



Bat Risk Assessment and Barn Owl Survey

The Cottage, Falstone

for Mr N Welton, July 2017

Report	Author	Date
FINAL	Laura Shreeve MCIEEM	21 July 2017

Executive Summary

Hadrian Ecology was commissioned by Mr N Welton to undertake a barn owl survey and bat risk assessment at The Cottage, Falston, Hexham, Northumberland NE48 1AA (national grid reference NY723874). It is proposed to extend the property to the rear (west) to two storeys. This will involve removing the current roof to join the extension to the building. This report is based on the current site plans (drawing numbers 121.A.A4.001-2, 121.A.A2.001-2 and dated 07.04.2017).

Prior to the understanding of the need for a Bat Risk Assessment, the owner had carried out internal demolition works due to extensive damp. Works carried out involved-

1. removing in part the ceiling of the first floor (floor boards remaining intact to the second floor),
2. removing in part the ceiling to the roof space (roof joists still present, but a view into the roof visible from rooms on the second floor); and
3. removing the ceiling in the single storey kitchen extension (sarking underneath the tiles visible from kitchen room).

While removing the ceiling between the second floor and the attic, the owner found a dead (desiccated) bat, and stopped all works. During the internal buildings assessment, droppings were identified within the attic, with 2-3 on a board, and clumps present within cobwebs in the apex. Therefore, given the presence of a dead bat and droppings, the preliminary roost assessment has identified the house as having high potential to support bats. Samples of the droppings have been taken, and analysis by Warwick University identified them as common pipistrelle.

Following the best practice guidelines (BCT 2016), two surveys, one dusk emergence and one dawn were carried out during the active season of 2017, with no emergences observed during either survey.

Given that there has been some presence of common pipistrelle within the roof space of The Cottage, the following mitigation is provided within a Method Statement;

- Timing of works – there is limited potential for occasional bats to use the current roof as a transitional/day roost. As such, the roof must be stripped by hand, and should any bats be found during the course of the stripping, works must stop and the ecologist contacted immediately. There is no potential for the roost to be used as a hibernation site, and as such there is no restriction on the timing of works over the winter period.
- Bat access slates – four bat access slates will be installed in the new roof, two on each apex. These will allow Pipistrelles to utilise the area present between the slates and the roof, as shown in the figure below. The four slates will be similar to the type and standard provided by habibat (<http://www.habibat.co.uk/category/bat-access-tiles/habibat-access-slate>).

There were no signs that the property has been used by barn owls either recently or historically.

A. Introduction

A.1 Background

Hadrian Ecology was commissioned by Mr N Welton to undertake a barn owl survey and bat risk assessment at The Cottage, Falston, Hexham, Northumberland NE48 1AA (National Grid Reference NY723874). This report provides a full bat risk assessment of the property. It;

- Provides the survey methodology;
- Sets out the results of the survey;
- Analyses the site's value for nature conservation;
- Identifies if any constraints are present from an ecological viewpoint; and
- Identifies any additional recommendations to protect and improve the site's value for nature conservation.

A.2 Proposed Development Activities

It is proposed to extend the house to the rear (west), build a second storey over the garage and the kitchen, and link these two buildings. Work will involve removing and replacing the current roof to join the extensions to the building. This report is based on the current site plans (drawing numbers 121.A.A4.001-2, 121.A.A2.001-2 and dated 07.04.2017).

A.3 Site Context

Falstone is a small village located 1.6km to the east of Kielder Reservoir in North Northumberland, and within the boundary of Northumberland National Park.

The property consists of a c1800 two storey end terrace residential building, with a slate roof and exterior pebble dashing. Originally the building was single storey, with a second-floor brick extension added at a later date. The entrance faces east, and to the rear (west) there is a single storey lean-to stone built kitchen extension. There is a small garden to the rear, and a large double stone built garage with a corrugated metal roof.

The surrounding habitats consist of running and standing water, woodland, open pasture and rough grazing.

The location of the property (Ordnance Survey and aerial) is shown below.





Images produced from Bing.com

A.4 Works to date

During late May, and prior to the understanding of the need for a Bat Risk Assessment, the owner had carried out internal demolition works due to extensive damp. Works carried out involved-

4. removing in part the ceiling of the first floor (floor boards remaining intact to the second floor),
5. removing in part the ceiling to the roof space (roof joists still present, but a view into the roof visible from rooms on the second floor); and
6. removing the ceiling in the single storey kitchen extension (sarking underneath the tiles visible from kitchen room).

While removing the ceiling between the second floor and the attic, the owner found a dead (desiccated) bat, and stopped all works. There is no indication that this bat was killed as a result of the works undertaken. No further works (internal or external) will be carried out on the property until the bat surveys, potential licence application and all proposed mitigation has been completed.

It is accepted that due to the timing of the works already carried out, any bats using the building may have already been disturbed, which would alter the current use of the building by bats.

A.5 Objectives of survey

The bat risk assessment of the buildings and habitats within the site boundary was required to gain a sufficiently detailed picture of the potential for bat populations, leading to recommendations of roost surveys if required. Once surveys have been completed, this will allow an assessment of the likely impacts of the proposed development on these species, and where necessary to allow mitigation to be designed which minimises the risk of harm and maintains their conservation status in the local area (for example by ensuring that there is no net reduction in the number of available roost sites).

B. Legislation

B.1 Bats

Bats are included in The Conservation of Habitats and Species Regulations 2010 and are therefore considered to be a European Protected Species (EPS). These Regulations fully protect bats and their breeding sites or resting places, making it an offence to:

- deliberately capture (take), injure or kill bats;
- deliberately disturb bats; or
- damage or destroy a bat breeding site or resting place.

Additionally, all bats and their roosts are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), with further enforcement provided by The Countryside and Rights of Way Act 2000, making it an offence to intentionally or recklessly:

- disturb any bat whilst it is occupying a structure or place which it uses for shelter or protection; or
- obstruct access to any structure or place which any bat uses for shelter or protection.

Bat roosts (breeding sites and resting places) are protected whether or not bats are present at the time of works. Bats and bat roosts are also protected irrespective of whether planning permission has been granted or not.

Seven species of bat - greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, brown long-eared *Plecotus auritus*, noctule *Nyctalis noctula*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* are listed as priority species on the UK Biodiversity Action Plan. Four of these species (brown long-eared, noctule, common pipistrelle and soprano pipistrelle) regularly occur in Northumberland.

B.2 Barn owl

The barn owl is included under on Schedule 1 of the Wildlife and Countryside Act, 1981, and as such the birds, their nests, eggs and young are fully protected at all times throughout the UK. It is also an offence to intentionally or recklessly disturb barn owls at an active nest site with eggs or young or before eggs are laid, or to disturb the dependent young.

C. Methodology

C.1 Desk Study

Information on all statutory designations was obtained from MAGIC. Records of all protected species located within 1km was requested from Northumberland Bat Group on the 13th June 2017.

C.2 Bat Surveys

All bat survey work undertaken at the site was carried out in accordance with the Bat Conservation Trust (BCT) Good Practise Guidelines (3 ed. 2016), and in accordance with Natural England guidance.

C.2.1 Preliminary Ecological Assessment

Features suitable for roosting, foraging or commuting bats, such as woodlands and hedgerows, were assessed for their potential to support bats. As stated in the BCT guidelines, there are no clearly defined categories of habitat value for bats, rather there is a continuum from low to high value based on the suitability of habitat features. High quality habitat features for bats include;

- Buildings, trees or other structures suitable for use by roosting bats,
- Strong linear features connecting the site to the wider landscape that would be used by commuting bats, e.g. river/stream valleys or hedgerows, and
- Broadleaved woodland, tree-lined watercourses and grazed parkland which could be used by foraging bats.

Low quality habitat features include arable land and otherwise suitable foraging habitat which is not connected by prominent linear features.

C.2.2 Preliminary Roost assessment

External inspections involved carrying out a non-intrusive visual appraisal which graded the building on its potential to support roosting bats based on the following features:

- Building type (domestic dwelling, outbuilding, barn, commercial property, factory, bridge or culvert etc.),
- The age of the property if known,
- Roof covering (slate, tile etc.),
- Roof construction (flat or pitched - i.e. whether it could have a loft, gables - the gable apex is a favourite emergence point for some species),
- Roof conversions - are there any dormer windows indicating the loft has been converted into a living space?
- Bargeboards, fascias, soffits under the eaves, i.e. structures providing a boxed section, or flat against the wall but with gaps underneath large enough to provide bat access,
- Wall construction (brick, stone etc.): whether there are cavity walls (indicated by visible bricks being in longitudinal in section, rather than alternating with short sections),
- Any gaps, cracks or crevices that would allow bat access to any of the above features,
- The aspect of any potential roost spaces (maternity groups, in particular, favour south/south westerly facing roosts),
- Whether the building is occupied; if not, the length of time for which it has been unoccupied (estimated), and whether the windows are boarded or curtained, excluding daylight,
- Proximity of the building to woodland or a waterbody/watercourse, and
- Signs indicating bat presence, including droppings, staining and scratch marks.

A search was also made of the ground, especially below potential access points, window sills, window panes, walls, hanging tiles, weatherboarding, lead flashing, eaves, behind peeling paintwork or surfacing materials and under tiles, and cracks and crevices around stonework.

Although the above signs are all good indicators of presence (and suitability for) roosting bats, in most cases, even if there are no visible signs of use by bats, their presence cannot entirely be ruled out. Any potential suitable roosting places within the building were also noted.

Once the external buildings survey was concluded, an internal survey was undertaken. This involved surveying the rooms in the building in a quiet and systematic manner paying particular attention for any signs of bats (droppings, staining, scratch marks etc.) in areas such as;

- The floor (whether recently swept) and all surfaces,
- Behind any pictures, posters, furniture, plaster, boarded up windows etc.,
- Window shutters and curtains,
- Wooden panelling, and
- Lintels above doors and windows.

Due to health and safety reasons, the roof voids could not be fully accessed in order to be thoroughly inspected for any potential roost locations. However, the voids were viewed through the loft hatches to identify the presence of gable-end walls, roof beams, junction of roof timbers, top of chimney breasts, behind the tiles and roof lining etc. Ideally the void should also be inspected for signs of roost including;

- Free hanging bats on roof beams,
- Droppings, urine stains, corpses or staining from fur oil on any surfaces,
- Clean gaps between any beams, lintels etc.,
- Visible external access points,
- Access to cavity or rubble filled walls, and
- Cool areas suitable for torpor or hibernation.

Although the above signs are all good indicators of the potential presence (and suitability for) roosting bats, in most cases, even if there are no visible signs of use by bats, their presence cannot entirely be ruled out and further survey activity work may be recommended.

C.2.3 Roost Surveys

A map of all the buildings and surveyor locations is provided in Appendix A, Figure A.

Dusk surveys start 15 minutes before sunset, and were continued until 1.5 hours after sunset. Although it is dark by this time, and it is not often possible to identify whether bats were emerging once it becomes dark, it is still beneficial to survey for the entire recommended time period as stated within the guidelines (BCT 2012). Some species of bat emerge later than others, and on emerging often make different calls, often social calls. As a result the presence of different species making different calls can be made while using a detector when physical observation of these bats would be difficult. Should this occur, then a pre-dawn survey would be advisable, as it is much easier to identify where bats are re-entering once it starts to get light. Pre-dawn surveys start 1-1.5 hours before dawn, and continue to 0.5hr after.

C.2.4 Survey equipment

Surveyors used either a Wildlife Acoustics EM Touch 2 Pro or batbox duet frequency division detector, linked to an MP3/WAV digital recorder, and listened through headphones. Recording data allows confirmation of species identification through sonogram analysis (using Batscan software), and the capture of brief echolocation calls that could not be reliably identified in the field. Field survey recorded numbers of bats detected, feeding activity, flight paths, species (as far as is practicable), and social calls.

With experience, and using analysis of sound recordings, most species of bats can be identified with a good degree of confidence. However, the *Myotis* genus of bats is much harder to separate reliably as their frequency modulated calls are very similar. For these species a combination of call loudness, frequency range, habitat and flight characteristics can be used to provide a best estimate.

C.3 Barn owl survey

An initial field survey was undertaken following the guidelines recommended by the Chartered Institute for Ecology and Environmental Management (Shawyer 2011).

The site was surveyed to identify whether there were any suitable built structures or natural tree cavities present that had the potential to support barn owls. Any area assessed as having suitable potential to support a barn owl would be subject to further assessment to identify whether they were present. Additional surveys would be likely to include dusk/dawn vantage point watches.

C.4 Timing and weather conditions

Surveys were all undertaken during optimal weather conditions as shown in **Table 1**.

Table 1. Weather conditions and details of survey visits

Date	Start (End) Temperature	Cloud Cover (%)	Precipitation	Wind Strength	Start (End) Humidity (%)
21/06/17	22.8 (20.1)	100	0	Still	79 (89)
05/07/17	14.3 (14.5)	100	Light	Still	88 (78)

Table 2. Timing of Surveys

Date	Start time	End time	Sunset time	Surveyors
13/06/17	09.00	10.00	Na	LS
21/06/17	21.40	23.25	21.55	LS, SG
05/07/17	03.06	04.57	04.36	LS, SG

All surveys were undertaken within the peak of the survey season (May-September), which would allow identification of potential maternity roosts, day roosts and seasonal night roosts but will not reliably detect hibernation sites, mating roosts, spring and autumn roosts.

C.5 Personnel

Survey co-ordination and reporting was undertaken by Laura Shreeve BSc (Hons) MCIEEM, an ecologist and licenced bat worker. A list of survey experience in relation to bats,

qualifications (academic and professional) of surveyors is provided below in **Table 3**.

Table 3. Survey personnel

Name	Licence	Qualifications	Professional Membership	Experience
Laura Shreeve	2015-13291-CLS-CLS	BSc Hons Ecology	MCIEEM	15+ years of bat survey, NE and SNH licence for 10 years
Sally Graham	N/A	BSc Hons Environmental Science	N/A	Has attended 3 day BCT training course, 1-2 years survey experience

C.5.1 Survey Constraints

As previously mentioned within Section A.2, prior to the undertaking of the Bat Risk Assessment, the owner had begun internal demolition works within the property. As such, it is accepted that due to the timing of the works already carried out, any bats using the building may have already been disturbed, which would alter the current use of the building by bats.

D. Results

D.1 Data Search

D.1.1 Designated sites

The Border Mires Kielder-Butterburn Special Area of Conservation (SAC) which encompasses the Kielder Mosses Site of Special Scientific Interest (SSSI) is located 1.8km to the south-east of the survey location. Given that neither sites are classified for bat species, and due to the localised nature of the work proposed, no further consideration is given to the impact on either site.

D.1.1 Non-statutory designated sites/Local Wildlife Sites

Falstone Village is located within the boundary of Northumberland National Park.

Due to the localised nature of the works proposed, no additional information has been gathered at this stage on the locations of any non-statutory/local wildlife sites.

D.1.2 Protected Species Records

Protected species records provided no specific grid references and as such could not identify whether there are any known records of roosts present within the property. The search did identify six species of bats known to be present within 1km of the property, and all within Falstone village (common and soprano pipistrelle, whiskered, Brandt's, brown long-eared and Natterer's). There are ten known species of bat present within Northumberland, in addition to the above, noctule, Leisler's, Daubenton's and Nathusius's pipistrelle. Leisler's and Nathusius's pipistrelle are rare in the county, while noctule roost in trees, and Daubenton's tend to roost very close to water. Given that there are six species present within a small village, the records indicate that there is a high diversity and number of bats present within this area.

Table 4. Records from Northumberland Bat Group

Roost Records						
Latin name	Common name	Location	Date	Grid reference	Abundance	Record Type
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	07/07/2004	NY7287	30 Count	Roost
Myotis mystacinus/ brandtii	Whiskered/ Brandt's Bat	Falstone	03/09/2006	NY7286	4 Count	Roost
Plecotus auritus	Brown Long-eared Bat	Falstone	03/09/2006	NY7286	1 Count	Roost
Pipistrellus pygmaeus	Soprano Pipistrelle	Falstone	20/09/2011	NY7286	7 Count	Roost
Myotis mystacinus/ brandtii	Whiskered/ Brandt's Bat	Falstone	12/09/2009	NY7286	184 Count	Roost
Plecotus auritus	Brown Long-eared Bat	Falstone	12/09/2009	NY7286	6 Count	Roost
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	01/08/2009	NY7286	184 Count	Roost
Chiroptera	Bats	Falstone	17/07/1998	NY724874		Roost
Myotis nattereri	Natterer's Bat	Falstone	12/09/2009	NY7286	2 Count	Maternity
Other Records						
Latin name	Common name	Location	Date	Grid reference	Abundance	Record Type
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	21/07/2004	NY7187	1 Count	Flight
Chiroptera	Bats	Falstone	06/08/2011	NY722874		Flight
Myotis mystacinus/ brandtii	Whiskered/ Brandt's Bat	Falstone	20/09/2011	NY7286	1 Count	Flight
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	20/09/2011	NY7286	1 Count	Flight
Chiroptera	Bats	Falstone	07/08/2011	NY722874		Flight
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	03/09/2014	NY723877	1 Count	Downed bat
Pipistrellus pipistrellus	Common Pipistrelle	Falstone	13/06/2010	NY7287		

D.2 Bat surveys

D.2.1 Preliminary Ecological Assessment

The Cottage, Falstone is located within an area of high quality habitats for commuting and foraging bats, with the river North Tyne located 198m to the west, Kielder Reservoir located 1.6km to the west, and large areas of woodland surrounding the village (120m at the closest point). The property itself has a rear garden which acts a linking corridor to these habitats. The records provided from Northumberland Bat Group also support the high quality assessment, given that there are high numbers and a diverse range of bat species present within the local vicinity.

D.2.2 Preliminary Roost Assessment

The property consists of a c1800 two storey end terrace residential building, with a slate roof and exterior pebble dashing. Originally the building was single storey, with a second-floor brick extension including two dormer windows added at a later date. The entrance faces east, and to the rear (west) there is a single storey lean-to stone built kitchen extension. There is a small garden to the rear and a large double stone built garage with a corrugated metal roof.



Photographs of the property are provided as **Appendix A**. A description of the building is provided in **Table 4**.

Table 4. Building description

	Description	Assessment	Survey requirement¹
Building 1 -External	<p>The cottage is a two-storey stone and brick built structure with a slate pitched roof and two dormer windows to the front. There are two chimneys, one at either gable end. The chimney at the left gable end has missing pebble dash which has caused internal damp. The chimney at the right gable is in good condition, and both have intact head flashing. There are no soffits/fascias present, with guttering is attached directly to the house wall.</p> <p>There are occasional gaps present underneath slates, and underneath/between the slate ridge tiles.</p>	High – roost confirmed by the presence of droppings in the attic and a desiccated bat	
Building 1- Internal	<p>The first floor consisted of two rooms with both ceilings recently stripped, and the floorboards of the second-floor rooms visible. There were no signs of bat use in either room. To the rear is a single storey extension lean-to kitchen. The ceiling to the kitchen has also been stripped, with sarking/felt visible beneath the external slates. There were no signs of bats using this room internally.</p> <p>There were no signs of bats in any of the second-floor rooms, or within the water tank in the bathroom.</p> <p>Access to the attic roof space was obtained via a hatch above the stairs, located in the centre of the property. The attic was viewed from the loft hatch only, and due to the removal of ceilings from the second floor it was possible to look through to both bedrooms below.</p> <p>The roof space is the full length and width of the house (approximately 10m x 6m) and c1.5m in height. Immediately above the access hatch bat droppings</p>		

¹ Based on the recommendations from BCT (2016)

	were observed – 2/3 on a board placed over the roof joists by the owner in late May, with a large lump present hanging from cobwebs at the apex. Samples of droppings were taken. Within the attic space, humidity was 62%, with the temperature at the time of the survey 16.4C		
Garage	The garage is c8m x 7m, single storey stone build, with a corrugated metal sheeting roof. It is in regular use for storage. There were no signs of bats using the garage, and only low potential that bats could use the top of the stone walls as a temporary roost.	Low	
Overall			

Due to the presence of droppings and a dead bat, the preliminary roost assessment has identified the house as having high potential to support bats. DNA analysis by Warwick University identified the droppings as common pipistrelle (results provided in Appendix B).

Following the best practice guidelines (BCT 2016), a minimum of two emergence/re-entry surveys are required which will need a total of two surveyors in order to fully identify the location/type/species of bats present. The need for a third survey will be assessed following the completion of the first two.

D.2.3 Roost surveys

No bats were observed emerging or re-entering the property during either survey.

Bat activity was low – moderate, with regular foraging activity by common pipistrelle observed by surveyor 2 (located in the garden) during both surveys, while surveyor 1 (road) had only occasional passes, although a noctule was recorded commuting over the site on the 21st June at 22.44.

D.3 Barn Owl Assessment

There were no signs that the property has been used by barn owls either recently or historically.

E. Assessment

E.1 Assessment criteria

The value and significance of the habitats and species found was assessed against criteria developed by the Guidelines for Ecological Impact Assessment produced by the Institute of Ecology and Environmental Management (Table 6). Information on the different type of bat roosts is provided within Table 7 (Natural England 2012).

The site was found to support a less than local population of common pipistrelle – the roost type unidentified.

Table 6. Impact assessment

Level of Value	Examples of Definitions
International	<p>An internationally important site e.g. SPA, SAC, RAMSAR (or a site considered worthy of such designation).</p> <p>A regularly occurring population of an internationally important species (listed on Annex IV of the Habitats Directive).</p>
National (UK)	<p>A nationally designated site e.g. SSSI, or a site considered worthy of such designation.</p> <p>A viable area of a habitat type listed in Annex 1 of the Habitats Directive or, of smaller areas of such habitat which are essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of a nationally important species, e.g. listed on Schedules 5 & 8 of the 1981 Wildlife and Countryside Act;</p> <p>A feature identified as of critical importance in the UKBAP.</p>
County (Northumberland)	<p>Areas of internationally or nationally important habitats which are degraded but are considered readily restored.</p> <p>Viable areas of key habitat identified in the Durham LBAP, or smaller areas of such habitat which are essential to maintain the viability of a larger whole.</p> <p>A site designated as a Local Wildlife Site or Site of Nature Conservation Interest (SNCI);</p> <p>A regularly occurring, locally significant number of a nationally important species.</p>
Local (site and its vicinity, including areas of habitats contiguous with or linked to those on site)	<p>Areas of internationally or nationally important habitats/species which are degraded and have little or no potential for restoration.</p> <p>A good example of common or widespread habitat/number of species for the local area.</p>
Less than local	<p>Areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest.</p> <p>Common and widespread species.</p>

Table 7. Types of bat roosts

Type of roost	Time period	Description
Transitional	April-September/October	Roosts used for short periods of time after waking from or prior to hibernation by few/small numbers of bats. Roosts used prior are often cold to reduce body temperature
Maternity	May-August	Used by groups of females for birth/nursing
Satellite	May-August	Alternate roosts used by breeding females, in close proximity to maternity roosts
Mating	September-November	Used by males and females

Hibernation	October-March	Vary in number/species of bats. Tend to have constant cool temperature and high humidity
Night	March-November	Bats may use roosts other than traditional day roosts to rest in during the night. Can be used by varying numbers of bats
Day	March-November	Used for resting during the day – often by low numbers/small numbers of males during the active season. Bats may use a number of day roosts during the course of the active season
Feeding	May-November	Used by varying numbers of bats throughout the active season to shelter from the weather or to rest
Swarming site	August-November	Generally around caves/mines. Used by large numbers of bats, often from several species as apparently important mating sites. Also often used as hibernation sites.

E.2 Assessment of survey findings

On discussion with the owner, and during the internal assessment, bats have been identified as present within the attic space of The Cottage, Falstone. A single dead (desiccated) bat was found by the owner during internal works, and a number of droppings were observed by the Ecologist during the internal assessment of the roof space. There were droppings present on a board that was placed on the roof joists in late May prior to the internal assessment, indicating that bats may still be using the roof space despite the works carried out. DNA analysis of the droppings identified use of the roof space by common pipistrelle. Following the results of the dusk emergence and dawn re-entry survey, no bats were identified as using the building at this time.

F. Mitigation

Given that there has been some presence of common pipistrelle within the roof space of The Cottage, the following mitigation is provided within a Method Statement in Appendix B;

- Timing of works – there is limited potential for occasional bats to use the current roof as a transitional/day roost. As such, the roof must be stripped by hand, and should any bats be found during the course of the stripping, works must stop and the ecologist contacted immediately. There is no potential for the roost to be used as a hibernation site, and as such there is no restriction on the timing of works over the winter period.
- Bat access slates – four bat access slates will be installed in the new roof, two on each apex. These will allow Pipistrelles to utilise the area present between the slates and the roof, as shown in the figure below. The four slates will be similar to the type and standard provided by habitat (<http://www.habibat.co.uk/category/bat-access-tiles/habibat-access-slate>).

Figure 1. Example of bat access slate

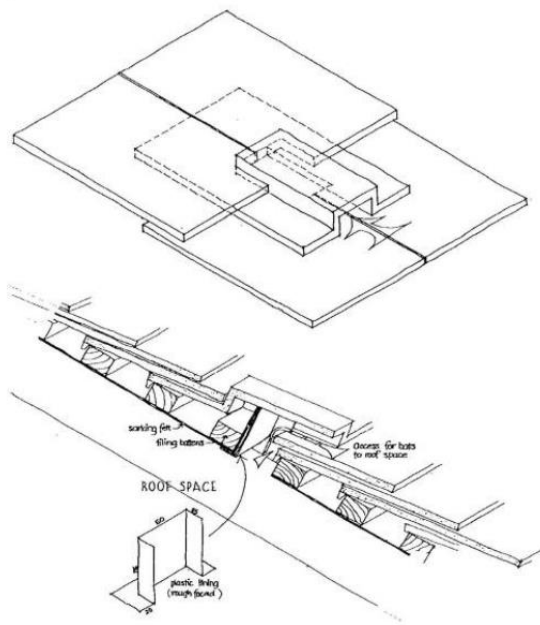
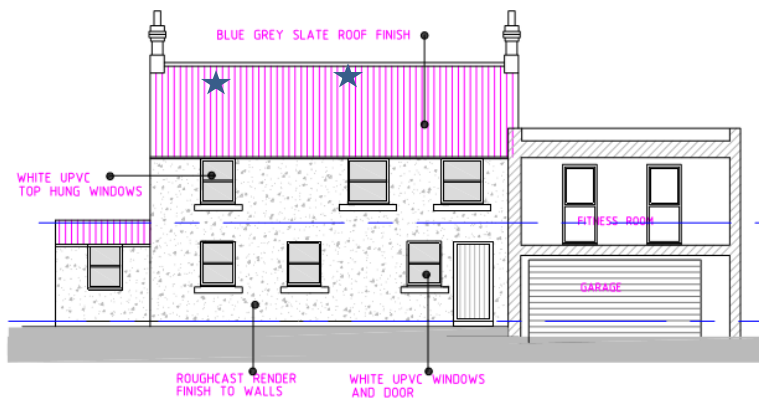


Figure 2. Approximate location of bat access slates



FRONT ELEVATION AS PROPOSED



REAR ELEVATION AS PROPOSED

G. References

- Bat Conservation Trust (2016, 3ed.) Bat Survey Guidelines
- English Nature, 2001, Bat mitigation guidelines. Peterborough
- Institute of Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment in the United Kingdom

Appendix A – Photographs



1. External front



2. External front



3. External front



4. Garage



5. External rear



6. External rear



7. Internal garage



8. Internal garage



9. Internal, single storey kitchen



10. Internal attic viewed from second floor bedroom



11. Internal attic viewed from stairwell



12. Internal attic viewed from second floor bedroom



13. Internal attic (north) viewed from loft hatch



14. Internal attic (south) viewed from loft hatch



15. Bat droppings caught in cobwebs above loft hatch in centre of roof space

Appendix B – DNA results

Appendix C

Bat Method Statement – The Cottage, Falstone July 2017

Summary and Overview of Works

Hadrian Ecology was commissioned by Mr N Welton to undertake a barn owl survey and bat risk assessment at The Cottage, Falston, Hexham, Northumberland NE48 1AA (national grid reference NY723874). It is proposed to extend the property to the rear (west) to two storeys. This will involve removing the current roof to join the extension to the building. This report is based on the current site plans (drawing numbers 121.A.A4.001-2, 121.A.A2.001-2 and dated 07.04.2017).

Purpose of this method statement

The purpose of this method statement is to define the risks to bats as a result of the construction of a permanent extension property to the rear (west) to two storeys, involving removing the current roof, and to set out a mitigation strategy that will negate or minimise the risk of any potential impacts on bats and contravention of the relevant legislation.

It is the responsibility of the owner (Mr N Welton) and subcontractors to carry out the works in a manner which will not endanger bats, and to exercise due care to any other species on site. It is their joint responsibility that no changes to the timings or methods outlined below are made without prior written agreement from the licensed ecologist who has full knowledge of the site, or Natural England.

Relevant Legislation

Bats are included in The Conservation of Habitats and Species Regulations 2010 and are therefore considered to be a European Protected Species (EPS). These Regulations fully protect bats and their breeding sites or resting places, making it an offence to:

- deliberately capture (take), injure or kill bats;
- deliberately disturb bats; or
- damage or destroy a bat breeding site or resting place.

Additionally, all bats and their roosts are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), with further enforcement provided by The Countryside and Rights of Way Act 2000, making it an offence to intentionally or recklessly:

- disturb any bat whilst it is occupying a structure or place which it uses for shelter or protection; or
- obstruct access to any structure or place which any bat uses for shelter or protection.

Bat roosts (breeding sites and resting places) are protected whether or not bats are present at the time of works. Bats and bat roosts are also protected irrespective of whether planning permission has been granted or not.

Fines of up to £5000 per bat affected and confiscation of vehicles used can be imposed for deliberate or reckless disturbance of bats or damage to a roost site. Natural England is the statutory organisation for England that monitors issues in relation to protected species including bats.

Bat roost sites in buildings and stone structures can be difficult to locate. British bats vary in size, the smallest being the crevice roosting pipistrelle with a body the size of a matchbox. The small size of these animals means that they can roost within the smallest cracks or crevices.

Common locations for crevice roosting bats within buildings include beneath slates or tiles, within mortise joints, rubble fill and cavity walls and between loose stones. It is possible that small colonies may be present within the fabric of a building yet no external signs are visible, therefore care is needed when works affect such features.

Working Methods

This Method Statement solely covers the construction of a porch on the Studio building Figure 1. Drawing number 21/2017-001.

No additional works are allowed at this stage. All roofing works are subject to a Natural England mitigation licence.

Working methods for the construction of a porch on the studio building to minimise the risk to bats and avoid causing reckless damage or disturbance must include the following:

Ref	Construction Activity *	Method and Rationale	Responsibility
A	General Works		
A.1	Whole Programme	An Ecological Clerk of Works (ECoW) who is an appropriately licensed bat ecologist will be retained by the developer to provide advice and guidance throughout the duration of the construction works. The ECoW will make site checks and oversee works where necessary in compliance with this method statement and resolve any ecology issues as they arise.	Developer to appoint ECoW.
A.2	Whole Programme	No working during the hours of darkness will be allowed unless exceptional circumstances prevail (eg imminent danger to life).	Developer
A.4	Whole Programme	All works should be completed in the minimum amount of time thus reducing disruption to bats.	Developer

Ref	Construction Activity *	Method and Rationale	Responsibility
A.5	Open Up Site	All contractors on site will be provided with a tool box talk. This talk will identify the known bat roost and areas which have bat roost potential, what evidence of bat use to look out for (droppings etc.), what to do if a bat is found or other issues arise and to ensure that staff are aware of the need to comply with this method statement.	ECoW
B	Construction works		
B.1	All construction works	Should bats be found during the construction works, then work MUST BE STOPPED IMMEDIATELY on that building, and the licenced ecologist will contact Natural England. If it is necessary to move the bats, gloves should be worn and the bats should be carefully placed into a cardboard box and either kept in a quiet place or moved to a part of the building that will not be affected by the construction work and released after dark, close to the roost site.	Developer/ECoW
B.2	Roof works	The location of the bat access slates will be agreed with the ecologist, with a final check of location after installation	Developer/ECoW

H. Conclusion

This method statement covers the construction of a property to the rear (west) to two storeys. This will involve removing the current roof to join the extension to the building. Taking into account the relevant legislation (described in detail in **Section 1.4** above), and factoring in the non-licensable mitigation measures that will be adopted ahead of and during works, it is concluded that no significant effects are likely as a result of the works, and that this method statement will be sufficient to ensure legal compliance.

Therefore, the scale and magnitude of the proposals, along with the proposed mitigation measures reduce the potential impacts of the scheme to negligible and therefore it is unlikely to result in any offences being committed under the Conservation of Habitats and Species Regulations 2010 or the Wildlife and Countryside Act 1981 (as amended).