Straw Barn, Kingston Farm, Bradford on Avon

Bat Surveys

July/August 2023

Client: Charkitecture Design
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Non-Technical Summary

Site Name and Location	Straw Barn at Kingston Farm, Holt Road, Bradford on Avon, BA15 1TS (central grid reference: ST 84127 61047).
Scope of Works	Three bat surveys undertaken of the Straw Barn on 5th July, 19th July and 7th August 2023. Dusk emergence surveys, following on from the recommendations of a *Preliminary Ecology Appraisal* undertaken in May 2023.
Survey and Assessment Methods	Survey methods refer to BCT (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* Bat Conservation Trust. Third Edition. Collins. Assessment refers to Reason, P.F. and Wray, S. (2023) *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for development affecting bats.* CIEEM, Ampfield.
Lead Personnel	Kate Hayward MCIEEM, licensed bat ecologist.
Summary of Survey Results	Based on the results of the Bat Surveys (July/August 2023), the Straw Barn supports two day roosts and four night roosts: <u>Day Roosts:</u> • Common pipistrelle – One day roost for two bats. • Brown long-eared bat – One day roost for three bats. <u>Night Roosts:</u> • Common pipistrelle – One night roost for up to seven bats. • Brown long-eared bat – One night roost for up to three bats. • Soprano pipistrelle – One night roost for up to four bats. • Whiskered bat – One night roost for up to three bats. These species are widespread in South-West England and Wales and day and night roosts for these species are valued at the Site level (low status roosts). General bat activity was by at least seven species: common pipistrelle, soprano pipistrelle, noctule, brown long-eared, lesser horseshoe and *Myotis* species, including Natterer's bat and whiskered bat.
The Proposal	The site is the subject of a proposal for alterations and refurbishments to the Straw Barn, including enclosing the internal area. This will result in the loss of the two day roosts and four night roosts.
Recommendations	Due to the permanent loss of the bat roosts within the Straw Barn, a European Protected Species Licence will be required before works commences on the Barn. Working methods will be put in place for all stages, to ensure protection of bats, including a toolbox talk, pre-works checks and supervision. A compensatory bat loft and bat boxes will be provided in the Straw Barn and bat boxes will be provided on one tree, to offer enhanced day-roosting opportunities and to maintain night-roosting for bats.

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1. Introduction

1.1.1 Seasons Ecology was instructed by Charkitecture Design, on behalf of their client, to undertake bat surveys of the Straw Barn at Kingston Farm, Bradford on Avon (central grid reference: ST 84127 61047).

1.1.2 The surveys were recommended following a *Preliminary Bat Roost Assessment* of the barn undertaken in May 2023 by Seasons Ecology. The purpose of the bat surveys is to determine any use of the barn by roosting bats, to inform a planning application for alterations and refurbishments to the Straw Barn, including enclosing the internal area. The surveys will inform the approach to works and any licensing requirements.

1.1.3 The Preliminary Bat Roost Assessment assessed the Straw Barn as *Low* suitability to roosting bats, owing to a low number of external features and open accesses into the internal area which offers suitability primarily as a night roost.

1.1.4 This report details the results of the bat surveys and should be read alongside the *Preliminary Bat Roost Assessment* (Seasons Ecology, May 2023).

2. Survey Method

2.1.1 The survey method is provided below and refers to survey guidelines in BCT (2016)[1].

2.2 Dusk Emergence Surveys

2.2.1 Three dusk emergence surveys were carried out on 5th July, 19th July and 7th August 2023. The surveys commenced 15 minutes before sunset and continued for an hour-and-a-half after sunset.

2.2.2 Two surveyors attended all surveys to observe the Straw Barn. Each surveyor was equipped with an Echo Meter Touch Pro bat detector supported by an Apple iPad Mini 4 interface, on which all bat activity was recorded.

2.2.3 One infrared camera (*Sony FDR-AX*53) was used to aid the surveys on 5th July and 19th July and two infrared cameras (*Sony FDR-AX*53) were used on 7th August.

2.2.4 Passive acoustic recording devices (*Titley AnaBat Express*) were also deployed during each survey. One device was positioned in the centre of the barn for the 5th and 19th of July surveys, and two devices were positioned in front and to the rear of the barn during the survey on 7th August. The devices were set on 'continuous' recording mode for the duration of the surveys. Recordings were later analysed using AnalookW 4.2.24. software to aid the identification of species with reference to Russ (2012[2]).

2.3 Constraints to Surveys

2.3.1 There were no constraints to the surveys; the weather conditions were suitable for all surveys and the surveys were undertaken during the recommended survey period.

[1] Bat Conservation Trust (BCT) (2016) *Bat Surveys for Professional Ecologists. Good Practice Guidelines.* Bat Conservation Trust. Third Edition. Collins.

[2] Russ, J. (2012) *British Bat Calls. A Guide to Species Identification.* Pelagic Publishing.

2.4 Personnel

2.4.1 The surveys were overseen by Principal Ecologist, Kate Hayward, who has produced this report. Kate is a licensed bat ecologist registered to use Class Licence CL18 (Bat Survey Level 2) (class licence registration number 2015-15106-CLS-CLS) and is a full member of the Chartered Institute for Ecology and Environmental Management (CIEEM).

2.4.2 The surveys were led by Emma Shaw, Consultant Ecologist and Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Emma has over two years' experience in undertaking surveys for bats. The surveys were assisted by Hayley Evenett.

3. Survey Results

3.1.1 The results of the bat surveys are provided below. A site plan showing surveyor locations, infrared camera locations and the key results are shown at Annex 1.

3.2 Dusk Emergence Survey: 5th July 2023

3.2.1 The survey commenced at 21:12 and finished at 22:57. Sunset was at 21:27. Weather conditions were suitable with a start temperature of 15°C and end temperature of 13°C, wind was at a Beaufort 1[3] (light air), with 20% cloud cover and no rain.

Emergences / Re-entries

Common Pipistrelle *Pipistrellus pipistrellus*

- **One bat entered through the front (north-west) open elevation of the Straw Barn at 22:12 (45 minutes after sunset).**
- **Seven bats entered and emerged from the rear (south-east) open elevation of the Straw Barn from 22:14 to 22:28 (47 minutes after sunset to 1 hour 1 minute after sunset).**
- **Two bats entered through the front (north-west) open elevation and perching on a roof beam of the Straw Barn at 22:23 (56 minutes after sunset).**
- **One bat emerged from the front (north-west) open elevation of the Straw Barn at 22:36 (1 hour 9 minutes after sunset).**
- **One bat emerged from a central roof beam in the Straw Barn at 22:38 (1 hour 11 minutes after sunset).**
- **One bat emerged from a central roof beam of the Straw Barn at 22:44 (1 hour 17 minutes after sunset).**

[3] The Beaufort scale of wind velocity: 0 = Calm, 1 = Light Air, 2 = Light Breeze, 3 = Gentle Breeze, 4 = Moderate Breeze, 5 = Fresh Breeze, 6 = Strong Breeze, 7 = Near Gale, 8 = Gale, 9 = Strong Gale, 10 = Storm, 11 = Violent Storm, = 12 Hurricane (http://www.metoffice.gov.uk).

- **One bat entered through the front (north-west) open elevation and perched on a roof beam within the rear (south-east) of the Straw Barn at 22:47 (1 hour 20 minutes after sunset).**

Long-eared *Plecotus* Species

- **One bat entered and emerged from the Straw Barn through the rear (south-east) open elevation at 22:19 (52 minutes after sunset).**
- **One bat entered and emerged from the Straw Barn through the front (north-west) open elevation at 22:21 (54 minutes after sunset).**
- **Two bats entered the Straw Barn through the rear (south-east) open elevation at 22:24 until 22:26 (57 to 59 minutes after sunset).**
- **One bat entered the Straw Barn through the rear (south-east) open elevation and perching on a roof beam at 22:26 (59 minutes after sunset).**
- **Two bats emerged from a beam in the roof apex of the Straw Barn at 22:29 (1 hour 2 minutes after sunset).**
- **One bat entered and emerged from the rear (south-east) open elevation of the Straw Barn at 22:30 (1 hour 3 minutes after sunset).**
- **One bat emerged from a beam in the roof apex of the Straw Barn at 22:34 (1 hour 7 minutes after sunset).**
- **Two bats entered then foraged within the Straw Barn from 22:34 to 22:38 (1 hour 7 minutes to 1 hour 11 minutes after sunset).**

Soprano Pipistrelle *Pipistrellus pygmaeus*

- **Two bats entered and emerged through the rear (south-east) open elevation of the Straw Barn at 22:00 (33 minutes after sunset).**
- **One bat entered through the rear (south-east) open elevation of the Straw Barn at 22:18 (51 minutes after sunset).**
- **One bat entered through the rear (south-east) open elevation of the Straw Barn and perching within the barn for ten seconds at 22:56 (1 hour 29 minutes after sunset).**

Whiskered Bat *Myotis mystacinus*

- **One bat entered through the rear (south-east) open elevation of the Straw Barn at 22:25 (58 minutes after sunset).**
- **Two bats entered through the front (north-west) open elevation of the Straw Barn and perched within the barn for ten seconds from 22:40 to 22:43 (1 hour 13 minutes to 1 hour 16 minutes after sunset).**

General Bat Activity

3.2.2 General bat activity was by five species: common pipistrelle, soprano pipistrelle, noctule *Nyctalus noctula* and *Myotis* species, probable Natterer's bat *Myotis nattereri* and whiskered bat.

3.2.3 Common pipistrelle was recorded 26 times during the survey. Emerging, re-entering and foraging activity was mainly recorded:

- 21:42 and 21:46 (15 and 19 minutes after sunset) foraging east to west near the north elevation of the barn (two bats).

- 21:43 to 21:44 (16 to 17 minutes after sunset) – foraging and flying east to west near the north elevation of the barn (two bats).
- 21:45 to 21:52 (18 to 25 minutes after sunset) – frequent foraging and commuting near to the barn by one to two bats) for the duration of the survey.
- 21:48 (21 minutes after sunset) – First heard foraging near the rear of the barn (south-east) (one bat).
- 21:56 – (29 minutes after sunset) foraging near the rear of the barn (south-east) (one bat).
- 22:02 and 22:05 – (35 to 38 minutes after sunset) foraging adjacent to the south-east elevation of the barn (two bats).
- 22:09 (42 minutes after sunset) – heard foraging near the front of the barn (north-west) (one bat).
- 22:11 (44 minutes after sunset) – heard foraging near the rear of the barn (south-east) (one bat).
- 22:42 to 22:47 – (1 hour 15 minutes to 1 hour 20 minutes after sunset) foraging internally throughout the barn (one bat).
- 22:44 (1 hour 17 minutes after sunset) foraging internally throughout the barn (one bat).
- 22:52 (1 hour 25 minutes after sunset) foraging externally around the barn (one bat).
- 22:53, 22:54 and 22:57 – (1 hour 27 minutes, 1 hour 28 minutes and 1 hour 30 minutes after sunset) foraging internally throughout the barn (one bat).

3.2.4 Soprano pipistrelle was recorded eight times during the survey. Foraging activity was mainly recorded:

- 21:52 and 21:55 (25 to 28 minutes after sunset) – foraging near the rear of the barn (south-east) (one bat).
- 21:57 (30 minutes after sunset) – foraging near the rear of the barn (south-east) (one bat).
- 22:06 (39 minutes after sunset) – heard foraging within the barn (one bat).
- 22:45 and 22:56 (1 hour 18 minutes and 1 hour 29 minutes after sunset) – heard foraging within the barn (one bat).

3.2.5 Long-eared species was recorded seven times during the survey. Emergences, re-entries and foraging activity were mainly recorded. One bat was seen foraging near the roof apex then perching on the internal beams of the barn at 22:33 (1 hour 6 minutes after sunset) and one bat was seen foraging within the barn at 22.26 (59 minutes after sunset).

3.2.6 Noctule bat was recorded twice during the survey. One bat was first heard commuting overhead at 21:59 (32 minutes after sunset) and one bat was heard commuting at 22:09 (42 minutes after sunset).

3.2.7 *Myotis* species was recorded twice during the survey, one bat was heard foraging within the barn at 22:34 (1 hour 7 minutes after sunset), and one bat was heard foraging at 22:50 (1 hour 23 minutes after sunset).

3.3 Dusk Emergence Survey: 19th July 2023

3.3.1 The survey commenced at 21:00 and finished at 22:45. Sunset was at 21:15. Weather conditions were suitable with a start temperature of 17°C and end temperature of 16°C, wind was at a Beaufort 2[3] (light breeze), with 10% cloud cover with no rain.

Emergences / Re-entries

Common Pipistrelle

- **Five bats entered and emerged continuously from the rear (south-east) open elevation of the Straw Barn from 21:35 to 21:40 (20 to 25 minutes after sunset).**
- **One bat entered and emerged twice from the rear (south-east) open elevation of the Straw Barn at 21:45 (30 minutes after sunset).**
- **One bat entered and emerged from the rear (south-east) open elevation of the Straw Barn at 21:47 (32 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 21:49 (34 minutes after sunset).**
- **Four bats entered and emerged one minute later from the rear (south-east) open elevation of the Straw Barn at 21:50 and 21:51 (35 and 36 minutes after sunset).**
- **Six bats entered and emerged continuously from the rear (south-east) open elevation of the Straw Barn and were observed perching within the barn from 22:01 to 22:05 (46 to 50 minutes after sunset).**
- **Four bats entered and emerged continuously from the rear (south-east) open elevation of the Straw Barn from 22:08 to 22:09 (53 to 54 minutes after sunset).**
- **One bat emerged, entered and emerged from the rear (south-east) open elevation of the Straw Barn at 22:17 (1 hour 2 minutes after sunset).**
- **Two bats entered then emerged one minute later from the rear (south-east) open elevation of the Straw Barn at 22:19 (1 hour 4 minutes after sunset).**
- **Two bats entered and emerged two minutes later from the rear (south-east) open elevation of the Straw Barn at 22:22 (1 hour 7 minutes after sunset).**
- **Two bats entered and emerged from the rear (south-east) open elevation of the Straw Barn at 22:26 (1 hour 11 minutes after sunset).**
- **Two bats entered and emerged continuously from the rear (south-east) open elevation of the Straw Barn from 22:28 to 22:36 (1 hour 13 minutes to 1 hour 21 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 22:44 (1 hour 29 minutes after sunset).**

Long-eared Species

- **One bat entered the front (north-west) open elevation of the Straw Barn at 21:55 (40 minutes after sunset).**
- **One bat emerged from a central roof beam of the Straw Barn at 22:01 (46 minutes after sunset).**

- **One bat entered the rear (south-east) open elevation of the Straw Barn at 22:08 (53 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 22:12 (57 minutes after sunset).**

Soprano Pipistrelle

- **Two bats entered and emerged a minute later from the rear (south-east) open elevation of the Straw Barn at 22:06 and 22:20 (51 minutes to 1 hour 5 minutes after sunset).**
- **Two bats entered and emerged from the rear (south-east) open elevation of the Straw Barn at 22:10 and 22:14 (55 and 59 minutes after sunset).**

Whiskered Bat

- **One bat entered and emerged continuously from the front (north-west) open elevation of the Straw Barn at 22:18 to 22:24 (1 hour 3 minutes to 1 hour 9 minutes after sunset).**
- **Two bats emerged from the rear (south-east) open elevation of the Straw Barn at 22:18 (1 hour 3 minutes after sunset).**
- **One bat entered and emerged two minutes later from the rear (south-east) open elevation of the Straw Barn at 22:20 and 22:22 (1 hour 5 minutes to 1 hour 7 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 22:25 (1 hour 10 minutes after sunset).**
- **Three bats entered and emerged up to two minutes later from the rear (south-east) open elevation of the Straw Barn from 22:27 to 22:33 (1 hour 12 minutes to 1 hour 18 minutes after sunset).**

<u>General Bat Activity</u>

3.3.2 General bat activity was by six species: common pipistrelle, soprano pipistrelle, long-eared species, *Myotis* species, including probable Natterer's bat and whiskered bat, and noctule.

3.3.3 Common pipistrelle was recorded a total of 37 times during the survey, general activity of emergences, re-entries and foraging was mainly recorded:

- 21:41 until 21:44 (26 to 29 minutes after sunset) – heard foraging by the rear (south-east) of the barn (one bat).
- 21:49 (34 minutes after sunset) – heard foraging by the rear (south-east) of the barn (one bat).
- 21:59 until 22:05 (44 to 50 minutes after sunset) – heard foraging continuously within the front (north-west) of the barn (one bat).

3.3.4 Whiskered bat was recorded a total of 16 times during the survey, general activity of foraging and re-entries was mainly recorded:

- 21:58 (43 minutes after sunset) – heard foraging at the front (north-west) of the barn (one bat).
- 22:17 (1 hour 2 minutes after sunset) – heard as two brief passes at the rear (south-east) of the barn (one bat).

- 22:18 (1 hour 3 minutes after sunset) – heard foraging within the front (north-west) of the barn (one bat).
- 22:34 to 22:39 (1 hour 19 minutes to 1 hour 24 minutes after sunset) – heard foraging at the rear (south-east) of the barn (one bat).

3.3.5 Long-eared species was recorded a total of eight times during the survey, general activity of foraging and re-entries was mainly recorded:

- 22:00 (45 minutes after sunset) – heard as a brief pass at the rear (south-east) of the barn (one bat).
- 22:18 (1 hour 3 minutes after sunset) – heard as a brief pass at the rear (south-east) of the barn (one bat).
- 22:34 to 22:35 (1 hour 19 minutes to 1 hour 20 minutes after sunset) – heard as a brief pass at the rear (south-east) of the barn (one bat).

3.3.6 Soprano pipistrelle bat was recorded a total of seven times during the survey, general activity of foraging, entries and emergences were mainly recorded:

- 21:58 and 22:00 (43 to 45 minutes after sunset) – heard foraging at the rear (south-east) of the barn (one bat).
- 22:09 (54 minutes after sunset) – heard foraging within the front (north-west) of the barn (one bat).

3.3.7 Noctule was recorded a total of five times during the survey, general activity of commuting overhead was mainly recorded:

- 21:15 (0 minutes after sunset) – commuting overhead (one bat).
- 21:51 (36 minutes after sunset) – commuting overhead (one bat).
- 21:53 (38 minutes after sunset) – commuting overhead (one bat).
- 22:36 (1 hour 21 minutes after sunset) – commuting overhead (one bat).
- 22:40 (1 hour 25 minutes after sunset) – three passes of foraging heard near to the barn (one bat).

3.3.8 Natterer's bat was recorded a total of six times during the survey, general activity of foraging was mainly recorded:

- 22:04 (49 minutes after sunset) – heard foraging near the front (north-west) of the barn (one bat).
- 22:28 to 22:31 (1 hour 13 minutes to 1 hour 16 minutes after sunset) – foraging continuously near the front (north-west) of the barn (one bat).
- 22:33 to 22:36 (1 hour 18 minutes to 1 hour 21 minutes after sunset) – foraging continuously near the front (north-west) of the barn (one bat).
- 22:37 (1 hour 22 minutes after sunset) – foraging near the front (north-west) of the barn (one bat).

3.4 Dusk Emergence Survey: 7th August 2023

3.4.1 The survey commenced at 20:32 and finished at 22:17. Sunset was at 20:47. Weather conditions were suitable with a start temperature of 15°C and end temperature of 13°C, wind was at a Beaufort 2[3] (light Breeze) with 15% cloud cover and no rain.

Emergences / Re-entries

Common Pipistrelle

- **One bat emerged from behind the internal roof structure central to the Straw Barn and then emerged from the rear (south-east) open elevation of the Straw Barn at 21:11 (24 minutes after sunset).**
- **One bat emerged from behind the internal roof structure central to the Straw Barn and then emerged from the rear (south-east) open elevation of the Straw Barn at 21:12 (25 minutes after sunset).**
- **One bat entered through the rear (south-east) open elevation of the Straw Barn at 21:12 (25 minutes after sunset).**
- **One bat entered through the rear (south-east) open elevation of the Straw Barn at 21:17 (27 minutes after sunset).**
- **One bat entered then immediately emerged from the rear (south-east), open elevation of the Straw Barn at 21:16 (29 minutes after sunset).**
- **One bat entered through the rear (south-east) open elevation of the Straw Barn at 21:24 (37 minutes after sunset).**
- **One bat entered then immediately emerged from the rear (south-east), open elevation of the Straw Barn at 21:26 (39 minutes after sunset).**
- **Two bats entered then immediately emerged from the rear (south-east), open elevation of the Straw Barn at 21:27 (40 minutes after sunset).**
- **Two bats emerged from the rear (south-east) open elevation of the Straw Barn at 21:33 (46 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 21:34 (47 minutes after sunset).**
- **Four bats emerged from the rear (south-east) open elevation of the Straw Barn at 21:40 (53 minutes after sunset).**
- **One bat emerged from the rear (south-east) open elevation of the Straw Barn at 21:48 (1 hour 1 minute after sunset).**
- **One bat entered the Straw Barn through the rear (south-east) open elevation, perched on a roof beam and then emerged through the same elevation of the Straw Barn at 21:48 (1 hour 1 minute after sunset).**
- **One bat entered and emerged from the rear (south-east) open elevation of the Straw Barn at 21:49 and 21:51 (1 hour 2 minutes and 1 hour 4 minutes after sunset).**
- **Five bats emerged from the rear (south-east) open elevation of the Straw Barn from 21:56 to 22:09 (1 hour 9 minutes to 1 hour 22 minutes after sunset).**

- **Two bats entered the Straw Barn through the rear (south-east) open elevation, foraged within the barn then emerged through the same elevation at 22:10 and 22:15 (1 hour 23 minutes and 1 hour 28 minutes after sunset).**

Long-eared Species

- **One bat emerged from the Straw Barn through the open rear (south-east) elevation at 22:00 (1 hour 13 minutes after sunset).**

Soprano Pipistrelle

- **Two bats entered and emerged from the Straw Barn through the rear (south-east) open elevation from 21:11 to 21.28 (24 to 41 minutes after sunset).**

Whiskered Bat

- **One bat entered the rear (south-east) open elevation of the Straw Barn, perched on an internal pillar, then emerged from the same elevation at 21:38 (51 minutes after sunset).**
- **One bat entered and emerged from the rear (south-east) open elevation of the Straw Barn at 21:42 (55 minutes after sunset).**

General Bat Activity

3.4.2 General bat activity was by up to six species: common pipistrelle, soprano pipistrelle, long-eared species, *Myotis* species (whiskered bat), lesser horseshoe *Rhinolophus hipposideros* and noctule.

3.4.3 Common pipistrelle was recorded a total of 41 times during the survey, general activity of socialising and foraging was mainly recorded:

- 21:13 and 21:15 (26 to 28 minutes after sunset) – First heard foraging near the rear (south-east) of the barn (one bat).
- 21:16 (29 minutes after sunset) - foraging near the rear (south-east) of the barn (two bats).
- 21:38 (51 minutes after sunset) - foraging and socialising near the rear (south-east) of the barn (three bats).
- 22:01 to 22.17 (1 hour 14 minutes to 1 hour 30 minutes after sunset) - bats seen and heard foraging and socialising throughout the barn for the rest of the survey.

3.4.4 Soprano pipistrelle was recorded a total of six times during the survey, general activity of foraging was mainly recorded:

- 21:15 (28 minutes after sunset) – foraging near the front (north-west) of the barn (one bat).
- 21:22 (35 minutes after sunset) – foraging near the rear (south-east) of the barn (one bat).
- 21:36 (49 minutes after sunset) – foraging near the rear (south-east) of the barn (one bat).
- 21:46 (59 minutes after sunset) – foraging near the rear (south-east) of the barn (one bat).

3.4.5 Long-eared species was recorded a total of three times during the survey, general activity of emerging and foraging was mainly recorded:

- 21:34 (47 minutes after sunset) – foraging near the internal apex of the barn (one bat).
- 21:47 (1 hour after sunset) – foraging near the rear (south-east) of the barn (one bat).

3.4.6 *Myotis* species (whiskered bat) was recorded a total of three times during the survey, general activity of foraging was mainly recorded:

- 21:39 (52 minutes after sunset) – foraging near the front (north-west) of the barn (one bat).

3.4.7 Noctule bat was recorded once during the survey, heard commuting overhead at 20:56 (9 minutes after sunset).

3.4.8 Lesser horseshoe bat was recorded once during the survey, seen and heard as a brief pass, passing through the barn at 20:56 (9 minutes after sunset).

4. Interpretation and Evaluation

4.1.1 Based on the results of the Bat Surveys (July/August 2023), the Straw Barn supports two day roosts and four night roosts:

Day Roosts:

- Common Pipistrelle – One Day Roost: Behind the internal roof structure central to the Straw Barn (maximum 2 bats).

- Brown long-eared – One Day Roost: Behind the internal roof structure central to the Straw Barn (maximum 3 bats).

  The desk study undertaken as part of the *Preliminary Bat Roost Assessment* (May 2023) provided two records of brown long-eared bat within 2km of the site. Therefore, it is considered that the long-eared species roosting within the Straw Barn is brown long-eared *Plecotus auritus.* DNA analysis for confirmation has not been possible as no droppings have been found within the Straw Barn.

Night Roosts:

- Common Pipistrelle – One Night Roost: Within the internal area of the Straw Barn (maximum 7 bats).

- Brown long-eared – One Night Roost: Within the internal area of the Straw Barn (maximum 3 bats).

- Soprano Pipistrelle – One Night Roost: Within the internal area of the Straw Barn (maximum 4 bats).

- Whiskered Bat – One Night Roost: Within the internal area of the Straw Barn (maximum 3 bats).

Evaluation of Roosts

4.1.2 The *Preliminary Bat Roost Assessment* (May 2023) of the Straw Barn assessed the barn as *Low* suitability to roosting bats*,* owing to a low number of external features and open accesses into the internal area which offers suitability primarily as a night roost. The presence of two day roosts within the Straw Barn is unexpected considering the exposed internal conditions and unsuitable construction of the Straw Barn.

4.1.3 Referring to the (Bat Mitigation Guidelines, 2023[4]) common pipistrelle and brown long-eared are widespread in South-West England and Wales and day roosts for these species are valued at the Site level (low status roosts).

4.1.4 Referring to the (Bat Mitigation Guidelines, 2023) common pipistrelle, soprano pipistrelle, brown long-eared and whiskered bat are widespread in South-West England and Wales and night roosts for these species are valued at the Site level (low status roosts).

[4] Reason, P.F. and Wray, S. (2023) *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for development affecting bats.* CIEEM, Ampfield.

Hibernation Suitability

4.1.5 The Straw Barn has negligible hibernation suitability being an open barn, constructed of corrugated metal with a corrugated asbestos roof and metal framework. There are no smaller, enclosed and well-protected areas to offer a constant temperature range during the colder winter months.

General Bat Activity

4.1.6 General bat activity was by at least seven species: common pipistrelle, soprano pipistrelle, noctule, brown long-eared, lesser horseshoe and *Myotis* species, including Natterer's bat and whiskered bat. Early passes by lesser horseshoe and noctule indicate roosts nearby for these species, but not within the Straw Barn.

5. Legislation

5.1.1 Bat species in England and Wales are protected under the Conservation of Habitats and Species Regulations 2019 (as amended) (EU Exit) and the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Deliberately capture, injure or kill bats;
- Intentionally or recklessly disturb bats;
- Intentionally or recklessly obstruct access to any structure or place which bats use for shelter or protection; and,
- Deliberately damage or destruction of a breeding site or resting place.

5.1.2 With the exception of disturbance, this legislation applies throughout the year whether bats are present or not at the time of works being carried out and irrespective of planning permission being obtained or being required.

6. Recommendations

6.1 The Proposal and Impacts

6.1.1 The proposal is for alterations and refurbishments to the Straw Barn, including enclosing the internal area.

6.1.2 The proposed works will result in the permanent loss of two day roosts and four night roosts within the Straw Barn, assessed as low status roosts, due to the loss of accesses into the Straw Barn. Unmitigated, works could injure/kill bats.

6.1.3 The likely significance of the impact without mitigation and compensation in place is assessed as Site significance. The day and night roosts recorded in the Straw Barn are unlikely to be the only day and night roosts used by bats.

6.2 European Protected Species Licensing and Method Statement

6.2.1 Due to the permanent loss of two day roosts and four night roosts within the Straw Barn, a European Protected Species Licence will be required before works commences on the Straw Barn.

6.2.2 The following approach will be required:

- Obtain a European Protected Species Licence to allow works to the Straw Barn. Should works to the Straw Barn commence after July 2024, then at least one update bat survey will be required to inform licencing (Natural England require bat surveys undertaken within the last or current survey season to inform the application).
- Named Ecologist to provide a toolbox talk to site contractors on bat legislation and sensitive working methods.
- Provision of compensatory roosts:

  A bat loft will be created at the south-east end of the Straw Barn, to provide day roosts for common pipistrelle and brown long-eared, and night roosts for common pipistrelle, brown long-eared, soprano pipistrelle and whiskered bat.

  The retained bat loft will measure 4.39m length by 14.95m width with a height of 2.1m. A wide access point measuring 300mm by 200mm will be provided on the south-east elevation to allow inflight access for night-roosting. Internally, three bat boxes will be provided to enhance day-roosting opportunities, which are currently sub-optimal (refer to the bat loft specification at Annex 2).
- Provision of three bat boxes (Vivara Pro Bat Box, or similar) will be provided on one suitable tree within the grounds of Kingston Farm to offer a receptor site for any bats found during the works and to provide long-term roosting habitat.
- Named Ecologist will carry out pre-works checks of the interior of the Straw Barn and supervise removal of the corrugated roof and the roof structure, with any bats found during checks/works being relocated to the bat boxes.

6.2.3 Due to the species and types of roosts present in the Straw Barn, there are generally no timing constraints to the works; however, if possible, works should be timed between October and April, to avoid the period when bats are using the Straw Barn.

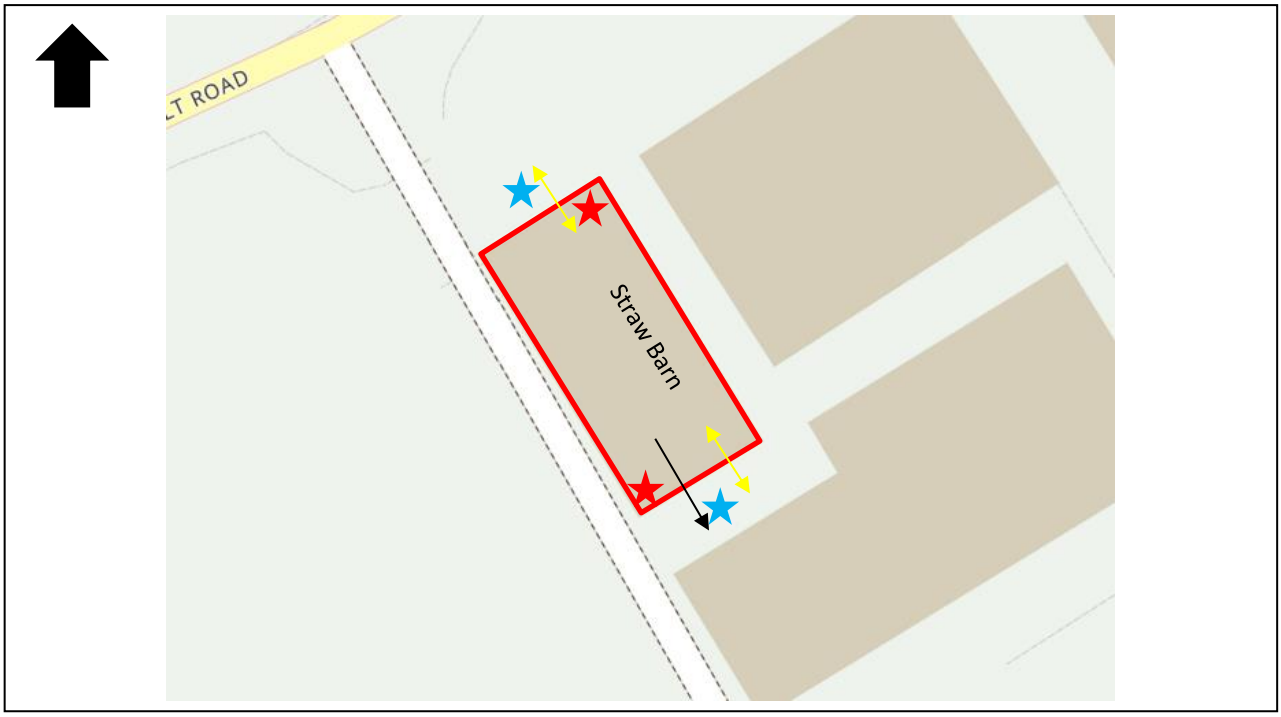
6.2.4 The bat loft and bat boxes will be retained in perpetuity by the owner. There are no monitoring requirements.

6.2.5 The works will be undertaken in accordance with the above measures, to avoid breaching the legislation protecting bats and to ensure the maintenance of favourable conservation status of the bat species concerned.

7. Annexes

Annex 1: Site Plan and Surveyor Locations (July/August 2023)

(Reproduced under OS Licence number: 100054085)



Key

= Survey area

= Surveyor locations

= Camera locations

= Day roost emergences from south-east open elevation

= Night roost entry / emergences from north-west and south-east open elevations

Annex 2: New Bat Loft Specification (September 2023)



Outline of the New Bat Loft at the south-east end of the Straw Barn, showing the modified wide access point to recreate access once the south-east and north-west elevations are enclosed post-development.

Dimensions of the Retained Bat Loft in the south-east end of the Straw Barn, showing the length as 4.39m, width as 14.95m and height as 2.105m.

