BAT & BIRD SURVEY REPORT

BARN AT COWDALE HALL, BUXTON, DERBYSHIRE

ON BEHALF OF
ABSOLUTE ECOLOGY

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1. NON-TECHNICAL SUMMARY

Absolute Ecology was commissioned to undertake a bat and bird survey of a barn at Cowdale Hall, Cowdale, Buxton, Derbyshire, SK17 9SE, to inform a proposed planning application to convert the barn to dwellings.

A building inspection was undertaken on 28 November 2011 by a licensed and experienced ecologist.

The first floor of the barn was found to be used as a roost for brown long-eared bats. Four different roosting locations were inferred from droppings and feeding remains (moth and butterfly wings).

There were numerous crevices in the stone walls both internally and externally which may be used by bats. However, without further survey, it is difficult to estimate numbers of bats, the type of roosts present or the access points used.

As bats are present, a European Protected Species licence will be required from Natural England to enable works to proceed. Further survey will be required to inform the licence application and to enable an appropriate mitigation plan to be devised. This will need to include dusk and dawn bat surveys which should be undertaken in the peak activity season (May to September).

The barn was found to be used by nesting swallows, and there is potential for cavity-nesting birds to be present in the breeding season. No evidence of nesting barn owls were found.

The works should avoid the bird breeding season which runs from March to October inclusive for swallows. If this is not possible, a check for active nests should be undertaken by an ecologist prior to work commencing in each area. Active nests must be avoided until fledglings have left.

Recommendations are also given to enhance the site for nesting birds in future.

2. INTRODUCTION

2.1 Background & Objectives

Absolute Ecology was commissioned to undertake a bat and bird inspection of a barn at Cowdale Hall, Cowdale, Buxton, Derbyshire, SK17 9SE (SK081719). The bat and bird survey was required as the barn is the subject of a planning application for conversion to dwellings.

The survey was undertaken on 28 November 2011 by a licensed bat ecologist who is a full member of the Institute of Ecology & Environmental Management (IEEM). The objective of this report is to provide the client with information on the known and potential bat roosts and birds nesting within the barn, and to outline recommendations on how to proceed with the works in a legal and ecologically sensitive manner.

Unless the client indicates to the contrary, information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

2.2 Site Description

The barn is a large stone building located within a complex of farm buildings comprising Cowdale Hall. The farm is immediately adjacent to the small hamlet of Cowdale, approximately 2 km south-east of Buxton. The surrounding buildings are a mixture of large agricultural barns, smaller converted barns and farmhouses. The farm complex is connected by trees to an extensive broad-leaf wooded river valley. Several active quarries lie along the valley. The remainder of the surrounding environment comprises mixed-use agricultural land and scattered trees. Field boundaries are generally stone walls rather than hedgerows, which are characteristic of the Peak District.

The proposed planning application is for conversion of the barn into two dwellings for letting.

2.3 Relevant Legislation

All 18 British bat species and their roost sites are protected under the Wildlife and Countryside Act (WCA) 1981 as amended and are included in Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 2010 (the Habitats Regulations). Combined, this legislation means that it is illegal to:

- Deliberately or intentionally kill, injure or take a bat.
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (this is taken to mean all bat roosts whether bats are present or not)
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.

The WCA also protects birds by making it an offence (with certain exceptions) to :

- kill or injure any wild birds

- damage or destroy the nest of any wild bird while it is in use or being built
- destroy the egg of any wild bird.

In addition, there are species included in Schedule 1 of the WCA (e.g. barn owl) which are protected from reckless or intentional disturbance whilst building a nest or while at (or near) a nest with eggs or young. The dependent young are also protected from disturbance.

3. METHODOLOGY

3.1 Building Inspection

An internal and external inspection of the building was undertaken by Eleanor Weir (Natural England bat licence number 20104574, Schedule 1 barn owl licence number 20112750) on 28 November 2011.

A powerful torch and binoculars were used during the search for evidence of bats which includes droppings, urine stains, feeding remains and individual bats. Potential roosting sites and access points were also recorded.

A search for evidence of nesting birds was also undertaken using binoculars and powerful torch to locate any remains such as old nests or nesting material, feathers, egg shells, droppings and individual birds. Particular attention was paid to searching for evidence of barn owls, which includes nesting sites, pellets, splashes from droppings, feathers, egg shells and individual birds.

3.2 Survey Constraints

The first floor of the barn was unsafe where floorboards were rotten or had existing holes. Although careful access was possible for a thorough search of this level of the barn, a ladder was not deemed safe to use for close inspection of the gable wall tops. However, binoculars and a powerful torch allowed a satisfactory level of survey.

4. RESULTS

4.1 Building Inspection

The barn is a large stone building which dates from 1777 and lies in an east to west alignment. Table 1 describes each area of the barn and the evidence (or potential) for bats and birds. Figure 1 (Appendix 1) shows the location that evidence of bats and birds were found inside the barn. Figure 2 (Appendix 2) shows the potential bat roost and bird nesting sites on the exterior of the building.

Table 1: Building inspection summary

Area of barn	**Description**	**Bat evidence found / potential for roosts**	**Evidence or potential for nesting birds**
Ground floor (internal)	Former stables now used as tack rooms. South side has glazed windows. Plasterboard ceiling has holes in places. Stable door and main doors often left open in summer. Central area with hay hopper has gate to first floor stairs.	No droppings found in accessible areas (some tack rooms locked). One crevice in wall at east end but appears damp. Quite well lit with little roosting potential. **Low potential for bats.**	Several old swallow *Hirundo rustica* nests found in the central area but no recent signs of nesting (i.e. not this year).
First floor (internal) *Plate 1 (below)*	Large draughty room with metal rafters, unlined slate roof. Several small roof windows give a low level of light internally. Three open windows on north side (sheltered by adjoining open ended barn); south side windows are boarded. Wooden flooring unsafe in parts due to rot/woodworm. Numerous crevices at top of both gable walls and within west gable wall. Crevices above blocked up window on north side.	Scattered feeding remains (wings of small tortoiseshell butterfly *Aglais urticae* and yellow underwing moth *Noctua* sp.), with particular concentrations beneath both east and west gable walls and stuck to the walls. Scattered old droppings found (20 - 30), likely to be of brown long-eared bat *Plecotus auritus*. Small pile (~20) of fairly fresh (this years) droppings found underneath an old horse rug by the stairs. Characteristic of brown long-eared bat. Several old droppings (likely brown long-eared) found stuck to blocked up wall of window on north side. Two crevices – under lintel and in corner of stone/blockwork. *See Plate 1 (below).* Bats may access the barn through the open windows, or through numerous gaps at the ridge, under tiles and at the gable ends. **Confirmed roost sites**	At least five swallow nests on top of metal beams, and feathers, egg shells, droppings and skeleton of chick also found beneath nests. Estimate two – three pairs nesting this year. Dead house sparrow *Passer domesticus* found. Possible cat kill. One tawny owl *Strix aluco* feather was found, but there were no other signs of occupation. Swallows are likely to access the barn through the open windows.

Area of barn	Description	Bat evidence found / potential for roosts	Evidence or potential for nesting birds
Exterior of barn *Plate 2 (below)*	Thick stone walls with slate roof. The north side of the barn adjoins an open fronted modern agricultural barn which gives shelter to the north side (and open windows) of the barn.	Numerous cracks and crevices within walls, particularly on south side of barn. Several crevices on west and east gable walls, and gaps at gable apex. No bat droppings could be seen. Bats may roost within crevices in the deep stone walls throughout the year. **Moderate potential for bats**	Crevices in walls provide potential nesting sites for cavity-nesting species such as tits (*Paridae*) and house sparrows. Likely nesting material could be seen within two crevices on the south wall.
Water tank room *Plate 2 (below)*	Enclosed storeroom below stone water tank attached to west wall of barn.	No access unless door is left open. Few roosting opportunities. **Low potential for bats**	No access apart from doorway if left open. Few nesting opportunities and regularly accessed by cats.
Single storey extension *Plate 2 (below)*	Small stone room with single pitch roof of slate and bitumen underfelt lining.	Hole in underfelt, otherwise no bat access into room unless door left open. Gaps under slates may give access to potential roost sites between slates and underfelt. **Moderate potential for bats.**	Several old swallow nests on beams, no recent signs of nesting.



Plate 1: First floor of barn (west end) showing location of roosts and feeding signs

Plate 2: Exterior of barn showing west end with water tank and single storey extension (left), numerous cracks and crevices on south wall of barn (centre) and open windows on north side of



barn, under shelter of adjoining barn (right).

5. DISCUSSION & RECOMMENDATIONS

5.1 Summary of Findings

The barn appears to provide at least four different roost sites which are likely to be used by brown long-eared bats. Without further survey it is difficult to estimate the level of use and numbers of bats present, or whether any other species are present. The barn appears to be used as a feeding roost at minimum, however old barns with numerous crevices can support a greater number of bats than the evidence suggests, as droppings may be hidden within the crevices.

The barn is actively used by nesting swallows during the breeding season, and has potential to support cavity-nesting bird species. There was no evidence of barn owls.

5.2 Potential Impacts of Works on Bats and Birds

The proposed planning application is for conversion of the barn to dwellings. Without mitigation, the known bat roosts will be lost and bats may be harmed during the conversion works.

Nesting swallows (and possibly other species) may be harmed by the works if they are carried out during the breeding season (mid March to end of October). Without mitigation the works will reduce the number of available nesting sites in future.

5.3 Recommendations

Licensing for bats

As bat roosts will be affected by the proposed works, a European Protected Species (EPS) licence will be required from Natural England prior to work commencing. The licence includes a detailed Method Statement which describes how the works would be undertaken to avoid harming bats and to compensate for any loss of roosts. The EPS licence application process can take up to ten weeks.

Further bat survey

Emergence (dusk) and re-entry (dawn) surveys within the peak activity season (May to September) are recommended to confirm species present, the status of the roosts, location of roosts, access points and numbers of bats present. This information is necessary to adequately inform the EPS licence, and to develop an appropriate mitigation plan to enable works to proceed.

Mitigation for bats

The appropriate level of mitigation can be gauged once further information on the type of roosts and species present has been confirmed through further survey. It is likely that a replacement roost will be required, preferably within the barn itself, for example, by creating bat access into a roof space above the dwellings that bats can use. Depending on the status of the roosts (e.g. summer breeding roost / hibernation / transitional), there may be timing restrictions to avoid certain works when bats are most likely to be present (e.g. re-roofing, pointing etc).

Birds

To avoid damaging or destroying active bird's nests, work that may affect nesting birds (e.g. pointing external or internal walls, roofing work etc) should be programmed outside of the breeding season which runs from March to October inclusive (swallows can nest much later than other species). If this is not possible, a check for active nests should be undertaken by an experienced ecologist immediately prior to work commencing in each section. Any active nests would need to be avoided until fledglings had left. As bats may be using the same open windows as the swallows (on the north side of the barn), these must not be covered up to deter swallows as this may also block bat access.

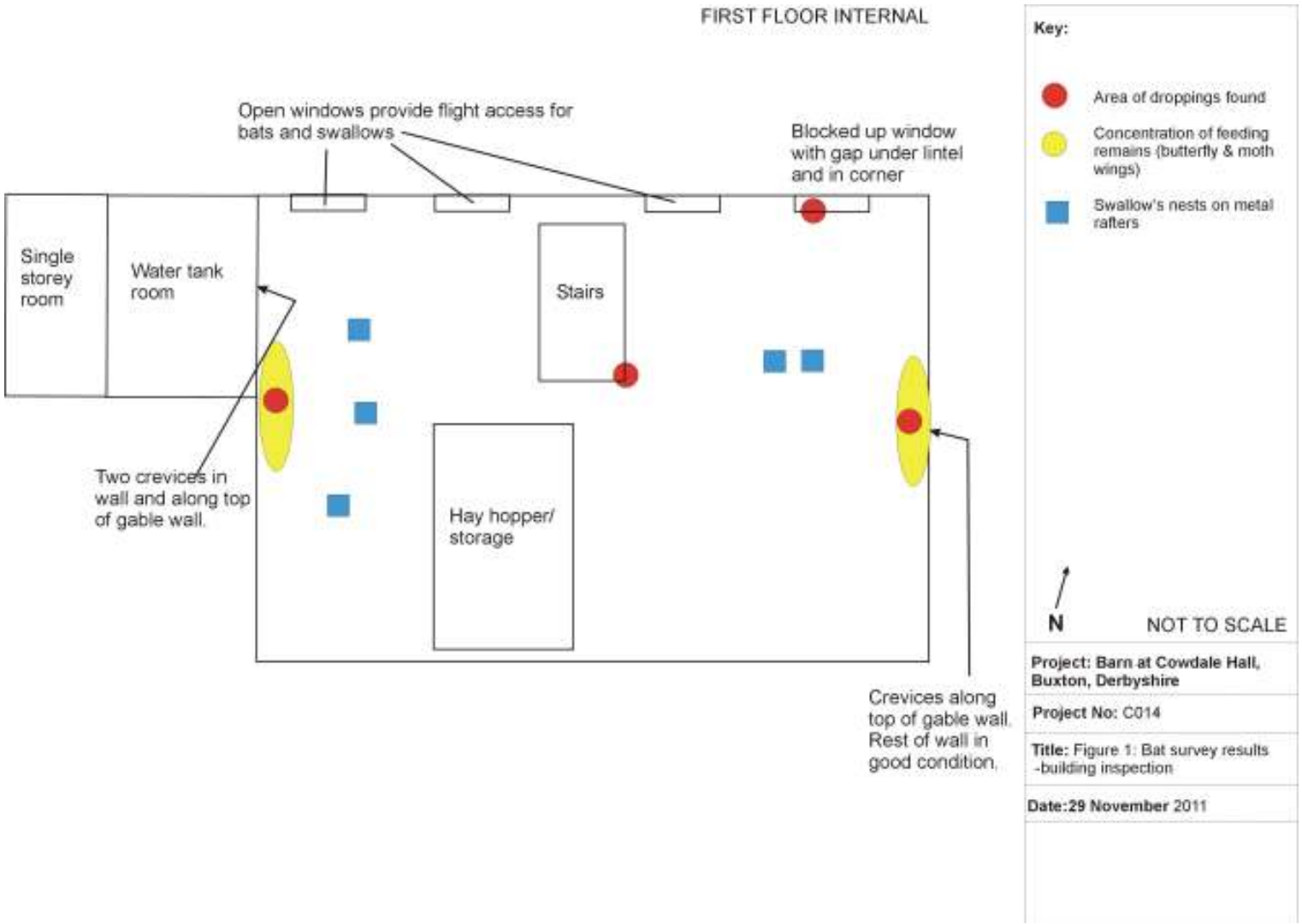
It would be highly beneficial to provide a range of nest sites near or on the barn for birds to use in future. The provision of small wooden platforms on the rafters of the adjoining open ended barn would be ideal for swallows to use. Retention of crevices within the external walls for cavity-nesting birds such as sparrows and tits would be ideal; if this is not possible, a range of wooden nesting boxes suitable for different species could be attached to the barn or nearby buildings.

Further details can be found at the following websites:

http://www.rspb.org.uk/wildlife/birdguide/name/s/swallow/encouraging.aspx

http://www.rspb.org.uk/advice/helpingbirds/roofs/internal_boxes.aspx

APPENDIX 1: Figure 1



APPENDIX 2: Figure 2

