



**envirotech**

Ecological Consultants  
Environmental and Rural Chartered Surveyors

## BAT EMERGENCE SURVEY AT

Little Sisters of the Poor, Preston



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## *Accuracy of report*

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with bat species. If bats are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

Bats may only be disturbed, injured or killed under licence.

If in doubt, stop work and seek further professional advice.

## *Quality and Environmental Assurance*

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech has been awarded the gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

Signed



Andrew Gardner BSc (Hons), MSc, MCIEEM, MRICS, CEnv, Dip NDEA  
Director

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# Contents

1.	EXECUTIVE SUMMARY .....	4
2.	INTRODUCTION .....	5
2.1	Site Description .....	5
2.2	Proposed Works .....	5
2.3	Aims of Study .....	5
3.	METHODOLOGY .....	6
3.1	Bats .....	6
3.1.1	Rationale of Survey .....	6
3.1.2	Field Survey .....	7
3.1.3	Timing .....	7
4.	DEFINITIONS .....	12
5.	RESULTS .....	15
5.1	Desk Study .....	15
5.2	Field Survey .....	19
5.2.1	Habitat Description .....	19
5.2.2	Activity Survey .....	19
6.	CONSTRAINTS .....	21
7.	INTERPRETATION .....	23
7.1	Presence / absence .....	23
7.2	Population size class assessment .....	23
7.3	Site status assessment .....	23
8.	POTENTIAL IMPACTS .....	24
8.1	Bat Roosts .....	24
8.1.1	Pre and mid-activity impacts .....	24
8.1.2	Long term impacts .....	25
8.1.3	Post activity interference impacts .....	25
8.1.4	Other impacts .....	25
8.1.5	Bat Foraging and Commuting Habitat .....	25
9.	RECOMMENDATIONS AND MITIGATION .....	26
9.1	Further Survey .....	26
9.2	Mitigation Measures .....	26
9.2.1	Bats .....	26
10.	MITIGATION SUMMARY .....	28
11.	REFERENCES .....	29

# 1. EXECUTIVE SUMMARY

It is understood that the remaining buildings at Little Sisters of the Poor, Preston will be demolished. Some of the buildings on site had already been demolished at the time of our first survey in April 2019.

The habitat around the site offers a low potential for foraging being well lit and vegetatively poor.

The buildings have low potential for use by bats.

Three emergence surveys were undertaken so that all areas of the buildings received visual coverage at least once on the 5<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> April 2019. Repeat surveys were undertaken on the 25<sup>th</sup> and 26<sup>th</sup> May 2019 also providing visual coverage of all of the buildings at least once.

During all of the emergence surveys, single common pipistrelle bats were seen commuting over the site. No bats were seen emerging from or showing any interest in the buildings on site for roosting.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species Regulations (2017), and considering the plans for the site, it is considered that a European Protected Species Mitigation (EPSM) Licence for bats will be required prior to works being carried out.

A mitigation strategy has been prepared and should be followed in order to ensure that the welfare of the local bat population is maintained during, and following the works.

## **2. INTRODUCTION**

### **2.1 *Site Description***

A Preliminary Ecological Appraisal by Bowland Ecology in 2018 at Little Sisters of the Poor, Preston identified the need for further surveys to assess the use of the buildings by bats.

### **2.2 *Proposed Works***

It is proposed that the buildings are demolished to allow the construction of a modern healthcare facility and associated car parking.

The timing of work is unknown but some of the buildings have already been demolished and the residual building should be demolished in 2019.

### **2.3 *Aims of Study***

To ensure that the proposed development does not affect any bat species, barn owls or nesting birds which are listed under the Conservation (Natural Habitats, &c) Regulations (2017) and or the Wildlife and Countryside Act (1981) (as amended) the survey will:-

- ⇒ Identify past and/or current use of the site by bat species, barn owls and nesting birds.
- ⇒ Assess the likely impact of the proposed development on these species.
- ⇒ Provide an outline mitigation/compensation scheme (if required) for bat species, barn owls and nesting birds affected by the development.

## 3. METHODOLOGY

### 3.1 Bats

#### 3.1.1 Rationale of Survey

The methods used comply with those described in Hundt (2012) and Collins, J (ed) (2016). The following extracts from Collins, J (ed) (2016) are used to determine the appropriate level of survey in accordance with the guidelines.

**Key point 1:** Guidelines should be interpreted using professional expertise.

*“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.*

*Equally, it would be inappropriate for someone with no knowledge or experience to read these guidelines and expect to be able to design, carry out, interpret the results of and report on professional surveys as a result, simply following the guidelines without the ability to apply any professional judgement.”* Section 1.1.3

**Key point 2:** Guidelines are descriptive rather than prescriptive and must be adapted on a case by case basis.

*“The guidelines should be interpreted and adapted on a case-by case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”* Section 1.1.3

**Key point 3:** Surveys should be undertaken where it is reasonably likely bats are present and may be affected by the proposal. Where bats are not likely to be present and or will not be affected by the proposal, survey could but need not be undertaken.

*“It is reasonable to request surveys where proposed activities are likely to negatively impact bats and their habitats. However, surveys should always be tailored to the predicted, specific impacts of the proposed activities (see Section 2.2.2). Excessive, speculative surveys are expensive and cause reputational damage to the ecological profession.”* Section 2.1

**Key point 4:** Surveys should be proportionate to predicated impacts.

*“When planning surveys it is important to take a proportionate approach. The type of survey (or suite of surveys) undertaken and the amount of effort expended should be proportionate to the predicted impacts of the proposed activities on bats. Clause 4.1.2 of BS42020 (BSI, 2013) states that ‘professionals should take a proportionate approach to ensure that the provision of information with the (planning) application is appropriate to the environmental risk associated with the development and its location”* Section 2.2.5

### 3.1.2 Field Survey

**Key Point 5:** Potential roost locations were identified during the initial survey and were all adequately covered during the emergence surveys. There was either direct visual coverage, with appropriate overlap between surveyors, coverage by infrared video camera or areas with limited visual coverage were noted and surveyors were positioned such that any bats emerging from these areas could be distinguished from bats which had commuted into the site.

**Key Point 6:** Bat commuting routes and activity in and around the site were observed and noted. The surveyors were either in visual and verbal contact or used 2-way radios to communicate bat activity over the site to each other. This reduced the potential for double counting or miss-recording bats which have flown into rather than emerged from the site or vice versa.

**Key Point 7:** A passive pre-emergence scan was made around potential roost sites with a bat detector set at 17 KHz. This would detect pre-emergence social chatter from bats. The surveyors were also listening for audible chatter during the inspection.

**Key Point 8:** An active scan was made with a bat detector post emergence. The surveyor adjusts the frequency of the bat detector in response to bat sightings to confirm species. Some bat detectors have auto-tuning capability, see Table 2.

Bat Detector	Capabilities	Used
Bat Box III	Heterodyne, manual tuning.	<input type="checkbox"/>
Bat Box Duet	Heterodyne and frequency division, manual tuning.	<input type="checkbox"/>
Echo Meter EM3(+)	Heterodyne, frequency division or time expansion. Recording capability, auto tuning.	<input checked="" type="checkbox"/>
Anabat	Zero Crossing, recording capability.	<input type="checkbox"/>

Table 1 *Bat detectors used and capabilities.*

### 3.1.3 Timing

*“Recorded bat activity is dependent on the prevailing conditions at the time of the survey, which vary temporally (through the night, between nights, through the seasons and between years) and spatially (dependent on latitude and longitude).*

*Bat activity is also determined by what the bats are doing at different times of the year; in general:*

- *April surveys may detect transitional roosts.*
- *May to August surveys may detect maternity colonies and males/non-breeding females in summer roosts.*
- *August is particularly good for maximum counts of both adults and juveniles and can be useful to observe roost re-entry because the young bats are inexperienced at flying and are often easy to observe as they try to enter the roost.*
- *August to October surveys may detect mating bats. September and October surveys may detect transitional roosts used after bats have dispersed from maternity*

*colonies but before they go into hibernacula (although October may be less suitable for surveys in more northerly latitudes).*

*It is important to stress that prevailing conditions and local trends in bat activity (for example, when were the young born in the year in question?) should be considered and recorded to provide context to survey results. Section 7.1.7*

**Key Point 9:** Bats use of sites varies throughout the year. The “most active season” for bats is April - September. For assessing maternity colonies the optimum time period is May to August. Surveys should however be chosen to maximize the likelihood of detecting bat activity which may be between April and October for summer roosts and December and February for winter hibernation. There is overlap between the two periods which should be addressed by survey where appropriate.

The timing of the survey should therefore account for the functionality and potential of the site to be used by bats for different purposes. Some sites may be unsuitable for maternity roosting but have a high potential for transition or day roosts. Some sites may have the potential to perform several functions.

Mitchell-Jones (2004) indicate that:

*“The presence of a significant bat roost (invariably a maternity roost) can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others”.*

Bats use different types of roost at different times of the year. The following roost types/times shown on Figure 3 are taken from Mitchell-Jones (2004) and were considered in the assessment of this site. Times of the year given in Figure 3 should however be considered in light of factors such as fluctuations in temperatures between years, altitude, weather conditions, species and latitude which all affect the movement of bats between roost sites.

*“An experienced surveyor should carry out surveys at a time that gives them the highest chance of establishing whether or not bats are present and how they are using the habitat including roosts). Actual timings will depend on a number of factors including the surveyor’s knowledge and experience of the site and surrounding habitats, existing data records, possible bat species present, geographical location, weather conditions in that particular year and, of course, the aims and objectives of the survey.” Section 2.4*

This site was assessed at the following period in the bat year. Some roost types can be clearly identified when not in use or can be inferred from habitat type/residual evidence.

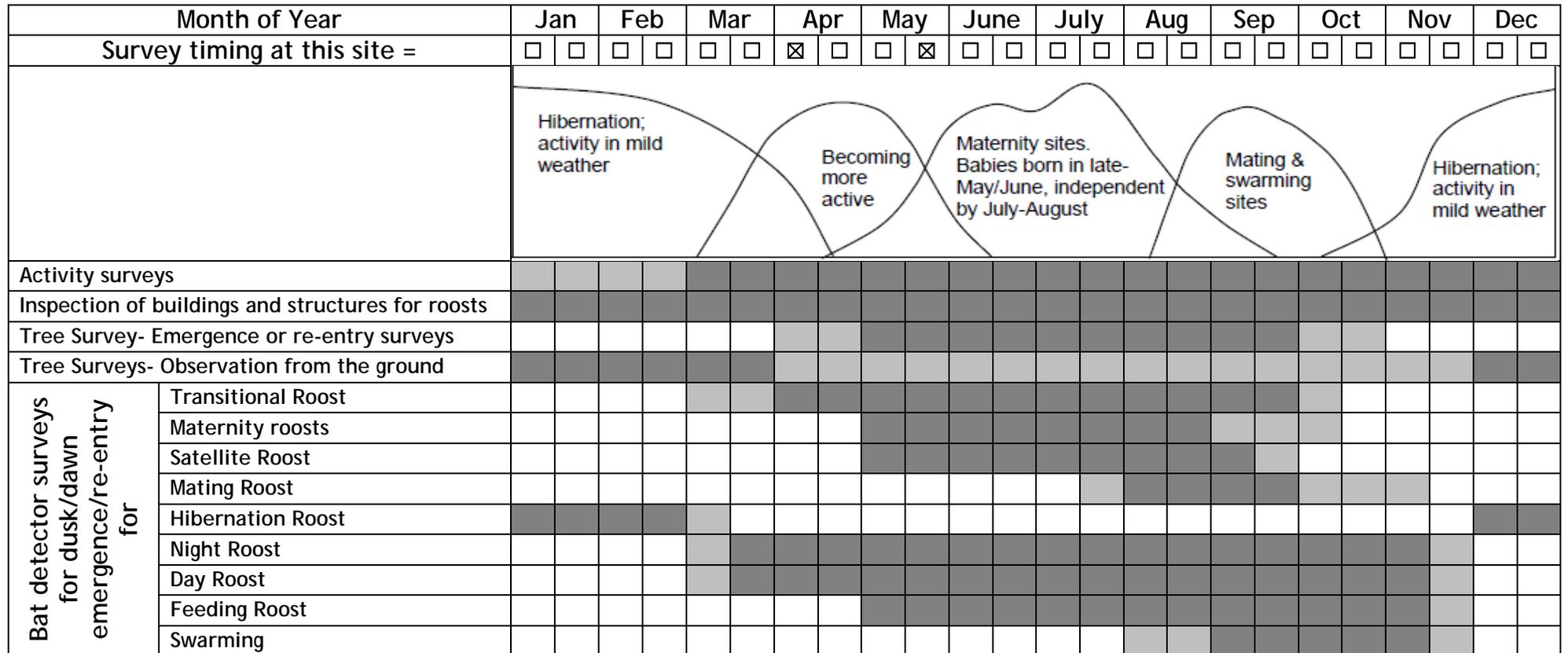


Figure 1 Survey timing in the bat year from Mitchell-Jones (2004).

**Key Point 10:** An assessment of the species of bat likely to be found at the survey site has been made. An assessment of the weather and time of year before and during the survey was also made. The duration and timing of survey was considered proportionate to the species of bats likely to be found, potential roost types, weather and cover around potential roost entrances.

**Key Point 11:**

Based on the above criteria, one dusk activity survey was undertaken. The number of surveys and timing are in accordance with Collins, J. (ed) (2016) because the site is low risk for roosting bats.

**Key Point 12:**

Sunset is a very poor indicator of bat emergence times as lux levels associated with it are highly variable and are dependent upon atmospheric conditions. A combination of sunlight, high pressure, dry air dust particles and cloud cover can create a prolonged sunset. Delayed emergence can occur during very high pressure systems, which intensify and prolong sunsets. This can delay or bring forward emergence considerably and can skew conclusions as to how far bats have travelled from their roost if sunset is used as the time base from which activity is then monitored. Variations in local conditions also do not allow for comparisons to be made between emergence at different sites on the same day. The time of year also affects the time it takes to go dark with light levels falling and rising more quickly in spring and autumn than in summer when the arc of the sun is higher in the sky.

There is a variable correlation between sunset and lux levels hence we consider they should be used independently of each other. Lux levels provide a far greater degree of certainty in respect of identifying likely bat emergence time and commuting distances, time after sunset is a poor substitute for analysing bat activity information

Emergence of *Pipistrelle* spp. usually commences at 200lux (from maternity roosts when bats have a high energy requirement) and 40lux from non-breeding and transitional roosts. Noctule are also an early emerging species at around 200lux. Emergence for whiskered/Brandts occurs between 40 and 4 Lux with brown long-eared and Daubenton's using emerging when light levels fall below 4 Lux.

During the activity survey lux levels were monitored by taking an average light reading, facing away from any potential roost sites at an angle of 45 degrees.

The activity survey continued until such a time as bat flight heights, emergence points and activity could no longer be reasonably determined. At this point the no additional useful information about the site could be gained.

Date of visit		5 <sup>th</sup> April 2019		8 <sup>th</sup> April 2019		9 <sup>th</sup> April 2019		Notes
Weather conditions	Cloud	100%		10%		50%		1
	Wind	Light		Light		Light		1
	Rain	Nil		Nil		Nil		1
	Temperature	8°C		9°C		9°C		1
Emergence survey	Start/ Light Level	20:00	250 lux	20:00	250 lux	20:00	250 lux	
	End/ Light Level	21:10	0.2Lux	21:10	0.2Lux	21:10	0.2Lux	
Surveyors		AG, JS		AG, JS, MT, FW		JS, MT		

**Table 2a Survey dates and times (April 2019).**

Date of visit		25 <sup>th</sup> May 2019		26 <sup>th</sup> May 2019		Notes
Weather conditions	Cloud	100%		50%		1
	Wind	Light		Light		1
	Rain	Nil		Nil		1
	Temperature	13°C		12°C		1
Emergence survey	Start/ Light Level	21:10	250 lux	21:10	250 lux	
	End/ Light Level	22:35	0.2Lux	22:40	0.2Lux	
Surveyors		AG, TS, RG, CW		AG, JS, RG, JS, CW		

**Table 2b Survey dates and times (May 2019).**

1. Weather conditions were considered acceptable for a survey at the site given the potential for use of the site and species which may be present. Bats are usually active with temperatures above 7 degrees Celsius.

#### Surveyors

1. (AG) Mr Andrew Gardner BSc (Hons), MSc, MCIEEM, MRICS, CEnv  
Natural England Bat Class Licence (Level 2)
2. (FW) Miss Flora Whitehead BSc (Hons)  
Natural England Bat Class Licence Agent (Level 1)
3. (MT) Mr Matthew Thomas BSc (Hons), Grad CIEEM  
Natural England Bat Class Licence (Level 2)
4. (JS) Mr Jack Sykes BSc (Hons), MCIEEM  
Natural England Bat Class Licence (Level 2)
5. (RG) Mr Ray Gardner
6. (TS) Mr Tom Sykes
7. (CW) Ms Charlie Wearden

## 4. DEFINITIONS

Definitions used in this report are detailed here, in reference to Hundt (2012) and Collins ed. (2016).

### Building

A structure with walls and a roof, for example a residential property, block of flats, office block, warehouse, garden house, folly, barn, stable, lime kiln, tower, church, former military pill box, school, hospital or village hall. Some buildings have cellars (underground sites) beneath them.

### Built structure

A structure that was made by humans but cannot be described as a building or as an underground site, for example a bridge, wall, monument, statue, free-standing chimney, or derelict building consisting only of walls.

### Underground site

A human-made or natural structure that is entirely or partially underground, for example a cave, cellar, subterranean, mine, duct, tunnel, military bunker, well, or ice house.

### Roost (breeding site / resting place)

The implementation of the EU Habitats Directive provides general definitions for breeding sites and resting places. For bats the two often overlap, which is why in many cases they are both referred to as roosts. Any interpretation of the terms 'breeding sites', 'resting places' and 'roosts' must take into account the prevailing conditions.

Natural England licensing guidelines (Natural England, 2011) discusses the age of roosts and mitigation requirements as well as the period of time bat roosts are protected when not used. The following is reproduced from this document.

"Q. The development site ceased to be inhabited last year and it is prone to vandalism. I found evidence of a maternity roost but all current signs suggest that the site is now abandoned by bats. What should I mitigate for?

Wildlife Advisers do not use a tightly defined period within which bat need to have used a structure beyond which it is no longer regarded as a bat roost. A structure can be regarded as a bat roost even if not knowingly occupied by bats for a year or two."

The Method Statements mitigation should reflect compensation for a roost at its highest status within recent years. For example, meagre mitigation for an occasionally used, summer, non-maternity roost that had declined from a maternity roost as a result of human induced change to the roosts conditions e.g. vandalism, may not be acceptable to the Wildlife Adviser.

A demolished structure, irrespective of its previous bat occupancy, clearly, ceases to be a bat roost. An intact structure without bat occupancy perhaps after a few years, and more assuredly after five years, also ceases to be a bat roost". [Emphasis added]

Natural England's guidelines are derived from the European Commission's Article 12 guidance on the definition of resting places for European Protected species.

European Commission (2007), section (54) and (59) state

“(54) It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.”

(59) Resting places: a definition

Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places. Resting places that are used regularly, either within or between years, must be protected even when not occupied.”

It is clear that for a site to be classified as a roost when not occupied there must have been past habitual and the probability of future use within at least a two year period as defined as “within or between years”.

European Commission (2007) summaries the requirement for the protection of resting sites thus

“Breeding sites and resting places are to be strictly protected, because they are crucial to the life cycle of animals and are vital parts of a species’ entire habitat. Article 12(1)(d) should therefore be understood as aiming to safeguard the continued ecological functionality of such sites and places, ensuring that they continue to provide all the elements needed by a specific animal to rest or to breed successfully. The protection applies all year round if these sites are used on a regular basis.”  
[Emphasis added]

## **Summary**

### *“Breeding site”*

Breeding is defined here as mating and giving birth to young. A breeding site is the area needed to mate and to give birth in, and includes the vicinity of the roost or parturition site, where offspring are dependent on such sites. For some species, breeding sites include structures needed for territorial definition and defence. Breeding sites that are used regularly, either within or between years, must be protected even when not occupied. Breeding sites include areas required for:

1. Courtship
2. Mating
3. Parturition, including areas around the parturition site when it is occupied by young dependent on that site.

### *Resting place*

Resting places are defined here as the areas essential to sustain bats when they are not active. Resting places that are used regularly, either within or between years, must be

protected even when not occupied. Resting places essential for survival include structures and habitat features required for:

1. Thermoregulatory behaviour
2. Resting, sleeping or recuperation
3. Hiding, protection or refuge
4. Hibernation

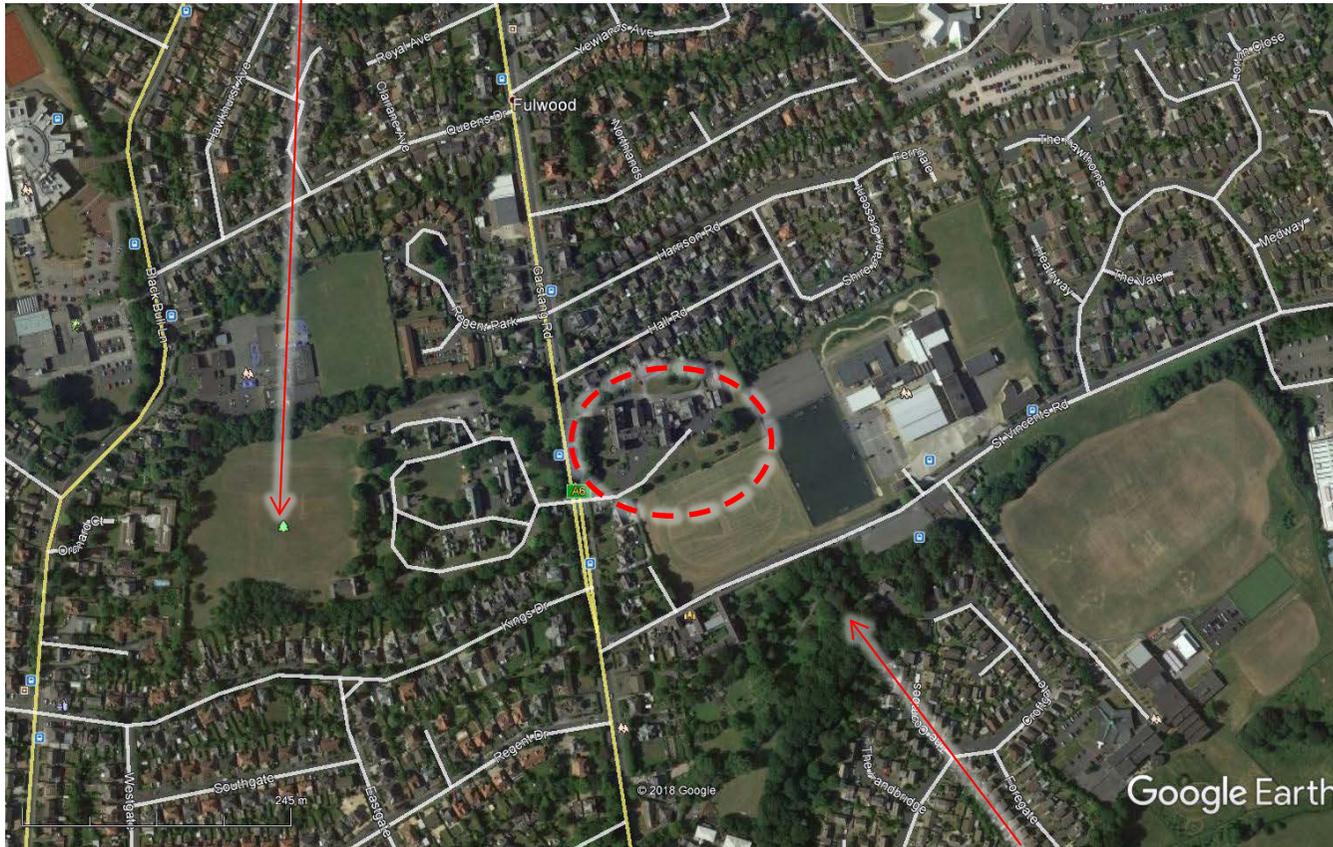
## **5. RESULTS**

### **5.1 Desk Study**

Thirteen bat records were returned by the desk study by Bowland Ecology, the closest of which is a common pipistrelle (*Pipistrellus pipistrellus*) recorded in flight, approximately 20 m north of the site. Records of bat roosts comprise common pipistrelle, soprano pipistrelle (*P. pygmaeus*), noctule bat (*Nyctalus noctula*) and brown long-eared bats (*Plecotus auritus*) from two adjacent properties on Walker Lane, approximately 1.48 km west of the site.

The habitat at and adjacent to the site was assessed from satellite imagery this was then ground truthed, Figure 2.

Likely to offer negligible foraging potential



Likely to offer moderate foraging potential

**Key**  
- - - Site Boundary



Figure 2  
*Habitat*

SCALE: NTS

REV 01

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur on or adjacent to the site and the rationale for this decision are detailed in Table 4. This assessment does not look at the roosting potential of the site. The assessment of bats which are indicated as potentially occurring on the site or local area is based on the initial largely desk based scoping survey. Additional site specific assessment is provided later in this report. This assessment does however allow for the scope of site survey to be refined.

BAT SPECIES	ROOST PREFERENCE*			NICHE*	SUITABLE HABITAT		RECORDED WITHIN 2KM
	Crevice	Void	Tree		Locally	On site	
Common pipistrelle <i>Pipistrellus pipistrellus</i>	✓	✗	✓	Generalist	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	✓	✗	✓	Riparian/Generalist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nathusius pipistrelle <i>Pipistrellus nathusii</i>	✓	✗	✓	Enclosed woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brown long-eared <i>Plecotus auritus</i>	✗	✓	✓	Enclosed woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whiskered <i>Myotis mystacinus</i>	✓	✓	✓	Linear vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brandt's <i>Myotis brandtii</i>	✓	✓	✓	Linear vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natterer's <i>Myotis nattereri</i>	✗	✓	✓	Enclosed riparian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daubenton's <i>Myotis daubentonii</i>	✓	✗	✓	Open aquatic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcathoe's <i>Myotis alcathoe</i>	✗	✗	✓	Enclosed woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noctule <i>Nyctalus noctula</i>	✗	✗	✓	Above woodland/water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 3 Bat species whose geographical range extends to the region in which the site is located. \*Typically but not exclusively.

## **5.2 Field Survey**

### **5.2.1 Habitat Description**

The habitat on and adjacent to the site identified from satellite images was ground truthed. Details of the habitats found on and adjacent to the site are detailed in Figure 2.

It is judged that the most suitable commuting route for bats into and out of the site is the road to the west. The surrounding habitat is considered to have low foraging potential.

The site is not considered to offer optimal foraging opportunities. There is limited vegetative diversity around the buildings which are in a sheltered but well lit location.

Two of the buildings on site had been demolished between the Bowland Ecology survey in 2018 and April 2019.

### **5.2.2 Activity Survey**

#### **April 2019**

During the first activity survey two common pipistrelle bats were recorded flying into the site from the East, over the sports pitch, before leaving site to the West. No other bat activity was recorded on site.

During the second activity survey two common pipistrelle bats were recorded flying into the site from the East, one over the sports pitch and one down the North side of the site, before leaving site to the West. No other bat activity was recorded on site.

During the third activity survey the same activity was noted with two common pipistrelle bats recorded flying into the site from the East, one over the sports pitch and one down the North side of the site, before leaving site to the West. No other bat activity was recorded on site.

The surveys were terminated when light levels reached 0.2 Lux and seeing bats became difficult.

There is extensive lighting around the site which illuminates the buildings and grounds.

Bat activity is plotted on Figure 3a.

#### **May 2019**

During the first activity survey two common pipistrelle bats were recorded flying into the site from the East, over the sports pitch, before foraging around trees to the West.

During the second activity survey one common pipistrelle bat was recorded flying into the site from the East, one over the sports pitch then down the North side of the site

No other bat activity was recorded on site.

The surveys were terminated when light levels reached 0.2 Lux and seeing bats became difficult. There is extensive lighting around the site which illuminates the buildings and grounds. Bat activity is plotted on Figure 3b.



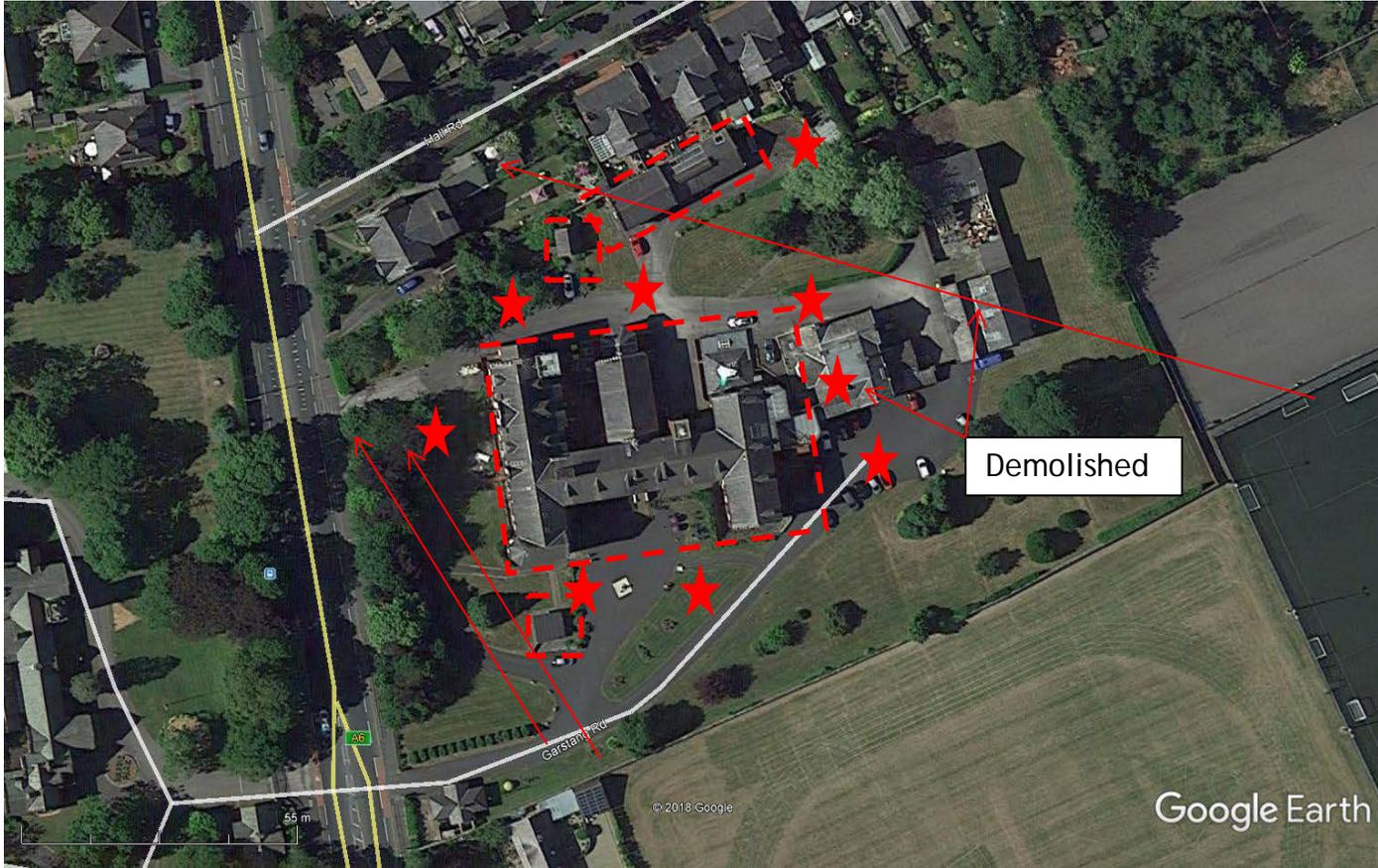
- Key**
- - - Site Boundary
  - Common Pipistrelle
  - ★ Surveyor location



**Figure 3a**  
*Bat Activity*

SCALE: NTS      REV 01

6.  
7.



**Key**  
--- Site Boundary



**Figure 3b**  
*Bat Activity*

SCALE: NTS

REV 01



## **8. CONSTRAINTS**

We judge that the site survey is sufficient to address the risk to bats at the site based on the species present in the local area, construction of the buildings and nature of the proposed work. The level of survey effort accords with the recommendations of Collins ed. (2016). The reasonable probable use of the site by bats has been determined.

## **9. INTERPRETATION**

### **9.1 *Presence / absence***

There was no past or current evidence of bats roosting found at the site during the survey.

We consider that the buildings are unlikely to be used by significant numbers of bats for roosting. It is highly unlikely the buildings are essential for species survival. Precautionary mitigation would be appropriate.

### **9.2 *Population size class assessment***

From a review of adjacent habitat the maximum number of bats that are likely to use an area within 250m of the site is of the magnitude 1-9 (small).

### **9.3 *Site status assessment***

Whilst the site itself is unlikely to be used as a roost by a significant number of bats, there is use of the adjacent landscape. Bats are likely to rely on a number of roost sites in buildings and trees in the local area. It is therefore likely that the site has a low significance for bats. We consider the Continued Ecological Functionality of the site is unlikely to be affected as a result of the proposal.

# 10. POTENTIAL IMPACTS

## 10.1 *Bat Roosts*

### 8.1.1 *Pre and mid-activity impacts*

A worst case scenario will be considered in addressing potential impacts at the site without mitigation.

#### 8.1.1.1 *Maternity Roosts*

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the buildings is judged to be very low due to the absence of highly suitable roost sites. Evidence of past use of the site by large numbers of bats such as would occur in a maternity or gathering roost, such as staining on the roof or walls, was absent. Evidence of intensive/ regular use such as occurs in such roosts can usually be found at any time of year. **We judge there is no risk to a maternity colony or gathering roost at this site from the proposed work.**

#### 8.1.1.2 *Satellite Roosts*

We do not consider that satellite roosts will be affected by the proposal. We consider the local environs are unlikely to support linked maternity roosts. There was no indication of elevated use of the site such as would occur if this roost type were present. **We judge there is no risk to a satellite roost at this site from the proposed work.**

#### 8.1.1.3 *Transitional and day roost sites*

**We judge there is a very low risk of disturbing bats in or loss of transitional or day roost sites.** We judge that on balance it is unlikely this sites potential for use for these purposes will be degraded by the proposed work. There are likely to be numerous other more suitable sites in other buildings and trees in the wider area. The buildings are unlikely to offer significant roosting potential.

#### 8.1.1.4 *Night Roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for night roosting.

#### 8.1.1.5 *Feeding roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for feeding roosts.

#### 8.1.1.6 *Lek sites*

In our experience lek sites are commonly found in proximity to the main feeding and commuting routes. The primarily commuting and feeding area at the site was judged to be the woodland some distance from the site to the South. There were no potential lek sites identified in the buildings facing this commuting route which are also close enough to it to be

used by male bats for leks. It is therefore unlikely there will be use of the buildings by bats for lekking.

#### *8.1.1.7 Hibernation*

There are no areas of rotten wood in the buildings or damp walls which also offer crevices which could be suitable for hibernating *Pipistrelle* spp. bats.

There are no areas of the buildings which are sufficiently damp, cool and darkened which would be ideal for hibernating *Myotis* spp. bats. There is very little evidence and limited potential for hibernation at the site; it is therefore unlikely there will be loss of hibernation sites.

#### *8.1.1.8 Swarming*

There is unlikely to be any loss of a swarming site. Swarming sites are generally found at or near hibernation sites. We judge that the site is unlikely to be used by *Myotis* spp. bats and brown long-eared bats which have been known to swarm as there are no hibernation sites for these species in the buildings.

#### *8.1.1.9 Summary*

Without mitigation, there is considered to be only a low potential for the alteration or loss of occasional, unconfirmed roost sites for bats at the site and this is unlikely to have a significant impact on their local distribution.

### *8.1.2 Long term impacts*

There is on balance a low risk of long term negative impacts on the favourable conservation status of bats in the local area as a result of the proposed work.

#### *8.1.3 Post activity interference impacts*

There is unlikely to be disturbance to roosting bats during the post construction phase of the project. There is already significant disturbance at the site from existing use of the site and surrounds.

#### *8.1.4 Other impacts*

It is our opinion that there will be no significant other negative impacts relating to the proposed work which may affect bat species.

#### *8.1.5 Bat Foraging and Commuting Habitat*

There is unlikely to be a disruption to any commuting routes at the site. The site does not lie on or near to a high quality commuting route.

There is unlikely to be a disturbance to feeding bats during and after the construction phase of the project. It is judged that the foraging areas near the site will be unaffected by the proposed work.

## 9. RECOMMENDATIONS AND MITIGATION

### 9.1 *Further Survey*

We consider that the risk to bats in the buildings will remain low and no additional survey work is required prior to the determination of the planning application.

### 9.2 *Mitigation Measures*

#### 9.2.1 *Bats*

Natural England requires that mitigation addresses the impacts picked up by the site assessment, as follows:-

- Quantitative characteristics: There should be no net loss of roost sites, and in fact where significant impacts are predicted there will be an expectation that compensation will provide an enhanced resource compared with that to be lost. The reasoning behind this concept is that the acceptability of newly created roosts by bats is not predictable.
- Qualitative characteristics: the plans should aim to replace like with like. As an extreme example, it would be unacceptable to replace maternity roosts with hibernation sites.
- Functional characteristics: compensation should aim to ensure that the affected bat population can function as before. This may require attention to the environment around the roost.

Natural England also recommends that precautions are taken to avoid the deliberate killing or injury of bats during development work at the site.

The site survey found no evidence of habitual use of the buildings by roosting bats in or between years, although there is a possibility of a low level of opportunistic use at some times of the year. The survey effort was sufficient to allow for an assessment of this to be made.

#### 9.2.1.1 *Bat Roosts*

As a precautionary approach the following guidelines will be adhered to.

1. All contractors on the site will be made aware of the possible presence of bats prior to the commencement of work.
2. Contractors will be provided with the contact details of an appropriately qualified individual who can provide advice in relation to bats at any time during work. In the event that bats are found during work, unless the action has already been cleared by a suitably qualified individual, **all work will cease** and an appropriately qualified individual will be contacted for further advice.
3. Contractors will be observant during demolition work for bats which may use the buildings if new areas of the roof are exposed and left open overnight. Bats are opportunistic and may make use of gaps opened up during work overnight.

4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.
5. **If bats or bat roosts are found during work, all work should cease.** The site will need to be re-assessed in regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.
6. Remove all roof coverings by hand only.
7. There is no need to restrict the timing of work. Use of the structure by bats is equally likely to occur at any time of the year but will be at low levels.

Following English Nature (Natural England) guidance Mitchell-Jones (2004), if these guidelines are followed we would consider that on balance, a disturbance to bat species which could be contrary to the 2017 Habitat Regulations and Wildlife and Countryside Act (1981) (as amended) is unlikely. **If bats are found prior to or during work a licence application may be required.**

#### *9.2.1.2 Mitigation for Foraging and Commuting Habitat*

No specific mitigation for foraging and commuting habitat is necessary. The habitat surrounding the site does not change significantly.

#### *9.2.1.3 Requirement for Habitats Regulations (EPS) Licence*

At this stage, we judge that a Natural England licence will not be required to cover work on the buildings. No bats were confirmed as breeding or roosting at the site, the loss of potential roost sites will be avoided and no significant disturbance to bats will occur, so long as the recommendations of this report are followed.

If bats are likely to be significantly disturbed or bat roosts or breeding sites are found as a result of work, all work must cease and the site will need to be re-assessed by a suitably qualified person with regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of a roost or breeding site.

## 10. MITIGATION SUMMARY

The site survey found no evidence of bats roosting although there is a possibility of opportunistic use by low numbers of bats at some times of the year. The level of use is not considered likely to be significant and with the precautionary mitigation, a significant disturbance and/or the loss of roost sites is unlikely to occur.

On the basis of survey information, specialist knowledge of bat species and the mitigation that has been proposed, it is considered that on balance the proposed activity is reasonably unlikely to result in an offence under regulation 39 of the Conservation (Natural Habitats, &c.) Regulations (2017). We do not consider there to be a need for a Natural England licence at this time.

## 11. REFERENCES

Information from the following sources has been used in preparing the survey report.

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