) MSc CEcol MCIEEM
Class Survey Licence Reg. Nos. 2017-32208-CLS-CLS
(Level 3) & 2015-13541-CLS-CLS (Level 4)
Barn Owl Class Survey Licence CL29/00170

Time spent on site: 3 x 1 ½ hours – Emergence survey
2 x ¼ hour – Deployment and collection of Remote detector

Taxonomic groups covered: Bats

Report authors: Simon Barnard BSc (Hons) MSc CEcol MCIEEM

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Report for: Mr Nigel Savage

Report No: 20-93/CAD/Buildings at Treworlas Farm,
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Report completed: 2nd June 2021

Report Sign off

**Document checked and
approved for issue by:**

Debra Barnard MBBCh Director

Signature:



Date:

3rd June 2021



1. SUMMARY

Wheal Grey Ecology Ltd were instructed by Mr Nigel Savage to carry out further bat survey work on a group of attached single storey buildings at Treworlas Farm, Treworlas, Ruan High Lanes, Truro, Cornwall. The proposal is to convert the buildings into a single dwelling.

These buildings have been surveyed a number of times over the last few years. In October 2020 a visual survey and the deployment of a remote detector into the building was carried out by Sophie Higgins. During this survey evidence of the use of the buildings by Lesser Horseshoe bats, as a night roost or feeding perch was found, and that the buildings may also be used by single individuals of a range of other species of bat for day roosting. As a result of this further survey work to be carried out the following active bat survey season was recommended.

Wheal Grey ecology was asked to undertake this survey work. In mid-April 2021 a visual survey of the buildings was undertaken which found small accumulations of bat droppings and moth wings (from moths eaten by bats) at a number of locations within the buildings (which echoes the results of the previous survey works) but identified very few features believed likely to be suitable to be used by day roosting bats. The further survey work recommended to undertake a single emergence survey, using three surveyors, with a second survey being undertaken if any bats are seen to emerge during the first and the deployment of a remote detector into building 3 for 7 consecutive nights.

No bats were seen to emerge from the buildings during the emergence survey. However, the presence of bat droppings, feeding remains and activity recorded on the remote detector indicate that the interior of the buildings is used as an occasional feeding perch by a single Lesser Horseshoes bat.

As evidence of the use of the buildings as an occasional feeding perch by a single Lesser Horseshoes bat a replacement night roost will need to be provided onsite to ensure the conservation status of the bats on the site is maintained. This should take the form of the creation of an enclosed undisturbed space at least 1.5metres wide, 3 metres deep and 2.5 metres high with a large open door sized fly-in access point. This can either be a stand-alone structure, a lean-to or be incorporated into the converted building but the entrance must not be illuminated by artificial lighting. Ideally it would also have a small, enclosed space/roof void above to offer more protected shelter.

2. INTRODUCTION AND BACKGROUND

Wheal Grey Ecology Ltd were instructed by Mr Nigel Savage to carry out further bat survey work on a group of attached single storey buildings at Treworlas Farm, Treworlas, Ruan High Lanes, Truro, Cornwall. The proposal is to convert the buildings into a single dwelling.

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2.1. Description of building

The buildings covered by this survey are a group of attached single storey, rendered single skin blockwork buildings with pitched corrugated cement fibre sheeting covered roofs, which step down the gentle slope of the hill to the south, see figure 1 and photos 1, 2, 3 and 4.



Photo 1. Showing the northern end of the buildings and garage



Photo 2. Looking down the eastern side of the building with the workshop at the top end



Photo 3. Looking up the eastern side of the building



Photo 4. Showing the southern end of the buildings

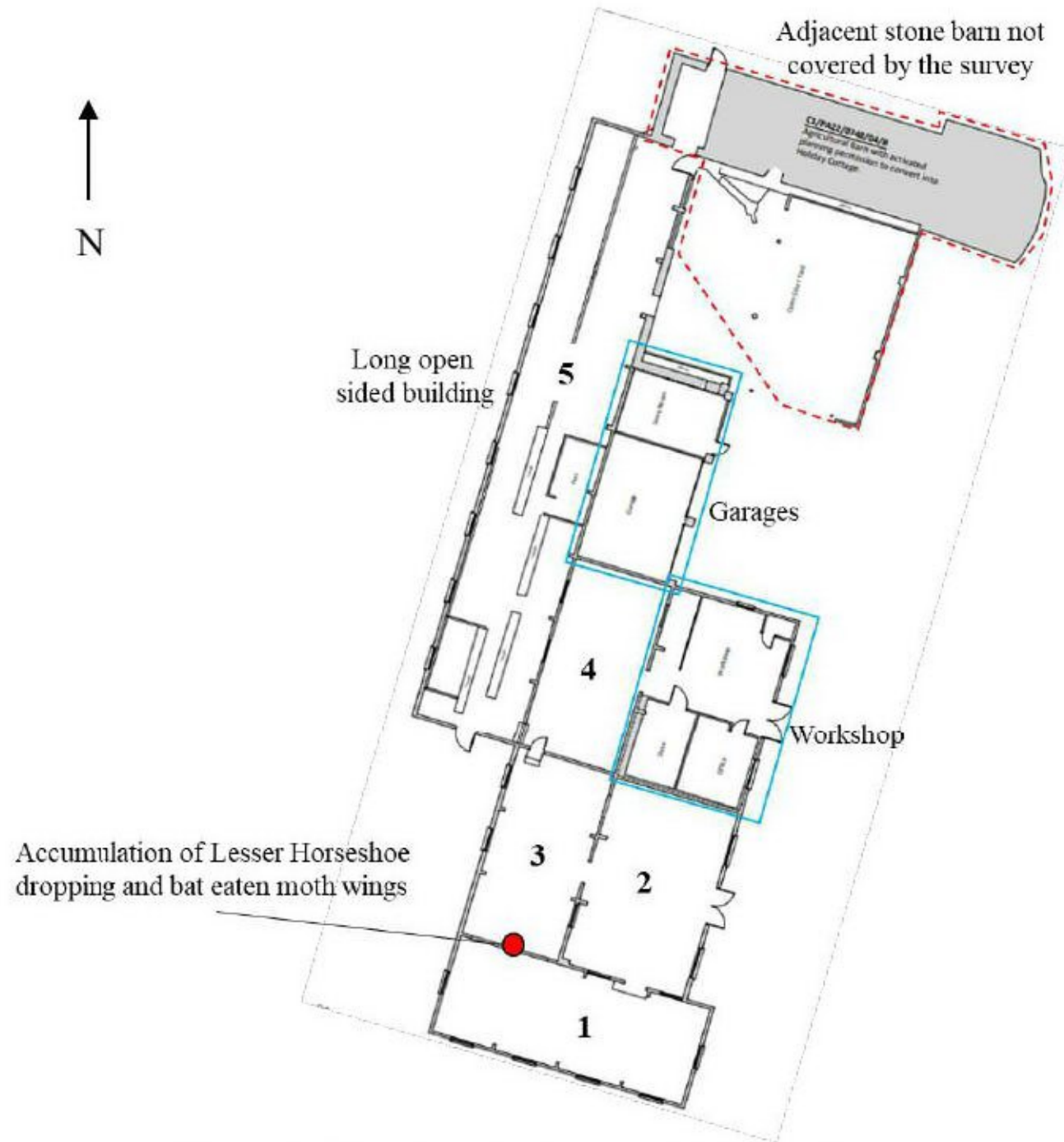


Figure 1. Showing the layout of the buildings

Most of the buildings are redundant and are open from the concrete floors to the underside of their roofs, which are unlined and supported by metal or timber trusses. The interiors of the buildings are all fairly light, as there are windows and/or skylights all around the buildings, and there are numerous holes and cavities giving both fly-in and crawl-in access into the interior of the building, these include broken windows, see photos 5 to 9.



Photo 5. Showing the interior of the southernmost building (1)



Photo 6. Showing the interior of building 2



Photo 7. Showing the interior of building 3



Photo 8. Showing the interior of building 4



Photo 9. Showing the interior of the long open building (5)

One of the buildings is used as a workshop and office, with the section used as an office having a ceiling and plasterboard lined walls, with another building being divided into three garages, see photos 10 and 11.



Photo 10. Showing the interior of the workshop

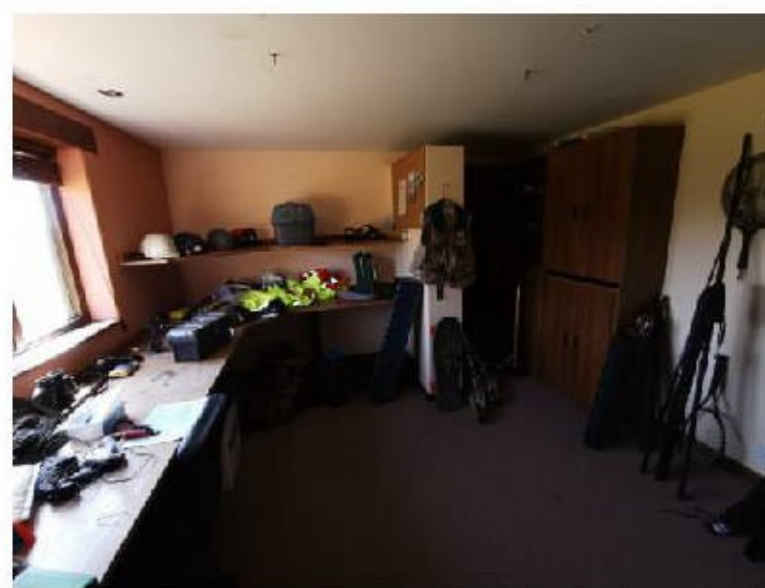


Photo 11. Showing the interior of the office

The interior of the buildings possess very few enclosed voids or cavities as they have bare blockwork walls, narrow wall tops and the ridge tunnels are open to the rooms below. Immediately to the north east of the building is a stone barn with a large lean-to roof, this was not covered by this survey. Externally there are few cavities likely to be used by day roosting bats with only short sections of fascia boards being present and the underside of the roof being open to the rooms below.

2.2. Surrounding landscape

The buildings are located in the small hamlet of Treworlas on the Roseland Peninsula. There are a number of dwellings and further agricultural buildings nearby surrounded by open countryside. The surrounding countryside comprises fields laid to pasture and used for arable crop production bounded by vegetated Cornish hedgebanks with small blocks of woodland and a wooded valley to the east.

The habitats surrounding the site represent good bat foraging habitat which is known to support a number of species of bat including Common Pipistrelles, Brown Long-eared bats, Natterer's, Whiskered bats and Lesser Horseshoes with roosts belonging to these species known to occur within nearby buildings.

3. METHODS

3.1. Dusk emergence surveys

Dusk emergence surveys aim to establish if the building being surveyed is used for day roosting by bats and if so to establish the levels of use, confirm the species present, identify the number of individuals present and identify the access points. In this instance a single emergence survey using three trained surveyors was carried out.

An emergence survey involves positioning surveyors, experienced with the use of bat detectors and undertaking emergence surveys, around the outside of the building identified as having the potential to support roosting bats. These surveyors watch the roof line, openings and other features identified as having the potential to support roosting bats or which would allow access into the building from a quarter of an hour before sunset until at least an hour afterwards for emerging bats. The emergence times, locations any bats are seen to emerge from and the time are recorded along with the time the first bat was heard or seen, any interesting behaviour observed from bats either relating to the building or passing within the range detectable by the surveyors, is noted down along with the weather conditions and any other relevant information.

3.1.1. Details of emergence survey

On 26th May 2021, Simon Barnard, Matthew Thurlow and Beth Robinson were positioned around the outside of the group of buildings so that all aspects could be watched, see Figure 2 for the locations of the surveyors and remote detectors.

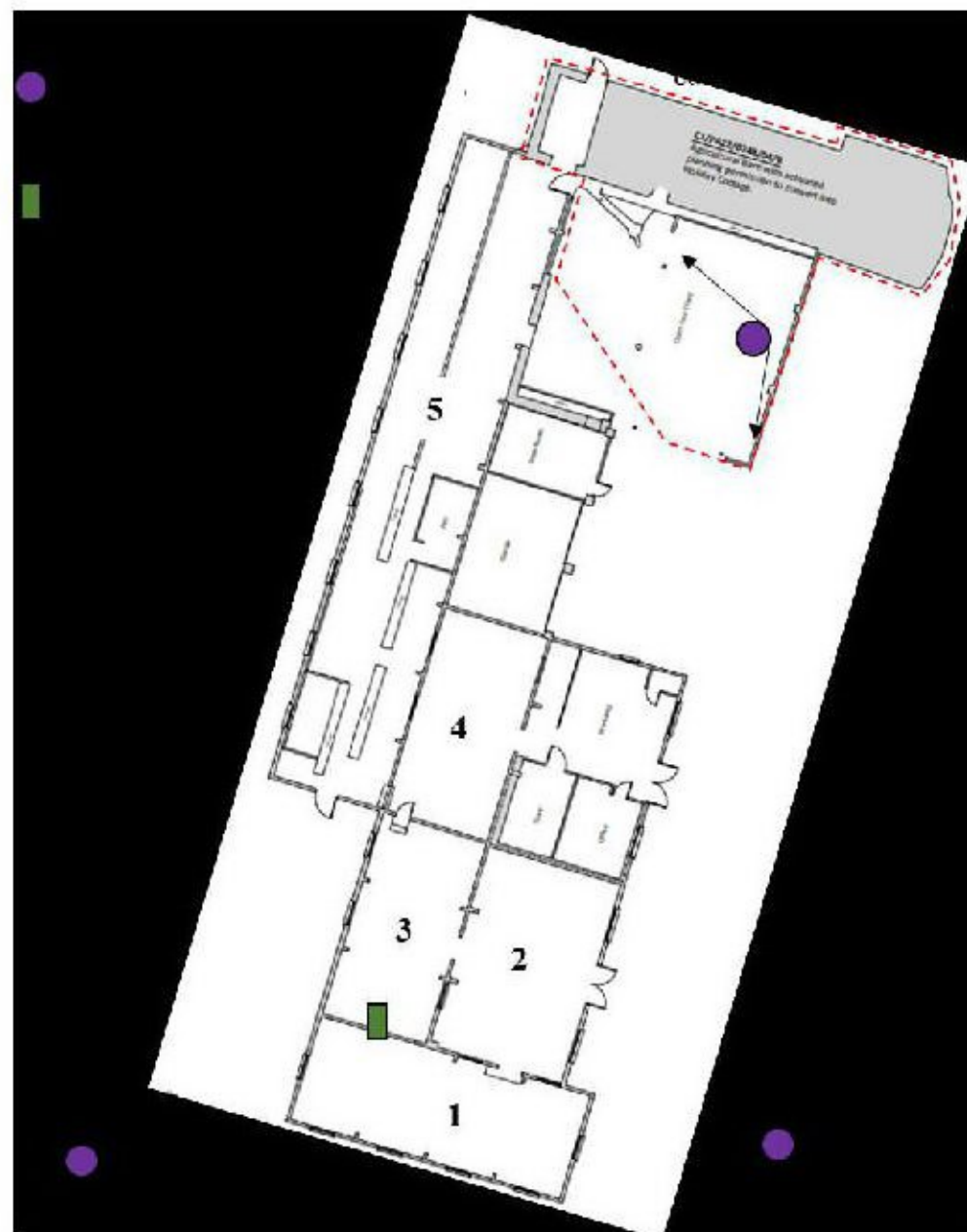


Figure 2. Locations of the surveyors and location of remote detector

The survey was carried out during suitable weather conditions for bat activity with the weather being still, clear and dry with 40% light cloud cover and a starting temperature of 12°C dropping down to 11 °C by the end of the survey. The survey started at 21.00 and continued until 22.25 with sunset being at 21.15. There were no significant constraints on the survey except for the weather throughout May having been unseasonably cold which has suppressed the levels of bat activity recorded across the UK.

Bat activity was monitored and recorded using a Batlogger M detector, an Anabat Scout and a Batscanner stereo.

3.2. Remote detector survey

A remote detector survey involved the deployment of a remote or static detector into the building subject to the survey for a set number of nights. As the detectors can record through the night, and if required the day, they can be used to gain further information on the use of the building by bats, in particular by species which may only visit the building during the night (for night roosting or as a feeding perch) or reveal the presence of late emerging species of bat which could be missed otherwise. The detector is triggered by the bat call and records and time stamps it allowing the species, regulatory of use of the structure at night and time of the call to be logged. In most instances the detectors is deployed into the building for 7 consecutive nights either between, just after or just before the emergence surveys.

In this instance an Anabat Express detector was deployed into building 3 (see diagram 1), as this is where the most significant accumulation of droppings and moth wings was found, from 24th to 31st May 2021. The weather conditions during this period were mostly dry and stable with some periods of strong wind and cold nights in the early part of the survey period.

3.3. Surveyors

3.3.1. Simon Barnard

Simon Barnard is a very experienced bat surveyor with 15 years' experience of carrying out all aspects of professional bat survey work including activity surveys, call analysis and emergence surveys. He has held a Natural England survey licence for more than 10 years, currently being registered on the Level 3 (CL19) and level 4 (CL20) Class Survey Licence. He has been involved in designing numerous mitigation schemes and obtaining European Protected Species development licences for a large range of the species of bat found in the UK and is a registered consultant on Annex's B, C and D on Natural England's Bat Mitigation Class licence. He has a Bachelors and Master's degree in ecology related subjects.

3.3.2. Matthew Thurlow

Matthew Thurlow is an experienced bat surveyor with more than 2 years' experience with the use of bat detectors, undertaking activity surveys and emergence surveys and assisting with trapping surveys and is training towards his bat class licences. He has a Bachelors and Master's degrees in ecology related subjects.

3.3.3. Beth Robinson

Beth Robinson is an experienced bat surveyor with more than 10 years' experience with the use of bat detectors and undertaking activity surveys and emergence surveys. She has a PhD and a Bachelors and Master's degree in ecology related subjects.

4. RESULTS

4.1. Emergence survey, 26th May 2021

The first bat seen was a Common Pipistrelle which entered the site from the west and then proceeded to feed in the field to the south of the building and adjacent properties garden. At 22.00 a Noctule pass was noted and at 22.11 a single Lesser Horseshoe pass was noted from a bat flying north to the east of the barn.

No bats were seen to emerge from these buildings during this survey.

4.2. Remote detector survey

During the remote detectors deployment into the building a total of 17 bat calls were recorded with calls being recorded on 3 of the 7 nights the detector was in place, see table 1. The calls were from three different species of bat, 10 calls were from Lesser Horseshoes and were all recorded on one night over the course of just under two hours, 5 were from Common Pipistrelles and were recorded over two nights and two were from a Myotis species and were recorded on a single night.

The calls from the Lesser Horseshoes are consistent with a bat entering the building and using it as an occasional feeding perch. The Common Pipistrelle calls were fragmented and consistent with bats feeding close by outside the building and the Myotis calls are consistent with a single bat flying through the building feeding.

Table 1. Summary of the remote detector recordings

Date	Species	No of calls	Time of first call	Time of last call
24/05/2021	No bat activity recorded			
25/05/2021	No bat activity recorded			
26/05/2021	No bat activity recorded			
27/05/2021	Common Pipistrelle	3	22.23	00.50
28/05/2021	Lesser Horseshoe	10	01.04	02.51
29/05/2021	Common Pipstrelle	2	22.28	04.31
	Myotis sp.	2	23.15	03.48
30/05/2021	No bat activity recorded			
31/05/2021	No bat activity recorded			

5. PROPOSAL, POTENTIAL IMPACTS ON BATS AND REQUIRED MITIGATION

5.1. Proposal

The proposal is to convert the buildings into a number of holiday lets or dwellings.

5.2. Potential impacts

No bats were seen to emerge from the buildings during the emergence survey. However, the presence of bat droppings, feeding remains and activity recorded on the remote detector indicate that the interior of the buildings is used as an occasional feeding perch by a single Lesser Horseshoes bat.

5.3. Mitigation

As evidence of the use of the buildings as an occasional feeding perch by a single Lesser Horseshoes bat a replacement night roost will need to be provided onsite to ensure the conservation status of the bats on the site is maintained. This should take the form of the creation of an enclosed undisturbed space at least 1.5metres wide, 3 metres deep and 2.5 metres high with a large open door sized fly-in access point. This can either be a stand-alone structure, a lean-to or be incorporated into the converted building but the entrance must not be illuminated by artificial lighting. Ideally it would also have a small, enclosed space/roof void above to offer more protected shelter.

In addition, as the area surrounding the building has been shown to be used by a number of species of bats it would be desirable to incorporate new roosting opportunities for bats into the converted building or elsewhere onsite. This could be done fairly simply by installing/building-in purpose-built bat boxes onto/into any proposed buildings, or by incorporating them into the building by spacing off fascia boards to create cavities behind and access up onto the wall tops or creating access to the batten gaps. Please contact Wheal Grey Ecology for further information if this is something you would like to consider.

Please Note: Breathable roofing products must not be used in areas where bats could come into contact with them as they have been proven to cause bat fatalities.

6. CONCLUSIONS AND RECOMMENDATIONS

No bats were seen to emerge from the buildings during the emergence survey. However, the presence of bat droppings, feeding remains and activity recorded on the remote detector indicate that the interior of the buildings is used as an occasional feeding perch by a single Lesser Horseshoes bat.

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7. LEGISLATION

Bats in England have been protected under a number of regulations and amendments but the most up-to-date and relevant are:

- The Conservation of Habitats and Species Regulations 2017
- Wildlife and Countryside Act 1981 (Section 9)

The result of Regulations and Acts is that all species of bat and their breeding sites or resting places (roosts) are protected under law. It is an offence to:

- Deliberately capture, injure or kill a bat
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young or significantly affect the local distribution or abundance of the species
- Intentionally or recklessly disturb a bat at a roost
- Intentionally or recklessly obstruct access to a roost whether bats are present or not
- Damage or destroy a roost whether bats are present or not
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

Through the Conservation (Natural Habitats &c.) Regulations 1994 (this has been updated and consolidated with subsequent amendments by the Conservation of Habitats and Species Regulations 2017 mentioned above) bats were designated a European protected species as part of Europe wide effort to conserve certain plant and animal species.

Any development which is likely to result in the disturbance of a European protected species, or damage to its habitat usually requires a European protected species licence from Natural England. 'Development' is interpreted broadly to include projects involving demolition of buildings, rebuilding, structural alterations and additions to buildings.

REFERENCES

A. J. Mitchell-Jones & A. P. McLeish *Bat Workers' Manual (3rd edn)*. Joint Nature Conservation Committee, JNCC, Monkstone House, City Road, Peterborough PE1 1JY

A. J. Mitchell-Jones (2004) *Bat Mitigation Guidelines version 1*. External Relations Team English Nature, Northminster House, Peterborough PE1 1UA.

BTHK 2018. *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Exeter: Pelagic Publishing.

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

Schofield, H.W. (2008) *The Lesser Horseshoe Bat Conservation Handbook*. Vincent Wildlife Trust.