SIMPLY ECOLOGY

Higher Boyce Farm, Ribchester, Lancashire

Bats: Building & Activity Survey

Simply Ecology Limited

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For

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1.0 INTRODUCTION

1.1 Background Information

1.1.1 Simply Ecology Limited was commissioned by Sunderland Peacock & Associates Ltd in August 2016 to undertake protected species assessment of Higher Boyce Farm, Ribchester, Lancashire PR3 3YN (O/S Grid SD SD649359; here after referred to as the site). See Plan 1: The Site Location; Plan 2: Existing aerial site view with red line boundary of proposed buildings.

1.2 Aims

1.2.1 The aims of this survey were to gather up-to-date information on the presence of bats at the site. This involved:

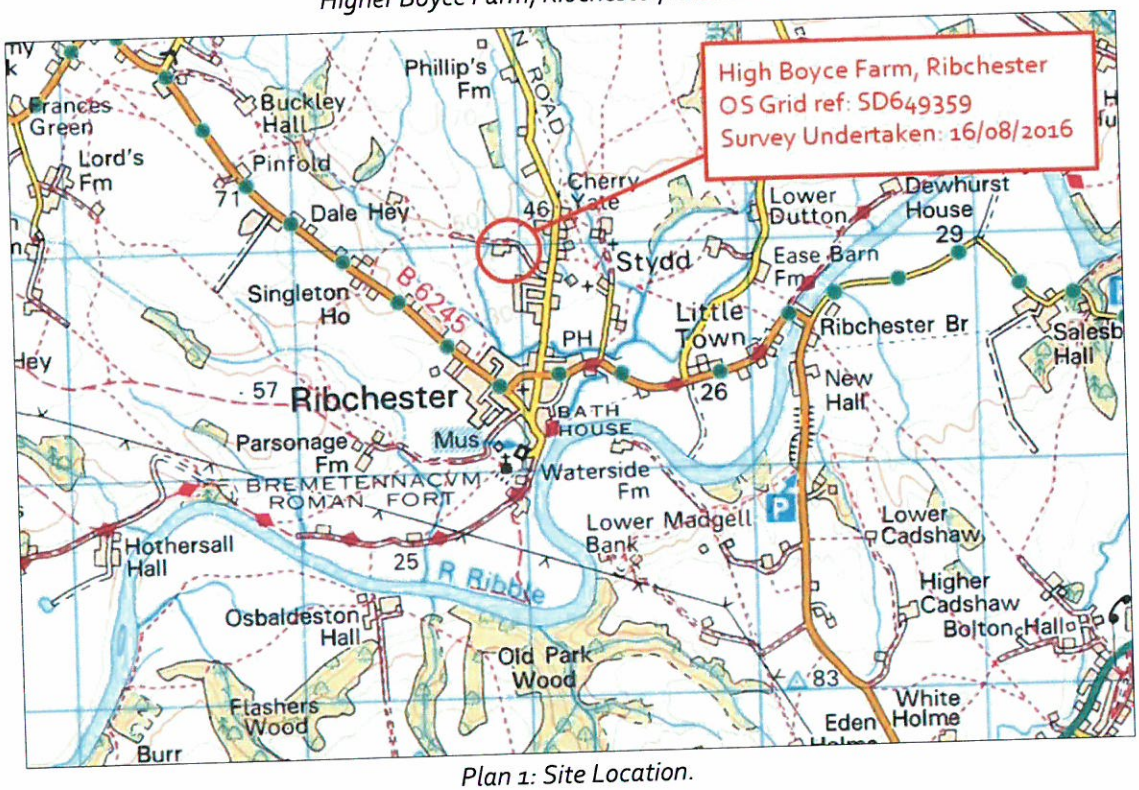
- Identifying potential structures of the building that could be used by bats.
- Identifying if there was any evidence of bats around the building.
- Providing an assessment of the likely importance of the site for bats and their conservation.
- Advising the client in relation to the proposed development and any impacts upon bats in order to ensure legislative compliance.

1.2.2 To achieve this, a building inspection for bats at the site was undertaken on 16th of August 2016. This submission presents the results of the ecological surveys at the site.

1.3 Site description and Proposed Works

1.3.1 The site is located just north of the village of Ribchester in Lancashire (see Plan 1 & 2). The site is surrounded by agricultural pasture with small areas of broadleaf woodland (see Plan 2). The site contains a number of buildings including residential premises, barns and sheds.

1.3.2 The survey described in this report was commissioned to inform a future planning application by Sunderland Peacock & Associates Ltd for the conversion of one of the existing barns and adjoining shed (See Plan 2). The planning process requires up-to-date survey data the ecological value of the site and the presence of any notable habitats or protected wildlife, which this report addresses directly.



Plan 1: Site Location.

Plan 2: Aerial overview of site with redline boundary for building.

2.0 SURVEY METHODOLOGY

2.1 Bat Survey

2.1.1 An inspection of the proposed area for development on the site was specifically carried out to search for bats. The building survey was undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2016). The survey was carried out by Kevin Heywood and Tobias Palmer, both experienced surveyors. In accordance with best practice, the survey comprised the following elements:

- An inspection of the exterior of the building(s) to look for obvious signs of bat activity (such as droppings) and assessing the potential for entry/exit into the property. Lighting was provided by a million candle power Cluson Clulite CB2. Any cracks or inaccessible areas were inspected using a ProVision PV-636 endoscope.
- An inspection of the interiors of all building(s) examining walls, the underside of roofs and within any loft spaces in the property to determine whether bats were present, to look for signs of bat activity (such as discarded prey items and droppings) and to assess suitability for bats. Lighting was provided by a million candle power Cluson Clulite CB2. Any cracks or inaccessible areas were inspected using a ProVision PV-636 endoscope.

2.2 Personnel

2.2.1 Surveys were carried by Kevin Heywood BSc and Tobias Palmer MSc ACIEEM.

2.2.2 Kevin is an Ecologist at Simply Ecology who has over 3 years' experience with professional bat surveys. Kevin is graduate from Lancaster University and an active member of the North Lancashire Bat Group. His experience includes an accumulation of field skills, experience handling bats, surveying for the Bat Conservation Trust and bat roost visitor licence training. During his time at Lancaster he completed a dissertation project looking at the effects of LED light on foraging Daubenton's bat (*Myotis daubentonii*) behaviour.

2.2.3 Tobias Palmer MSc ACIEEM is an Ecologist at Simply Ecology with over 7 years' of experience. Prior to employment at Simply Ecology, Tobias has worked for the Environment Agency as well as ecological consultants undertaking protected species surveys since 2010. Tobias studied his master's degree at Lancaster University investigating the effects of predatory regime influence on the invasion success of the freshwater killer shrimp *Dikerogammarus villosus*.

2.3 Timing and Constraints

2.3.1 The building surveys were undertaken on 16th August 2016. The timing of the building inspection to search for signs of bats posed no constraints as building inspections can be undertaken at any time of year. An assessment of the building's potential to support bats can therefore be made according to evidence found, building condition, location and the experience of the surveyor. Although the building was large, it was possible for the surveyor to gain access to all roof areas that may be affected by any conversion works.

3.0 BUILDING INSPECTION RESULTS

3.1 Building 1 – Barn - External & Internal Inspection

3.1.1 The inspection began by checking the exterior of the barn building (See Plates 1 - 3). This was a two storey stone barn currently used for livestock including chickens and geese. The building had a footprint of roughly 200m² with a pitched slated roof. The shed to be discussed separately adjoins this building internally. The building contained some permanently open large doorways.

3.1.2 The inspection began by checking the exterior of the building for signs of bats including dropping and entrance gaps. The stone walls contained a number of gaps and cracks that could allow bats to enter and roost (See Plate 4). No droppings were discovered during the inspection. There were two large barn doors at the front and rear of the building, one of which was permanently open to the exterior environment (See Plate 5). Windows were openings without frames and glazed allowing access to the exterior. The inspection continued looking at the barge boards and around the roof line which offered places for bats to enter and roost (See Plate 6). Finally the roof slates showed some missing or slipped slates where bats could access. **Overall it was evident that the exterior of the building contained bat access potential.**

3.1.3 The inspection continued on the interior of the building which revealed a large open area from floor to underside of roof (See Plate 7). This section was inspected but no signs of bats were discovered. There were a number of areas containing gaps and cracks in which bats would be able to roost. Additionally a small section of the ground floor had been turned into a self-contained section for livestock (See Plate 8). This was inspected and no signs of bats were discovered, although a few swallow (*Hirundo rustica*) nests were identified in the ceiling joists (See Plate 9). No signs of barn owl were found. **Overall the internal inspection revealed some bat roosting potential.**

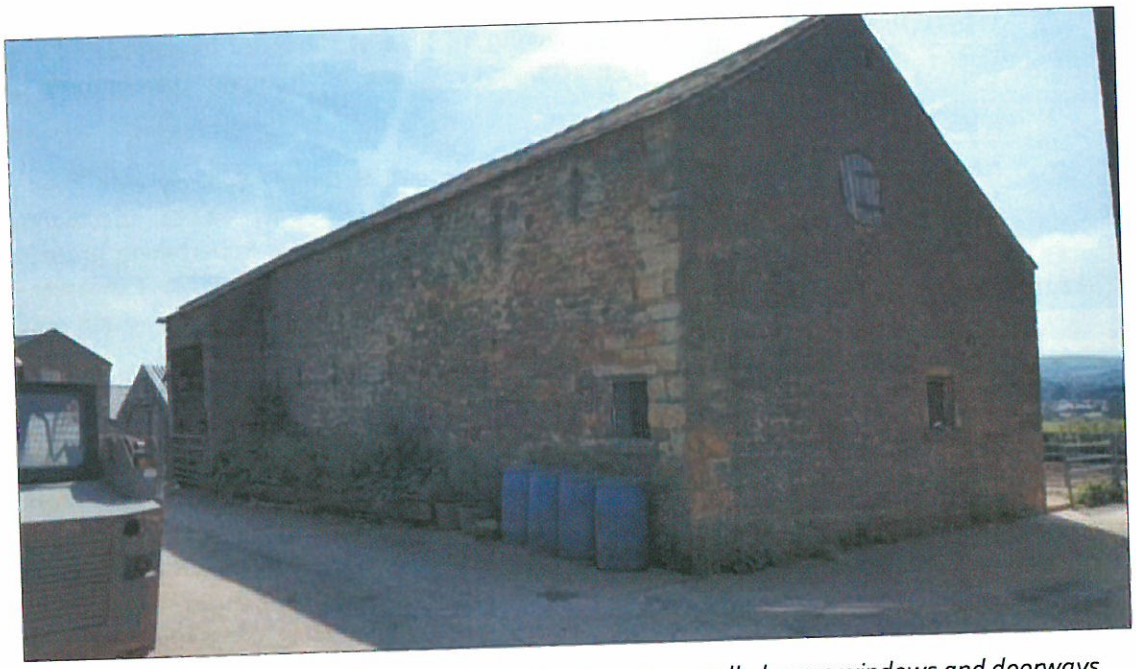


Plate 1: The main barn north west overview showing stone walled, open windows and doorways.

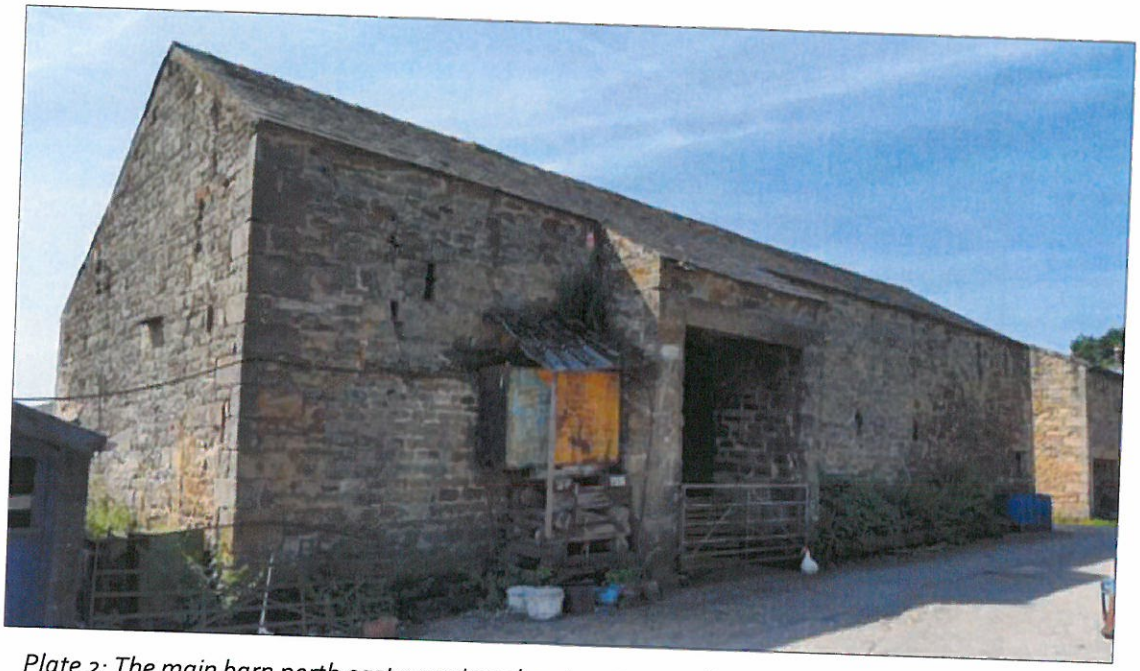


Plate 2: The main barn north east overview showing stone walled, open windows and doorways.

Plate 3: The main barn south side overview showing stone walled, open windows and doorways.

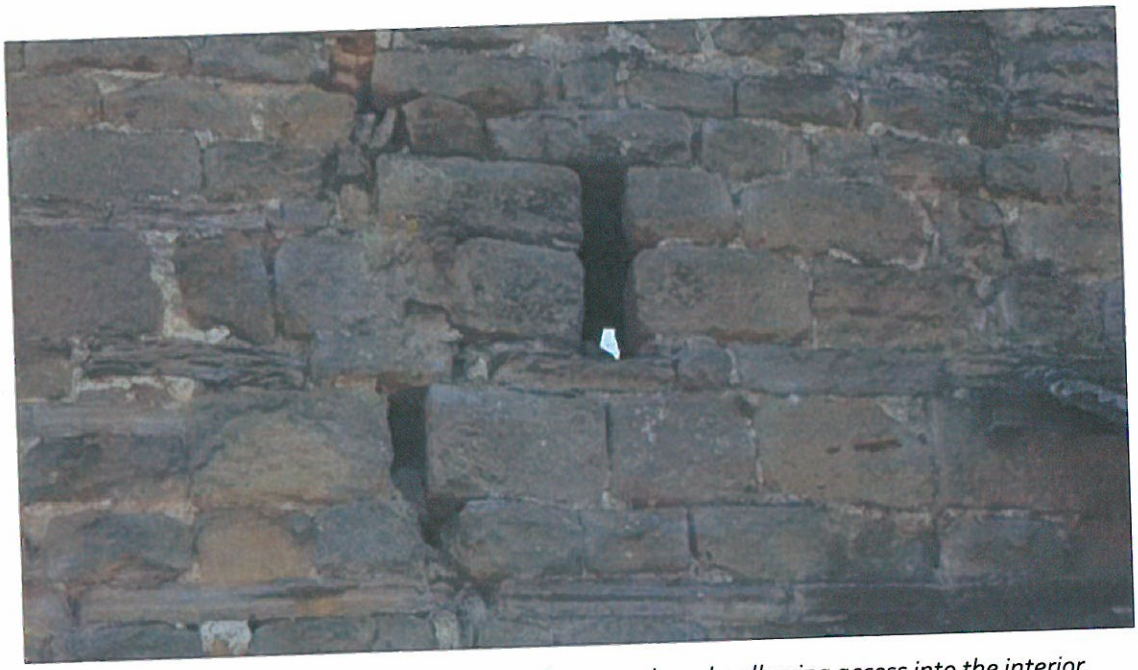


Plate 4: The building contained a number of gaps and cracks allowing access into the interior.

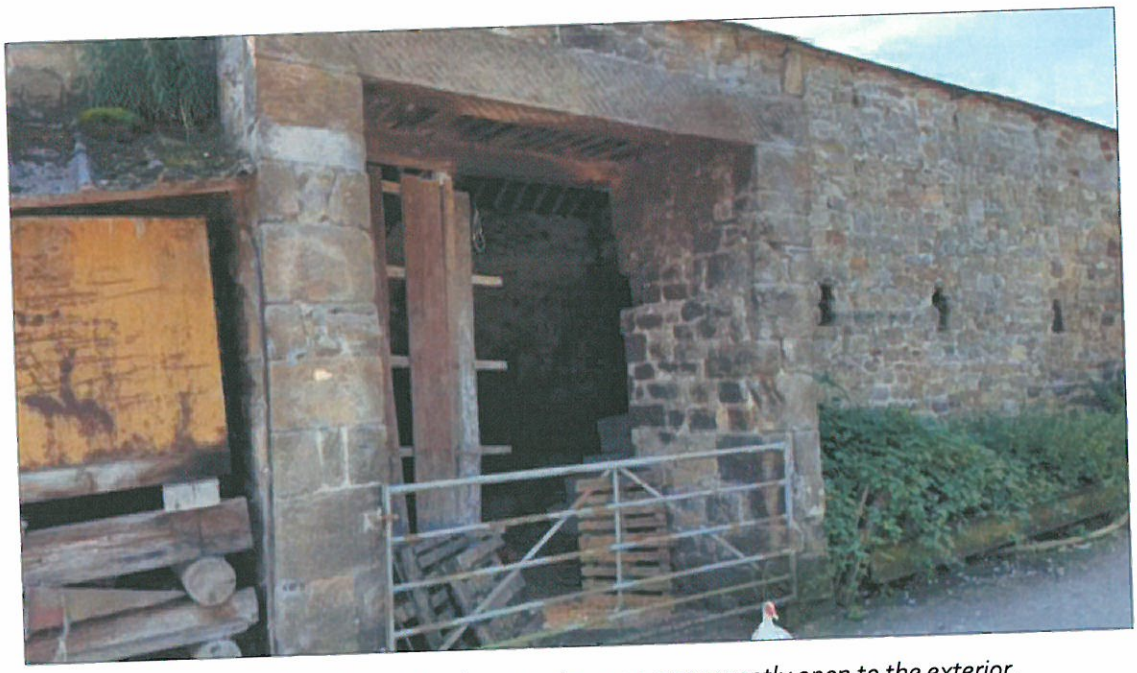


Plate 5: The front large barn door opening was permanently open to the exterior.

Plate 6: The roof contained access points around the barge boards and under slates.

Plate 7: The interior of the building shows a completely open shell with no first floor.

Plate 8: The self-contained area of the interior contained a few swallow nests in the joists.

Plate 9: A few swallow nests in the joists.

3.2 Building 2 – Adjoining shed - External & Internal Inspection

3.2.1 The inspection continued with the adjoining shed (See Plate 10 – 11). This was a single storey stone walled building with a pitched slated roof. The building footprint was roughly 130 m² and contained livestock pens.

3.2.2 The inspection began by checking the exterior of the building for signs of bats including dropping and entrance gaps. The stone walls contained a number of gaps and cracks that could allow bats to enter and roost. No droppings were discovered during the inspection. A number of the stable doorways were permanently open to the exterior. The inspection continued looking at the barge boards and around the roof line which offered places for bats to enter and roost. Some of the roof slates showed places where bats could access. **Overall it was evident that the exterior of the building contained bat access potential.**

3.3.3 The inspection continued into the interior of the building. This revealed an open space from floor to underside of the roof. The underside of the roof contained a heavy coverage of cobwebs indicating no recent use. No signs of bats including droppings were discovered. A few swallow nests were identified in the ceiling joists. No signs of barn owl were found in any of the buildings. **Overall the internal inspection revealed some bat roosting potential.**

Plate 10: The adjoining shed overview showing open doorways.

Plate 11: The adjoining shed south gable end.

Plate 12: The adjoining shed interior overview showing livestock pens.

Plate 13: Underside of the roof in adjoining shed covered in cobwebs.

4.0 PROTECTED SPECIES RISK ASSESSMENT

4.0.1 During the building inspection it was concluded that there were abundant access points to potential roosts on both buildings. These included numerous gaps and holes, ideal for crevice dwelling bats, as well as open inner areas that are more suited to bats that fly within a roost space, such as brown long eared bats. Any works could impact upon bats roosting within the two buildings therefore further activity surveys will be required.

4.0.2 Additionally, small numbers of swallow are known to utilise the properties for nesting purposes. As such, the development will need to incorporate plans to reduce or mitigate for potentially negative impacts on these birds. No signs of barn owl were found resulting in no expected impact on this species.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1.1 The existing barns at Higher Boyce Farm are currently planned to be redeveloped to a new dwelling. As part of the planning application, building inspections were carried out to assess for potential for protected species at the site. Both buildings had abundant potential access points, to numerous possible bat roosting locations. It was therefore judged that the development works could negatively impact on protected bats species. In addition, no barn owl signs were found within any of the buildings. However, around 5 swallow nests were found inside the barns. As such, without mitigation and compensation there would be a loss for biodiversity on site. The below recommendations address these factors directly:

5.1 Bats

- ***It is recommended*** that night time bat surveys are conducted to confirm the presence/absence of bats on the site, as well as species and numbers of individuals. Only then can the development be carried out (with relevant professional ecological advice) in

a way that the developers can be sure they are not negatively impacting on protected bat species (BUT SEE ANNEX B).

- **Reason:** This will deliver compliance with: Section 9 (1 & 4) of The Wildlife & Countryside Act 1981 (as amended), Part 3 (41; 1 & 2) of The Conservation of Habitats and Species Regulations 2010 (as amended), Section 11 (109 & 118) of the National Planning Policy Framework, Key Statement EN4 of the Ribble Valley Core Strategy (2008-2028).

5.2 Birds

- ***It is recommended*** that the demolition and/or closing off of the barns should be undertaken outside of the bird nesting season. If this is not possible, an Appointed Ecologist must be present to oversee all works around the nests. **Reason**: To ensure that no offences are committed under Section 1 (1b) The Wildlife and Countryside Act 1981 (as amended). The bird-nesting season is generally regarded to extend between March and August inclusive.

- To mitigate for loss of swallow nesting sites ***it is recommended*** is that 5 swallow nesting cups should be placed inside one of the nearby open barns or outbuildings on site. It is imperative that the structure used should have permanent access for the birds. If this is not practical, a less desirable option is to place them outside one of the buildings on site in a sheltered location, with suitable cover to protect from the elements (e.g.deep within the eaves). These should be located at a height no less than 2m above the ground and ideally as high as possible (see Plate 14). Swallow nests can be obtained from a number of sources including: http://www.gardengiftshop.co.uk/acatalog/Swallow-Nest-Box.html?utm_source=googlebase&utm_medium=feedmanager. **Reason**: This will ensure compliance with the Local Authority's duties under: Part 3 (40; 1) of The Natural Environment and Rural Communities Act 2006 and Section 11 (109 & 118) of the National Planning Policy Framework.

Plate 14: Illustrative examples of artificial swallow nesting boxes.

6.0 REFERENCES

BAT CONSERVATION TRUST (2016). *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

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Web addresses for access to full UK legislation and policy text:

Conservation of Habitats and Species Regulations 2010:

http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Countryside and Rights of Way Act 2000:

www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm

National Planning Policy Framework 2012:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

Natural Environment and Rural Communities Act 2006:

http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

Ribble Valley Core Strategy (2008-2028):

https://www.ribblevalley.gov.uk/downloads/file/8369/core_strategy_2008-2028-a_local_plan_for_ribble_valley-regulation_22_submission_draft

Wildlife and Countryside Act 1981:

www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

ANNEX A: STATUTORY AND PLANNING CONTEXT

A.1 Bats

A.1.1 Bats and all places they use for shelter are afforded full protection by *The Wildlife and Countryside Act 1981* (as amended) (Section 9, Schedule 5). In addition to the above protection, bats are also protected under European legislation, which is implemented in England via The Conservation of Habitats and Species Regulations 2010.

A.1.2 If both national and international legislation are taken together, the legislative protection afforded to the species makes it an offence to:

- Intentionally/deliberately kill, disturb, injure or capture a bat.
- Intentionally or recklessly damage, destroy or obstruct access to any breeding site or resting place of a bat.
- Possess or control any live or dead specimen or anything derived from a bat.

A.1.3 If an activity is likely to result in any of the above offences, derogation from the legal protection can be issued in the form of a European Protected Species licence issued by Natural England. Licences for development purposes are issued under the Conservation of Habitats and Species Regulations 2010 and only allow what is permitted within the terms and conditions of the licence.

A.1.4 In addition to licensing, for activities requiring planning permission, the presence of bats is a material consideration, which must be fully considered when granting planning permission.

A.1.5 Where a development is proposed that may affect a protected species, alternative sites should be considered before granting planning permission. The planning authority may require mitigation or compensatory proposals in order for an activity to be granted planning permission.

A.2 Birds

A.2.1 The Wildlife & Countryside Act 1981 (as amended) protects all nesting wild birds in Britain. It is an offence to intentionally:

- Kill, injure, capture or take a wild bird;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- Take or destroy an egg of any wild bird.

A.2.2 There are specific penalties for committing the above offences to Schedule 1 birds. These are rarer or more vulnerable species which includes the barn owl. It is an offence to intentionally:

- Disturb a barn owl while it is building a nest or is in, on or near a nest containing eggs or young; or
- Disturb dependent young of such a bird.

A.3 Planning

A.3.1 When considering each planning application, the presence of protected species, such as those listed above, is a material consideration which must be fully considered by the Local Authority when granting planning permission. If a licence

from Natural England is required, then prior to issuing any planning consent, the local planning authority will need to be satisfied that there is no reason why such a licence would not be issued. Therefore, in reaching the planning decision the local planning authority will need to have regard to the requirements of the Conservation of habitats and Species Regulations 2010. The three licensing tests given in the Regulations must be considered. In summary, these are that:

1. The development is required for the purpose of:
    - preserving public health or public safety,
    - other imperative reasons of over-riding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.
    - preventing serious damage to property.
2. There is no satisfactory alternative.
3. The proposal will not be detrimental to the maintenance of the population of the species at a favourable conservation status.

A.3.2 All necessary information would need to be provided to the planning authority as part of the planning application in order to address the above tests.

A.3.3 The Natural Environment and Communities Act (NERC Act) 2006 extended the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. The Duty is set out in Section 40 of the Act, and states that:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity"

A.3.4 The Duty applies to all local authorities, community, parish and town councils, police, fire and health authorities and utility companies. Section 41 (S41) of this Act (the 'England Biodiversity List') also requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. This list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40(1) of the Act.

A.3.5 Also, Local Authorities must follow the National Planning Policy Framework (NPPF) which provides guidance on the interpretation of the law in relation to wildlife issues and development. For each development proposal considered by the Local Planning Authority the NPPF states that the authority must aim to conserve and enhance biodiversity. If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

UK Biodiversity Action Plan (UK BAP)

A.3.6 The UK BAP, which was first published in 1994, was the UK government response to the 1992 Convention on Biological Diversity. It sets priorities for nationally important 'priority species' and 'priority habitats'. Each species and habitat action plan has costed actions and targets, and is used to inform the compilation of national lists such as the Section 41 List described above.

ANNEX B: NIGHT TIME BAT SURVEYS

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1.0 INTRODUCTION

1.1 Background Information

1.1.1 The conclusions from the building inspection carried out on the 16th August 2016 recommended undertaking further activity surveys at Higher Boyce farm in order to determine bat presence/use of the buildings proposed for re-development.

1.2 Aims

1.2.1 The aims of this survey were to gather up-to-date information on the presence of bats at the site. This involved:

- Gaining an understanding of species/numbers of bats (if any) that utilise the features of interest on/near site.
- Observing activity with the aid of bat detectors, incorporating visual and audio cues to identify species/activity in the field.
- Conducting as many night time bat survey(s) as required depending on the relative potential for the site.
- Providing an assessment of the likely importance of the site for bats and their conservation.
- Advising the client in relation to the proposed development and any impacts upon bats in order to ensure legislative compliance.

1.2.2 To achieve this, night time surveys for bats were undertaken between the 25th August and 20th September 2016. This submission presents the results of the ecological surveys at the site.

2.0 SURVEY METHODOLOGY

2.1 Bat Activity Surveys

2.2.1 Surveys were undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (Bat Conservation Trust 2016). The dusk emergence surveys were undertaken by Jason Reynolds, Kevin Heywood and Tobias Palmer. In accordance with best practice, the survey comprised the following elements:

- Emergence Surveys: Two night-time visits were undertaken to determine if bats were emerging from the building and to assess levels of bat activity. Activity during the time around and post sunset was observed visually and using Wildlife Acoustics EM Touch with iPads for recording. This equipment not only records the bats but also uses automatic ID software to identify those bats detected.
- Entry Survey: An additional dawn survey was carried out in order that bats returning to roosts could be observed. This type of survey is excellent at determining specific locations that bats utilise on a given structure. This facilitates the ability to provide an accurate depiction of the locations of roosts, and a clear idea of the numbers of bats using each roost.
- During all surveys the observers stood at allocated locations, which were judged to provide the best coverage of the building. From these locations,

the observers would be expected to hear and also see any bats emerging from the buildings where roosts were anticipated or likely. Importantly, surveyors actively move to 'follow' the bats when they are eliciting characteristic behaviour that indicates they may be utilising a given feature. This undoubtedly increases accuracy and efficiency when recording the key features of importance for bats.

- Recordings were critically analysed live with the aid of automatic ID but most importantly through the knowledge and judgement of the surveyor. Anything of interest or calls that were not fully identified in the field were subsequently scrutinised after the survey. Analyses of recordings involved measurement of various parameters to determine the species of bat (call frequency, shape of call, call duration, maximum energy and inter pulse interval). These parameters were compared against reference calls and tabulated reference data (Russ, 2012) with the aid of tailored in house Simply Ecology software to enable successful species identification.

Plan 3: Surveyor positioning during the surveys.

2.2 Personnel

2.2.1 The above surveys were carried out by Jason Reynolds MSc MCIEEM, Kevin Heywood BSc (Hons) and Tobias Palmer MSc ACIEEM. Jason is a highly experienced Lead Ecologist continuously employed in the field of nature conservation since 1995 (20+ years' experience). He has a wealth of experience in both the statutory nature conservation agencies and private consultancy. During his career Jason has worked as a Conservation Officer role for the Joint Nature Conservation Committee, English Nature, Environment Agency, Cumbria Wildlife Trust and Durham Wildlife Trust prior to setting up Simply Ecology in 2007, where he is the Director and Lead Ecologist.

2.2.2 Kevin Heywood BSc (Hons) is an ecologist working for Simply Ecology Ltd. Kevin initiated his professional career in Ecology by achieving a first class honours degree from Lancaster University. Following on from this he has also acquired over 4 years of experience working as an ecologist in a freelance capacity and more recently as a full time employee for Simply Ecology Ltd. During this time he has developed numerous field skills and carried out a wide range of surveys. His expertise predominantly lies with habitat mapping and undertaking protected species surveys including: bats, great crested newts, badgers, otters and reptiles. Kevin holds a protected species licence for bats.

2.2.3 Tobias Palmer MSc ACIEEM is an Ecologist at Simply Ecology with 7 years' of experience. Prior to employment at Simply Ecology, Tobias has worked for the Environment Agency as well as ecological consultants undertaking protected species surveys since 2010. Tobias studied his master's degree at Lancaster University investigating the effects of predatory regime influence on the invasion success of the freshwater killer shrimp (*Dikerogammarus villosus*).

2.3 Timing and Constraints

2.3.1 The night-time activity surveys of the property were carried between the dates of: 25th August and 20th September 2016. This survey timing is during the ideal survey period for bats and the weather conditions were considered fine to observe and record any bat activity at the site (see Table 1). There were very few obstructions to vision around either the barn or the stables and it was possible to skyline around the buildings effectively. **Overall, it was considered that there were no constraints that would significantly impede the carrying out of a rigorous buildings inspection survey.**

Table 1: Weather conditions during the bat surveys.

Survey date	Temperature at start of survey	Sunset/ sunrise	Start/finish time	Weather
25th August 2016	18 °C	20:16	20:00/21:30	Still, warm and dry with occasional drizzle. 90% cloud cover. Good conditions for observing bats.
20th September 2016	11 °C	06:53	05:00/06:55	Still, mild and dry. 80% cloud cover. Fine conditions for observing bats.

3.0 RESULTS

3.1 Dusk Emergence Surveys

3.1.1 During the dusk survey very little bat activity was recorded. No bats were seen or heard until 20:44 where 3 common pipistrelle (*Pipistrellus pipistrellus*) bats came from the west and flew around the rear (southern) courtyard for around 5 minutes. These bats spent some time foraging and then flew off site. No other bats were seen or heard after this. **Overall no bats were seen to be expressing any behaviour characteristic of roosting bats.**

3.2 Dawn Entry Surveys

3.2.1 During the dawn survey there were similar activity levels to those seen during the dusk survey. At 05:47 a common pipistrelle was seen passing through the site and flying off site immediately. This occurred 3 times in all. At 06:12 a single soprano pipistrelle (*Pipistrellus pygmaeus*) passed through the site from the southern fields and through the alley between the barn and the existing house (west of the barn). This was the final bat to be seen/heard on site. **In all across both surveys no bats were seen flying to/from any features on the buildings.**

3.3 Site Status and Protected Species Risk Assessment

3.3.1 The initial building inspection revealed that swallows were present within the barn and suitable recommendations were provided above. Night time surveys for bats were carried out following the initial building assessment. No bats were found to be utilising the buildings at all. As such, it is concluded that the redevelopment of the existing buildings are likely to have an impact on small numbers of swallows but no impact on protected bat species is likely.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.0.1 Within the initial building inspection it was concluded that the existing barns to be redeveloped had bat potential and existing swallow nests within. **Recommendations were laid out to mitigate and compensate for the swallows (above)**. In addition, further night time surveys were recommended to be carried out for bats. However, the subsequent activity surveys found there to be very limited bat activity on site. In addition there were **no bats flying into/from the buildings at all**. As such, the following advice is provided:

- **All works can continue with no need for any supervision by the Appointed Ecologist. No Natural England licence is necessary in this instance as no impact upon any bat roost is predicted. This is due to the lack of any signs of current or historical use of the building by bats. Reason:** This will deliver compliance with: Section 9 (1 & 4) of The Wildlife & Countryside Act 1981 (as amended), Part 3 (41; 1 & 2) of The Conservation of Habitats and Species Regulations 2010 (as amended), Section 11 (109 & 118) of the National Planning Policy Framework and Key Statement EN4 of the Ribble Valley Core Strategy (2008-2028).

5.0 REFERENCES

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