



greenwillows associates ltd

Green Willows Farm, First Turf Fen Drove, Warboys, Cambs PE28 2TZ
Tel: 01487 823198 / 01487 801638 Email: info@greenwillowsassociates.co.uk
www.greenwillowsassociates.co.uk

Ecological Surveys • Habitat Management • Arboricultural Surveys • Vegetation Clearance

Alan Smith MCIAT
snell david ltd - architects
Scutches Barn
17 High Street
Whittlesford
Cambridge
CB22 4LT

04th September 2022

Dear Mr Smith

Phase 2 Dusk Bat Emergence Surveys: 912 Pratt's Green Farmhouse, Malting End, Kirtling, CB8 9HH.

Greenwillows Associates Ltd. was commissioned to undertake dusk bat emergence surveys at the above location, hereafter referred to as 'the site' for the purposes of this report. The requirement for bat surveys was a recommendation in a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) Report published by MKA Ecology Ltd. in February 2022 (Ellis, M., 2022). This report should be read in conjunction with the MKA Ecology Ltd. report.

Background

The PEA/PRA was commissioned to support a planning application concerning demolition of a modern extension and a garage/lean-to, and the construction of new extensions and alternations[†]. Greenwillows Associates Ltd. was commissioned to undertake two bat surveys at the site on the basis of the following recommendation in the MKA Ecology Ltd. report:

'The two buildings [namely: i) a two-storey brick cottage with thatched roof (S1); and, ii) a wooden garage with attached lean-to (S2)] were found to possess suitable access points and potential roosting features for bats. Two nocturnal bat surveys should be undertaken on the residential dwelling and one nocturnal bat survey should be undertaken on the garage. These can be carried out from May to August inclusive. Furthermore, a sensitive lighting scheme should be developed to prevent the disturbance of bats.'

It is noted that no direct evidence of bats was detected during the MKA Ecology Ltd. PEA/PRA survey (although a constraint was that it had not been possible to access the whole attic). Furthermore, because of finding multiple potential roosting features and access points on both buildings, S1 had been assessed as being of moderate suitability for roosting bats whilst S2 was assessed to be of low roost suitability.

† NB: It is understood that East Cambridgeshire District Council planning application: 22/00682/FUL | Refurbishment and extension of farmhouse, demolition and replacement of existing garage and outbuilding with new garage and first floor accommodation | Pratts Green Farmhouse Pratts Green Farm Malting End Kirtling Newmarket Suffolk CB8 9HH; submitted and validated 6th June 2022, was withdrawn 17th August 2022.

Survey Methodology

Preliminary Walkover Survey

Although a full Preliminary Roost Assessment was not repeated, a brief external walkover survey was undertaken by Angelika Peters, an experienced Greenwillows Associates Ltd. bat ecologist, to ascertain if there had been any changes since the MKA Ecology Ltd. survey. This visit also served to plan surveyor positions to ensure coverage of all significant potential roosting features and access points, given Greenwillows Associates Ltd. had not undertaken the original PEA/PRA survey. The walkover identified multiple potential roost features, consistent with the findings of the MKA Ecology Ltd. survey, which were labelled Target Notes (TN) 1-13; see Table One and Photographs 21-39 in the MKA Ecology Ltd. report. Following this assessment, it was decided to proceed with six survey positions and a total of eight cameras (see Appendix One for location of surveyors/cameras).

Table One: Potential Roost Features

Target Note	Description
TN1	Gap between dormer window frame and wall north elevation S1
TN2	Gap between dormer window frame and wall east elevation S1
TN3	Gap above horizontal beam east elevation S1
TN4	Gap at apex of north gable end S1
TN5	Gap under eaves east of north gable end S1
TN6	Gap under eaves east of south gable end S1
TN7	Gap at apex of south gable end S1

TN8	Gap under eaves west elevation S1
TN9	Gap at apex of east gable end S1
TN10	Gap between dormer window frame and wall north elevation S1
TN11	Gap at apex of south elevation S2
TN12	Gap at apex of north elevation S2
TN13	Gap between shipboard cladding east elevation S2

Emergence Survey

The Phase 2 dusk bat emergence surveys were undertaken to assess the current bat usage of the site with a focus on the potential roost features TN1-TN13 on S1 (the brick cottage with thatched roof) and S2 (the wooden garage with attached lean-to). The survey protocols followed those recommended by the Bat Conservation Trust Good Practice Guidelines (BCT, 2016) with each survey commencing fifteen minutes before sunset and ending ninety minutes after sunset.

The first Phase 2 survey (S1 and S2) was conducted by Alistair Grant, April Warburton, Sharon Dence, Angelika Peters, Alfie Bunting, all trained bat surveyors, and a remotely supervised camera. The second survey (S1 only) was conducted by Alistair Grant, Nina Taylor, Angelika Peters and a remotely supervised camera. Surveyors were positioned at strategic points in order to observe the maximum possible aspect of the buildings and to focus on the potential roosting features to detect if bats were entering or exiting the structure.

Equipment Used

During the bat activity surveys, all surveyors recorded bat calls using Anabat Walkabout full spectrum bat detectors. Bat activity was noted for each bat observed, for example, whether a bat was commuting or feeding. Digital recordings were made during the surveys using the Anabat device for a record of the survey and to undertake computerised sound analysis using the software Anabat Insight v1.9.7. To maximise visibility, infra-red camera sets with Sony night-shot video cameras with enhanced stand-alone infra-red lamps were also used.

Constraints

There were no specific constraints to the surveys. However, surveys can only provide a 'snap-

shot' of information temporally and spatially from which behavior can be extrapolated to make an ecological evaluation. Ecological conditions can vary on a yearly and seasonal basis.

Results

No bats were seen to emerge from S1 or S2 and no roosting behavior was observed. Low numbers of foraging/commuting bats were seen and heard within the 'red line' site boundary.

Table Two: Summary of Survey Conditions

Date	Type of Survey	Sunset (SS)/Sunrise Time (SR)	Survey Start and End Time	Temp deg °C	Rain (mm)	Wind (Beaufort Scale)
29/06/22 (Survey One)	Dusk Emergence	SS: 21:23	Start: 21:08	16.0	0	1 – Light air
			End: 22:53	15.1	0	1 – Light air

Date	Type of Survey	Sunset (SS)/Sunrise Time (SR)	Survey Start and End Time	Temp deg °C	Rain (mm)	Wind (Beaufort Scale)
26/07/22 (Survey Two)	Dusk Emergence	SS: 20:59	Start: 20:44	13.8	0	1 – Light air
			End: 22:29	13.2	0	1 – Light air

Table Three: Summary of Results from Phase Two Bat Surveys

Date	Surveyor location	Time/species of first bat (dusk) or last bat (dawn)	Max. no. of bats seen at any one time	Roosting Results	Summary
29/06/22 (Survey One) Dusk	Surveyor One Alistair Grant Observing the north and east face of S1	21:53 Common pipistrelle	2	No roosting behavior observed.	Common and soprano pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.
	Surveyor Two April Warburton Observing the north face of S1	21:53 Common pipistrelle	2	No roosting behavior observed.	Common and soprano pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.

<p>Surveyor Three</p> <p>Sharon Dence</p> <p>Observing the south face of S1</p>	<p>21:57</p> <p>Common pipistrelle</p>	<p>1</p>	<p>No roosting behavior observed.</p>	<p>Common pipistrelles were heard commuting over the area. No roosting behavior was observed.</p>
<p>Surveyor Four (2 cameras)</p> <p>Angelika Peters</p> <p>Observing the east face of S1 plus south and west face of S2</p>	<p>21:57</p> <p>Common pipistrelle</p>	<p>1</p>	<p>No roosting behavior observed.</p>	<p>Common pipistrelles were heard commuting over the area. No roosting behavior was observed.</p>
<p>Surveyor Five (2 cameras)</p> <p>Alfie Bunting</p> <p>Observing the south face of S1 plus the north face of S2</p>	<p>21:51</p> <p>Common pipistrelle</p>	<p>1</p>	<p>No roosting behavior observed.</p>	<p>Common and soprano pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.</p>
<p>Surveyor Six</p> <p>Remote Camera</p> <p>Observing the east face of S2</p>	<p>21:47</p> <p>Common pipistrelle</p>	<p>1</p>	<p>No roosting behavior observed.</p>	<p>Common and soprano pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.</p>

Date	Surveyor location	Time/species of first bat (dusk) or last bat (dawn)	Max. no. of bats seen at any one time	Roosting Results	Summary
26/07/22 (Survey Two) Dusk	Surveyor One Alistair Grant Observing the north and east face of S1	21:24 Common pipistrelle	1	No roosting behavior observed.	Common and soprano pipistrelles were heard commuting/foraging over the area including some social calls. No roosting behavior was observed.
	Surveyor Two Nina Taylor Observing the north face of S1	21:43 Common pipistrelle	2	No roosting behavior observed.	Common pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.
	Surveyor Three Angelika Peters Observing the south face of S1	21:38 Common pipistrelle	2	No roosting behavior observed.	Common and soprano pipistrelles were heard commuting over the area including some social calls. No roosting behavior was observed.
	Surveyor Four Remote Camera Observing the east face of S1	21:33 Western barbastelle	1	No roosting behavior observed.	Western barbastelle and common & soprano pipistrelles were heard commuting/foraging over the area. No roosting behavior was observed.

Conclusions and Recommendations

The Phase 2 dusk bat emergence surveys revealed no evidence of roosting behaviour within either of the target buildings (S1- a two-storey brick cottage with thatched roof and, S2: a wooden garage with attached lean-to) on the nights surveyed. However, individual common pipistrelle, soprano pipistrelle and noctule bats were noted foraging and commuting close to building S1 and building S2 on both surveys.

Based on the findings of the survey there is a negligible/low risk of injuring/killing bats as a consequence of the proposed demolition/construction works. However, in the unlikely event that a bat is encountered during demolition or construction, then works should be stopped and advice from an ecologist sought immediately.

As the survey revealed that bats use the immediate area to forage and commute it is recommended that any light spill, both throughout the demolition phase and during/post-construction, should be kept to a minimum. Indirect impacts arising from increased lighting will reduce the suitability of the site for foraging/commuting purposes through the displacement of such behaviours. Generally, any potential new lighting impacts associated with the proposed development should be minimised using lights with little to no UV content, warm white light sources, and directional down lights - illuminating below the horizontal plane which avoid light trespass into the environment. The use of light directional accessories such as baffles, hoods and louvres can assist with this. Particular attention should be made to avoid lighting of the trees, buildings and boundary hedgerows within and neighbouring the development site. Lighting types to be avoided include any blue-white light sources, metal halide and mercury lamps, and any form of up-lighting, which lights above the horizontal plane, including illuminating trees and commuting/ foraging habitat.

To enhance the site for bats it is recommended that one integrated bat box be incorporated into the proposed extension to the existing farmhouse and another integrated bat box be incorporated into the proposed construction of the new garage with first floor accommodation. Details of a suitable bat box is given in Appendix Two. Furthermore, as detailed in the MKA Ecology Ltd. PEA/PRA report there is scope to enhance the site for bats through a bat friendly planting scheme. Although primarily directed at increasing pollinators, the 'bee lawn' specified in Section 8.6 of the MKA Ecology Ltd. report will also confer benefits for bat species.

Please note that the results of Phase 2 bat surveys are only valid for 12 months. Should work not commence within this period an updated Phase 2 survey should be undertaken due to the possibility of new roosts establishing in the time between the writing of this report and the commencement of works.

Yours sincerely



Alistair Grant BSc (Hons) MSc MPhil PhD (Cantab)
Assistant Ecologist

Document Reference: GWA_Kirtling_Bat Survey Letter Report_20220904					
Version	Purpose of Issue	Author(s)	Reviewed	Approved	Date
001	Phase 2 Bat Survey Summary	Alistair Grant BSc (Hons) MSc MPhil PhD (Cantab)	Emma Parnwell BA (Hons) MSc MCIEEM	Emma Parnwell BA (Hons) MSc MCIEEM	04/09/22

References

Bat Conservation Trust. (2016). Bat Surveys – Good Practice Guidelines, Bat Conservation Trust, London.

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

Miles et al., (2018) Bats and Artificial Lighting in the UK. Bats and the Built Environment: Guidance Note 08/18. Institution of Lighting Professionals & Bat Conservation Trust.

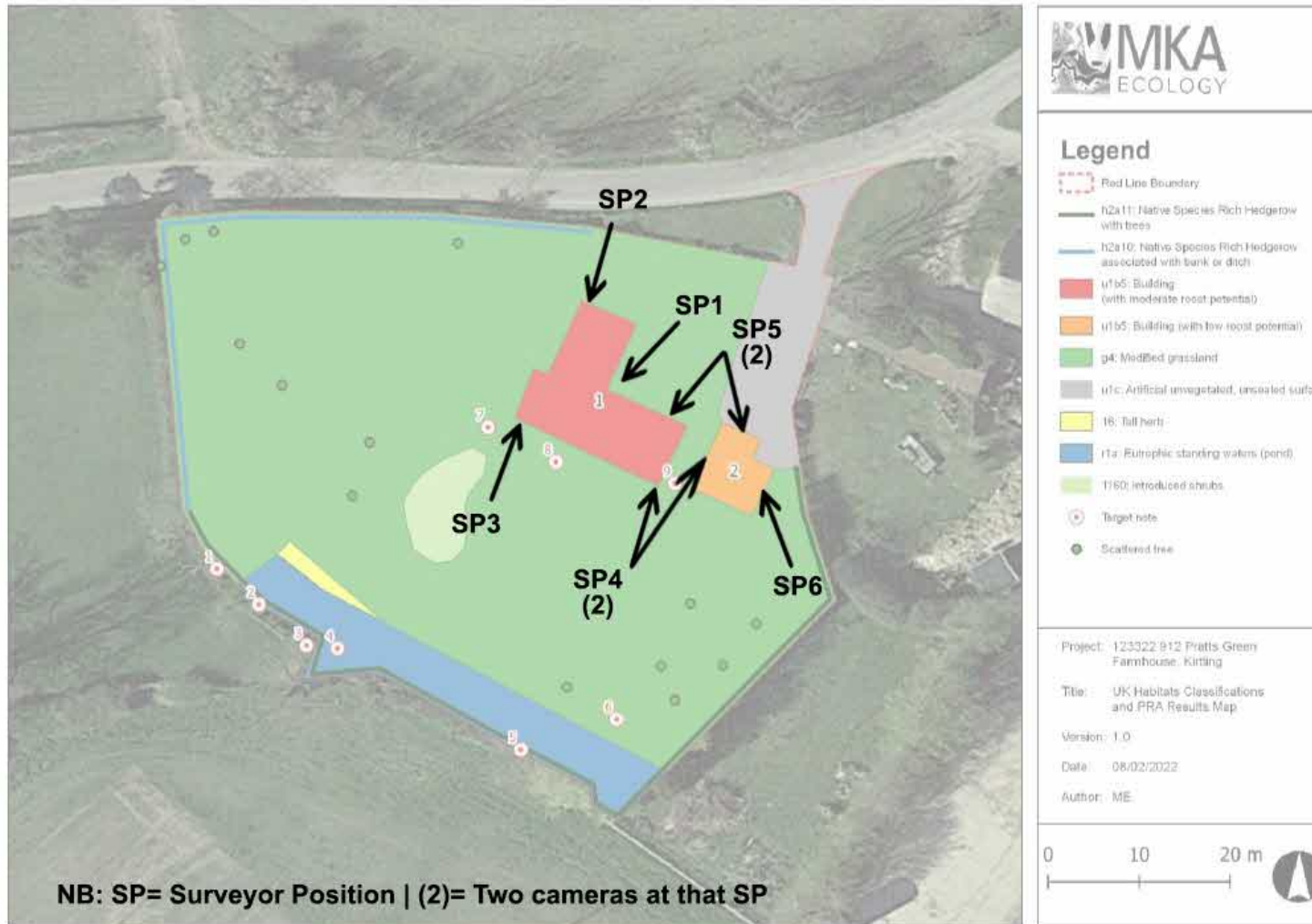
Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines, English Nature, Peterborough.

Mitchell-Jones, A.J., McLeish, A.P. (1999). Bat Workers Manual, JNCC, Peterborough.

Ellis, M. (2022), Preliminary Ecological Appraisal and Preliminary Roost Assessment Report – 912 Pratts Green Farmhouse, Kirtling. MKA Ecology Ltd., Cambridge.

Russ J (2012) British Bat Calls - A Guide to Species Identification, Pelagic Publishing, Exeter.

Appendix One: Site Plan with Surveyor Locations



Appendix Two: Site Enhancements

Recommended Integrated Bat Boxes

Integrated boxes will be placed in a south-to- south-westerly orientation at a height of 4-6m above ground level, with all lighting angled away to avoid direct illumination of the box. An example box considered suitable is shown below. One box should be incorporated into the extension as enhancement and another in the garage with first floor accommodation. Branches (if present) will be cleared to provide an unrestricted flight path to and from the box.



Ibstock Enclosed Bat Box 'C'