Dusk bat activity survey

Site at former Fole Dairy

Surveyor: Dr. Stefan Bodnar BSc (Hons) PhD MCIEEM NE bat class license (level 2 survey)

Report to C B Colllier F.D. Ltd.

Consultant

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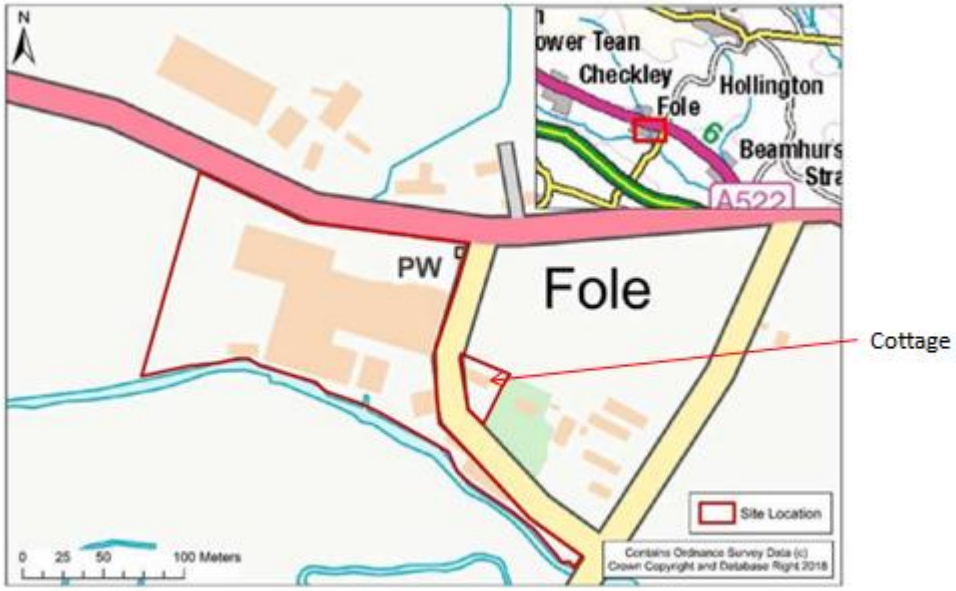
1. Introduction

The surveys detailed here have been carried out to determine if the level of activity and presence of any potential roosts at a section of a site known as Fole Dairy, Uttoxeter. It was required to ensure no roosts were present at a section of the site known as the reading room, a single storey detached structure (also called the cottage)prior to demolition of these structures. There is a recorded roost on the site, though this is confined to the Old Mill building (not affected by the proposed works at this stage). The areas are shown below, together with the initial Bat Roost Potential survey carried out in February 2018 (Dr. S. Bodnar):



Cottage

The cottage situated beyond a lane to the east of the site is brick constructed with a pitched roof supporting a combination of tiles and corrugated sheeting. The building is currently redundant and boarded across the windows but was considered to be in reasonable condition with the exception of a number of absent/slipped roof tiles. However, close up observations of the building exterior were not possible, nor was the interior of the building investigated due to restricted access.

On a precautionary basis, due to limitations, this building was assessed as having moderate BRP due to the condition of the building and level of deterioration.

This report which follows the survey, specifically contains the following:

Survey/ Mitigation report

- Details of habitats on site that may support species of bats
- Results of survey(s) including numbers recorded, location, status of area (with bats whether it is maternity or hibernation site)
- An assessment of the impact of the scheme on bats present on the site
- Any mitigation proposals
- Details of any post construction monitoring proposals and any short, medium and long term management proposals for the habitat or bats
- Any site specific advice

This survey follows a previous Preliminary Ecological Appraisal survey undertaken in February 2018 by Dr. Stefan Bodnar MCIEEM, which identified the following:

Cottage - *Exterior*	Moderate	Should potentially intrusive works be required at the cottage (e.g. refurbishment / dismantling / demolition). **Two Nocturnal Activity Surveys to be conducted in May-September 2018.**

From this, and in line with BCT Good Practice guidelines (2016) two further emergence/activity surveys were recommended to determine any potential impacts on Protected species, specifically bats. In addition, a repeat internal/external inspection of the building was undertaken.

Table 7.2 Recommended timings for presence/absence surveys.

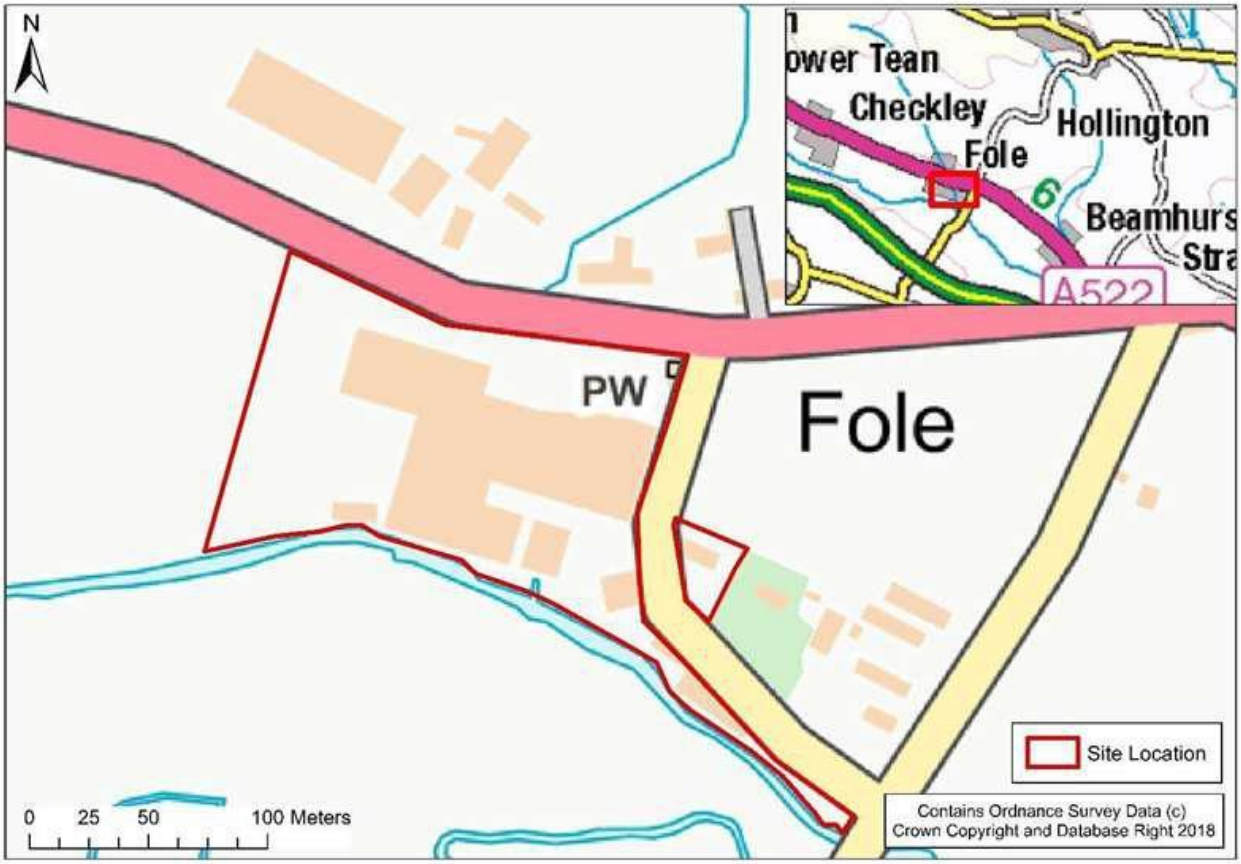
Survey type	Start time	End time
Dusk emergence	15 minutes before sunset[a]	1.5–2 hours after sunset[b]
Dawn re-entry	1.5–2 hours before sunrise[b]	15 minutes after sunrise[c]

[a] Survey start time should be adjusted on subsequent surveys if bats are recorded already in flight at 15 minutes before sunset on the first survey (or, if only one survey had been planned, this survey may then need to be repeated).
[b] The possibility of late-emerging and early-returning species should be considered in setting times for surveys (see Section 3.5).
[c] If bats are still in flight 15 minutes after sunrise then ecologists should remain in position until all the bats have entered their roosts.

1.2. Site Location

Fole Dairy is located north-west of Uttoxeter (NGR: SK 04358 37323, centre of area), see Figure 1-1 below. The site area is immediately north of the River Tean, within an arable-dominated landscape. Fole Dairy is a disused dairy farm and several buildings are present within the site area which will require demolition as part of the works.

All parts of the site and buildings were available for access. The site is shown below.



1.3. General Site Description and Status

The majority of the site supports disused buildings bound by expanses of hardstanding. These were predominantly constructed from brick and breezeblock walls with pitched corrugated sheet roofing at single-storey level. Many of the buildings had access and egress points for bats, predominantly via broken windows The brickwork was generally considered to be in good condition with only few cracks and areas of deterioration noted. The guttering and horizontal ledges of the buildings were also considered suitable for nesting birds.

1.4. Brief Description of Project

It is understood that the overall Planning application refers to new build residential development. Refer to planning application for detailed plans.

2. Bat Emergence Surveys

2.1 Approach and Brief:

a. The methods employed follow The Bat Conservation Trust Good Survey guidelines (2016) and involved one dusk survey, following current guidelines (shown below). The survey comprises a minimum of 3 surveyors using bat detectors.

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[b] The possibility of late-emerging and early-returning species should be considered in setting times for surveys (see Section 3.5).
[c] If bats are still in flight 15 minutes after sunrise then ecologists should remain in position until all the bats have entered their roosts.

b. The key surveyor present throughout has a Natural England bat survey license (survey level 2), which he has held for a number of years. (Dr. Stefan Bodnar), assisted by Dr. L. Sutherland MIALE, a member of Warwickshire Bat Group and an experienced bat surveyor, and Carrie Allcock MSc., Pavel Goddard BSc., trainee bat surveyors.

2.2 Detailed Methodology

- **1 Evening and one dawn activity surveys**

  One evening activity survey and a single dawn swarming survey should be carried out using Bat detectors and an appropriate number of surveyors for the building concerned. The evening surveys will be fifteen minutes prior to sunset and continued for ninety minutes to 120 after sunset. The dawn survey begins approximately ninety to 120 minutes prior to sunrise and continues until just after sunrise. Weather conditions during the evening activity surveys were recorded. Bat activity at the site will be mapped and any signs of roost formation determined.

The evening emergence/activity Surveys were conducted on 24th July 2018 and followed standard survey format and guidance, the survey commencing 15 minutes prior to dusk and lasting approximately 2 hours after sunset. (see Survey guidelines (good practice, BCT, 2016). The dawn re-entry/activity Survey was conducted on 7th August 2018 following standard survey format and guidance, the survey commencing 1 ½ hours before sunrise to sunrise. (see Survey guidelines: Good practice, BCT, 2016).

The surveys were focused on the buildings which are being affected by the proposed development.

The following detectors were used in heterodyne mode:

- 2x Batbox duet, 2 x Magenta

In addition a static detector (SM3 Bat plus) will be placed during the period of the surveys.
4 field recorders were present throughout.

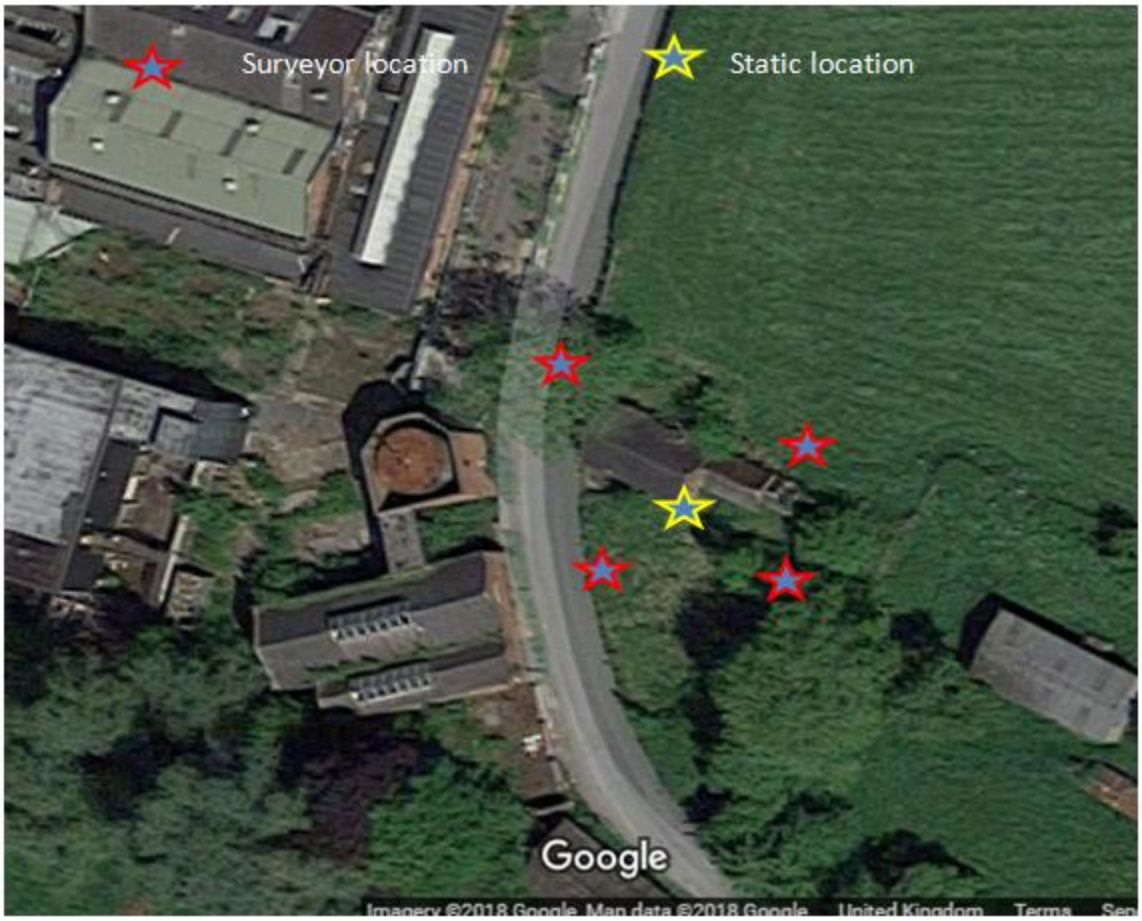
Bat species identified on the basis of heterodyne detector evidence alone is a highly skilled and somewhat subjective technique, based on the surveyor's field experience of the "jizz" of individual species (Ahlen, 1990). For this reason a number of authorities will only accept species specific identification in the field if a record is either confirmed in the hand, or accompanied by detailed sonogram evidence. Levels of bat activity are strongly correlated to climatic conditions due to the influence that these factors have on the abundance of insect prey, the surveyors recorded temperature and prevailing weather conditions at the start and finish of each survey session

3. Results:

Repeat internal/external inspection (24th July 2018)

The building was inspected exteriorly and the findings were the same as the previous evaluation in February 2018. Internal access was gained. The interior of the building has no roof space present and has a roof lined with plaster. The interior is heavily cobwebbed and there were no signs of bat usage either current or previously.

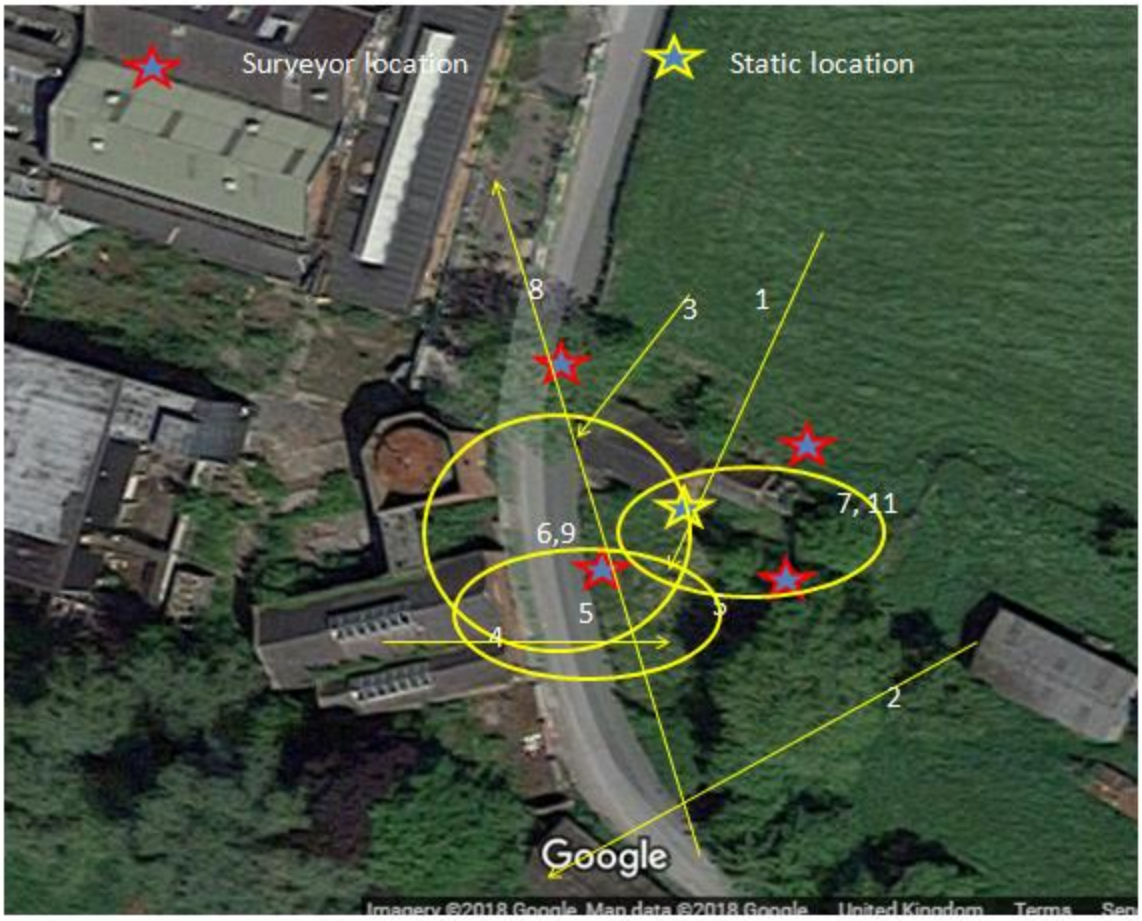
On the maps in the results the symbols below denote location of field surveyors and static detectors during the survey:



3.1 Evening Emergence/ Activity Surveys

24th July 2018 Start time and temperature: 20:45 BST, 22ºC

Weather conditions: still and clear, remaining constant throughout the survey. Finish time and temperature: 23:15 BST, 20ºC

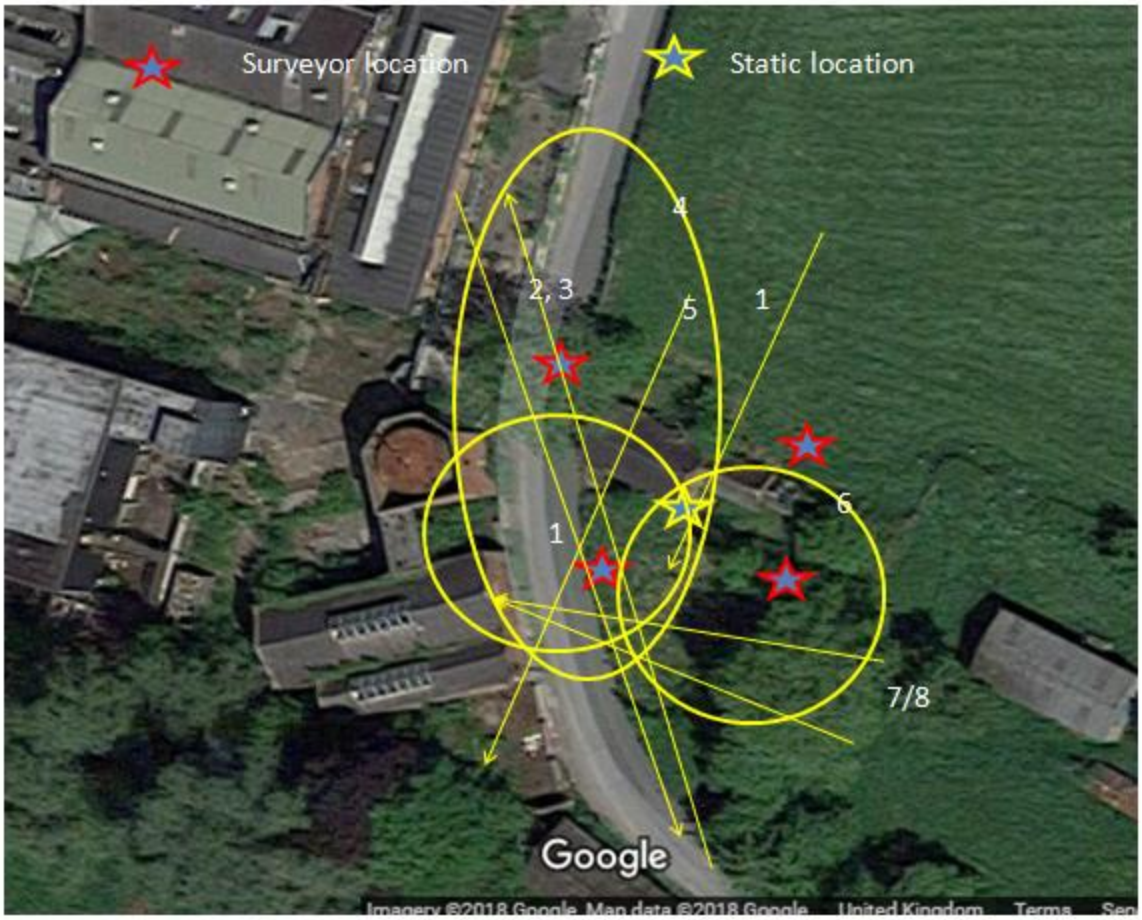


Species	Record	Time	Activity	Detection frequency on heterodyne
Common pipistrelle x 1	1	21:14, 21:39	Commute/forage	45 kHz
Common pipistrelle x3	2	21:42-49	Forage/commute	45 kHz
Common pipistrelle x 2	3	21:51-22:10	Foraging passes	45 kHz
Natterer's bat x4	4	22:00	Emerge Mill building	28-70 kHz
Natterer's bat x2	5	22:00-22:14	Forage	28-70 kHz
Natterer's bat	6	21:36	Forage	28-70 kHz
Common pipistrelle	7	22:20-30	Foraging pass	45 kHz
Common pipistrelle	8	22:17	Foraging passes	45 kHz
Common pipistrelle	9	22:28	Foraging pass	45 kHz
Natterer's bat	10	22:36	Forage	28-70 kHz
Natterer's bat	11	22:36 50	Forage	28-70 kHz

Minimum count: 3 Common Pipistrelle, 5 Natterer's bat, were noted during the survey. No bats were emergent from the any of the buildings to be demolished on the site, but emergence was noted from the nearby Old Mill building, which is not to be demolished and is an existing recorded bat roost.

7th August 2018 Start time and temperature: 03:45 BST, 18ºC

Weather conditions: still and clear, remaining constant throughout the survey. Finish time and temperature: 05:50 BST, 17ºC


Surveyor location
Static location
4
2, 3
5
1
6
1
7/8
Google
Imagery ©2018 Google, Map data ©2018 Google
United Kingdom
Terms

Species	Record	Time	Activity	Detection frequency on heterodyne
Common pipistrelle x 3	1	03:45-4:15	Commute/forage	45 kHz
Common pipistrelle x1	2	04:16	Forage/commute	45 kHz
Common pipistrelle x 2	3	04:20-5:14	Foraging passes	45 kHz
Natterer's bat x4	4	3:45	Forage	28-70 kHz
Natterer's bat x2	5	4:00-4:45	Forage	28-70 kHz
Natterer's bat	6	4:51	Forage	28-70 kHz
Natterer's bat x12	7	4:52-58	Return to roost	28-70 kHz
Common pipistrelle x 6	8	5.20	Return to roost	45 kHz
		50		

Minimum count: 6 Common Pipistrelle, 12 Natterer's bat, were noted during the survey. No bats were emergent from the any of the buildings to be demolished on the site, but re-entry was noted from the nearby Old Mill building, which is not to be demolished and is an existing recorded bat roost.

3.2 SM3+ remote data (analysis of sonograms)

The following bat traces were recorded:

Survey	Survey Date	Species
Survey 1	**24th July 2018**	**Common pipistrelle**
Survey 1	**24th July 2018**	**Natterer's bat**
Survey 2	**7th August 2018**	**Common pipistrelle**
Survey 2	**7th August 2018**	**Natterer's bat**

4. Conclusions:

- I can confirm that there was no bat emergence from the former cottage/reading room area of the buildings and that this can therefore be demolished. I was able to confirm that the former office areas also were clear of bats and breeding birds and that demolition work can proceed here also.

- There was considerable bat activity throughout with emergence confirmed from the main Old Mill building, the entrance points being at the wooden apex structure facing East, confirming the previously recorded roost presence here. Considerable activity was noted of Natterer's bat as well as Common pipistrelle. It may be that this building has a roost of Natterer's bat present in addition to the others identified.

- It can be confirmed that bat roost entrance points to Mill house will not in any way be impacted by demolition of the canteen or other buildings. Works can proceed without and particular avoidance or mitigation methods in place.

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Note: If bats or signs of bats are discovered at any time during processes involved with the development, including works to trees, work should cease immediately and the advice of a licensed ecologist sought.

6.0 References:

Bat Mitigation Guidelines. English Nature, Peterborough, Mitchell-Jones, A.J.& Mcleish, A.P. (Eds)(2004).

Bat workers Manual, 3rd Edn. Joint Nature Conservation committee, Peterborough.

(2004) Bat Survey guidelines (2016), Bat Conservation Trust

Preliminary Ecological Appraisal, February 2018, Dr. S. Bodnar