

Ecological Impact Assessment and Bat Survey

**BARN AT PEEL COTTAGE, WEST WOODBURN,
NORTHUMBERLAND**

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Disclaimer:

Ecology surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings or trees are in relation to the use of the building/tree by bats and birds and should not be considered as a building survey or arboricultural opinion on the condition of those features.

The client should be aware that the mitigation recommendations in ecology reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

Mitigation recommendations should be clearly marked on the Architect's Plans submitted with any planning or other consent.

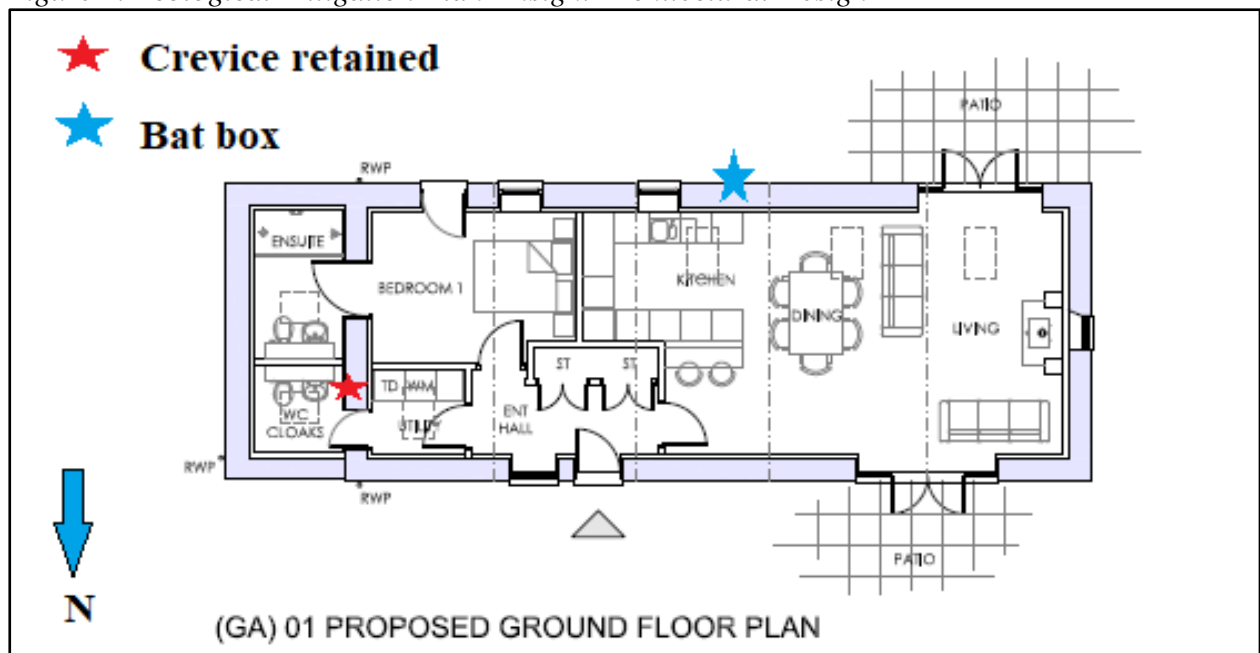
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Ecological Impact Assessment for Barn at Peel Cottage, West Woodburn, Northumberland

Summary

- An ecological survey was requested primarily for bats and birds for the Barn at Peel Cottage, West Woodburn, Northumberland.
- The barn at Peel Cottage, West Woodburn is situated in a rural location within a small village. The building surveyed are stone built with pitched roofs and were in a dilapidated condition at the time of the survey.
- The proposals are to convert the building to one unit entailing repointing the buildings where necessary and re-roofing.
- The immediate area is rural and the village is surrounded by agricultural land consisting mainly of improved grassland with boundary walls. The River Rede is present with tree-lined banks 150m to the southwest.
- Inspection results of the exterior revealed that the building affected by the proposals had crevices within the masonry. Due to the moderate roost potential present two surveys were carried out.
- Data search results within 2km of the site consists of maternity roosts of Pipistrelle 45kHz, and occasional roosts of Pipistrelle 55kHz, Brown long-eared, Natterer's and Whiskered/Brandt's. Foraging Noctule and Daubenton's bats have also been recorded within 2km.
- The emergence survey confirmed no bat emergence from the property though after sunset small numbers of Pipistrelle 45kHz and Pipistrelle 55kHz bats were noted passing over the site with Noctule bats also heard or seen during the surveys foraging or commuting over the site. The darn survey identified no re-entry.
- No bat roosts are likely to be affected due to the proposals. Timing of any destructive works to avoid the hibernation period (November to March inclusive) if possible will ensure that the works have as little negative affect as possible on bats.
- Mitigation in the form of a crevice and a bat box will be provided in the renovated building.
- No nesting birds were noted around the building. Any nesting bird species though will be allowed access to the nest until the young have fledged.

Figure 1. Ecological Mitigation Plan -Insight Architectural Design



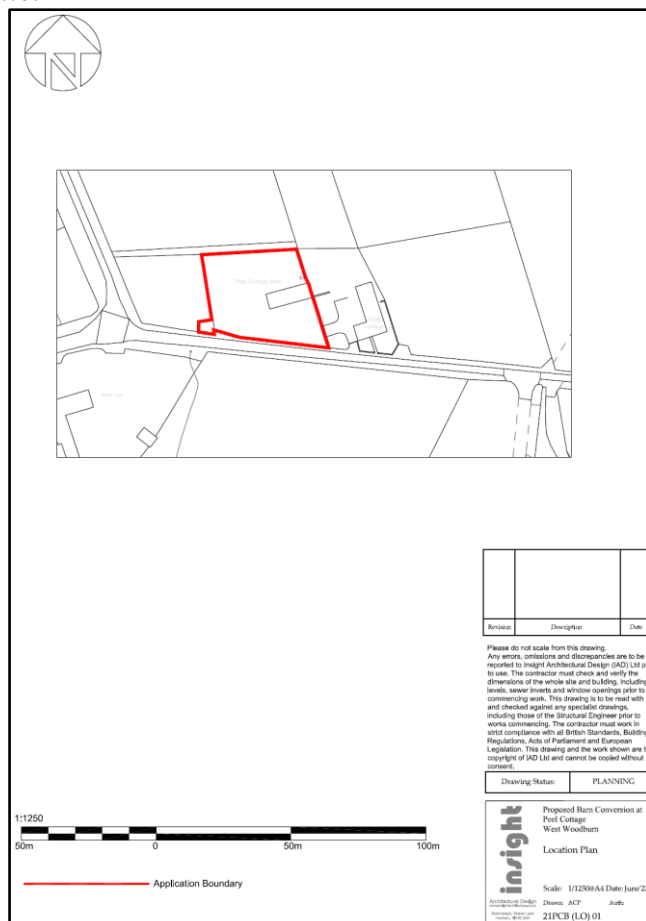
1. Introduction.

The inspection was carried out and reported by Ruth Hadden BSc an experienced Ecologist and Licensed Bat Surveyor.

Figure 2. Survey area of the site



Figure 3. Location of site.



2. Relevant Policies and Legislation.

Under Section 25 (1) of the Wildlife & Countryside Act (1981) local authorities have a duty to take such steps as they consider expedient to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species.

The Natural Environment and Rural Communities Act (2006) places a Statutory Biodiversity Duty on public authorities to take such measures as they consider expedient for the purposes of conserving biodiversity, including restoring or enhancing a population or habitat.

The National Planning Policy Framework (NPPF) states “*When determining planning applications, local planning authorities should apply the following principles:*

a) if significant harm to biodiversity 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;” (paragraph 175).

ODPM Circular 06/2005/Defra Circular 01/2005 states that the presence of a protected species is a material consideration when considering a development proposal that could harm the species or its habitat.

Appendix 1 details legislation relating to applicable species.

Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. This includes planning decisions.

2.1 Designated Sites

Site of Special Scientific Interest (SSSI) citations are for special features of importance to nature conservation. Sites of Special Scientific Interest (SSSIs) are nationally important sites protected under laws including The Wildlife and Countryside Act 1981, Countryside and Rights of Way Act 2000. LPAs must consult Natural England on planning applications that might affect SSSIs. Operations that could damage special interests require consent by Natural England. It is an offence for any person to intentionally or recklessly damage or destroy any of the features of special interest of an SSSI, or to disturb wildlife for which the site was notified.

3. Methodology.

3.1 Scope of the Assessment.

The zone of influence of this development is defined as being the site itself and habitats to the immediate boundaries within 2km.

The assessment has included consideration of:

- designated sites
- habitats and species of principal importance for conservation of biodiversity
- protected species, namely bats.

3.2 Desktop Survey.

Natural England's Magic on the Map website was accessed for details of any designated wildlife sites within 2km.

The Environmental Records Information Centre North East (ERIC) data search has been restricted to bats, as this is the major constraint to any destructive building works.

Natural England's Magic on the Map and OS Explorer 1:12500 maps were used to assess the distance to habitat features close to the site.

3.3 Site Survey

The survey area covered the buildings only within the red line boundary as shown within Figure 2 and included searching for signs of any wildlife using the site with the key aspects listed below.

The survey included an assessment of habitats on site for use by bats following the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3rd edition, 2016) and Natural England's definitions except where indicated. The survey effort at the site has taken account of the recommendations of the BCT Good Practice Survey Guidelines, taking proportionality into account and the proposals.

Field Survey for Bats and Birds

Visual Inspection

A close inspection of the building was made in good light, and by torch where required. The exterior and interior of the building was examined as far as was feasible for signs of bats: droppings, urine streaks, clean cobweb-free areas on the ridge boards or crevices and potential roost exit holes. All external and internal crevices were checked using a torch and possible roosting sites were noted. Crevice loving bats can be difficult to find especially when bats are present between the roofing felt and slate/tiles. Emergence surveys were therefore used to check for the presence of bats missed during the visual inspections. Beneath ledges the ground was examined for feathers, pellets and birdlime that could indicate occupation by barn owls.

Emergence Survey

As dusk fell 2 surveyors, each using visual observations and bat detectors (Echo Meter Touch), and two-way radios, carried out the evening emergence surveys, covering all aspects of the buildings. Bat detectors demodulate bat echo-location signals into audible sounds, enabling the identification of some species, and aid the monitoring of the number of bats present. Two-way radios help to determine the emergence and flight paths of a bat seen by surveyors around the site and allow the bat activity of the whole site to be understood, whilst at the site.

Surveyors are on site for at least quarter of an hour before sunset and up to 1½ hours after sunset or until darkness falls as reduced visibility does not allow bats to be seen emerging from the building being surveyed. After this time any bats picked up by detector, cannot be guaranteed to have emerged from the building in question, but confirms if additional species are present in the area or not. If bats or a maternity colony is present the bats are counted until no bats have left the roost for 10 minutes for as long as it takes.

Re-entry Survey

A dawn survey was also carried out. For a dawn survey surveyors are on site one and a half hours before sunrise until a quarter of an hour after sunrise.

Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	5 June 2021	Externally and internally (40 mins).	Fine and dry
Emergence	5 June 2021	9.25pm – 11.10pm (Sunset 9.43pm)	Fine, light cloud and slight breeze. 14-12C
Re-entry	13 July 2021	3.15 – 5.00am (Sunrise 4.46am)	Fine, cloudy and still. 14°C

Personnel

Ruth Hadden – Bat Consultant since 1996, Class Survey Licence CL20 2015-13665-CLS-CLS (Bat Survey Level 4). Licensed to handle bats and enter known roosts since 1986. Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM

Ben Hadden – Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 201514223-CLS-CLS. 15 years of experience.

Ben Whittle and Beth Patience 12 years of experience.

3.4 Assessment.

The assessment has been conducted according to the *Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine*, CIEEM, September 2018. Impacts are considered for during construction and occupation.

Preliminary Ecological Appraisal Reports (PEAR) which CIEEM guidelines¹ states can be used to support a planning application where it can be determined that the project would have no significant ecological effects, no mitigation is required, and no further surveys are necessary. PEARS though can also provide;

- the results of initial ecological surveys associated with a proposed development
- identify further ecological surveys necessary to inform an EcIA
- identify ecological constraints to a project
- make recommendations for design changes
- highlight opportunities for ecological enhancement.

¹ *Guidelines for Ecological Report Writing Second Edition* December 2017

4. Baseline Ecological Conditions

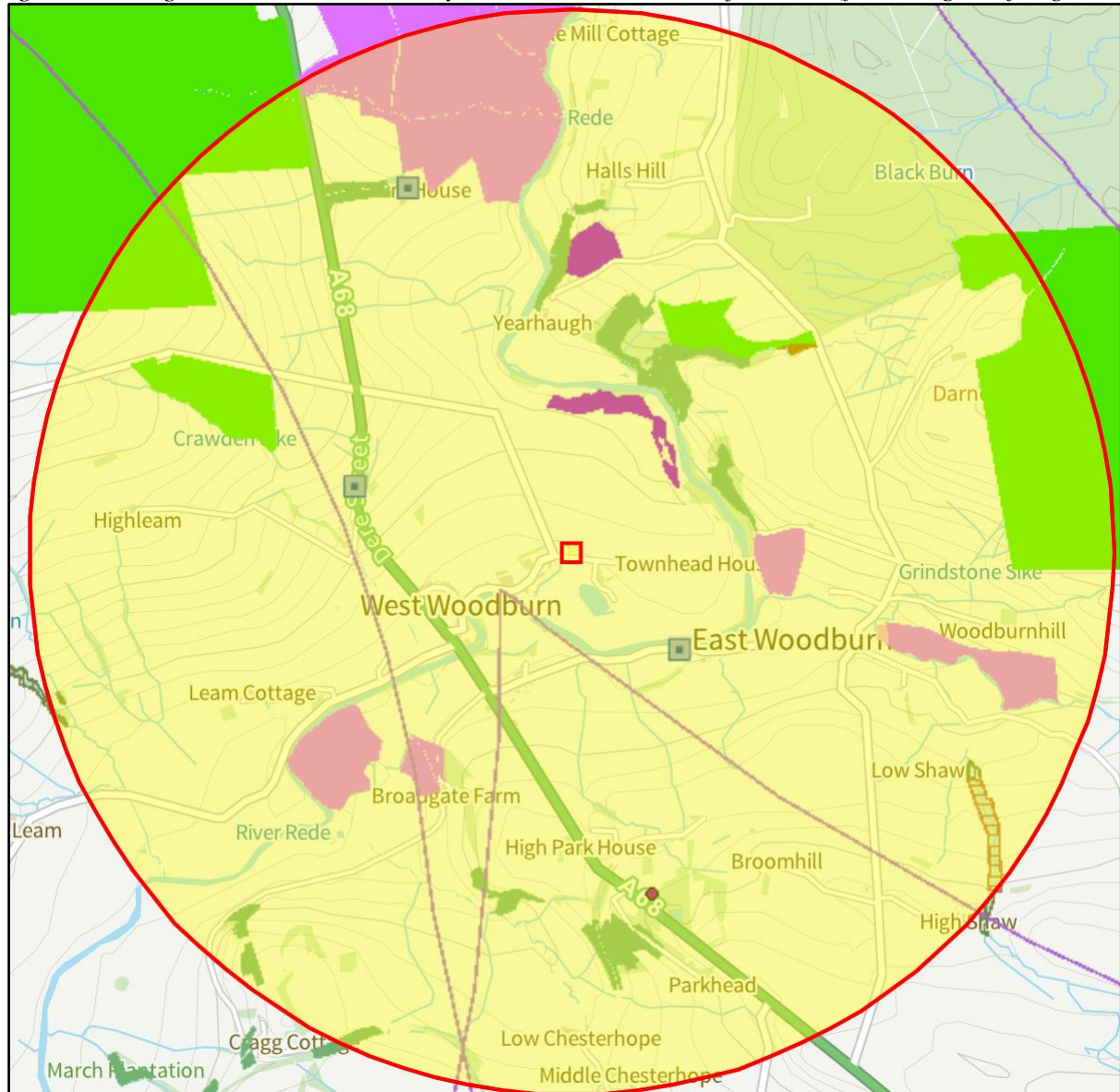
4.1 General

The buildings surveyed are located at NY897871 as shown below

4.2 Designated Sites

There are no statutory designated sites within 2km of the site, however the development site falls within the impact risk zones for these SSSI's in the wider area.

Figure 4. Designated Sites and Priority Habitats within 2km of the site (from magic.defra.gov.uk)



4.3 Habitats

Figure 4 shows BAP Priority Habitats, within 2km (listed under Section 41 of the Natural Environment and Rural Communities Act 2006). These habitats are mainly good quality semi-improved grassland, deciduous woodland, ancient and semi-natural woodland,

upland hay meadow, upland heathland, purple moor grass and rush pasture and grass moorland.

4.4 Species and Species Groups

4.4.1 Desktop Search

Records from the Environmental Records Information Centre North East (ERIC) show results from within 2km of the site for bats. There are two granted European Protected Species licence for bats and one for great crested newts within 2km.

4.4.2 Habitat description

The barn at Peel Cottage is located immediately on the north side of West Woodburn which is in a rural location, surrounded by agricultural land consisting mainly of improved grassland with boundary walls. The River Rede is present 250m to the southwest with well wooded banks in places.

The site consists of unmown amenity grass with ruderals around the south and west boundaries comprising locally dominant Rose-bay Willowherb and Creeping Thistle. The location of the proposed treatment tank is also dominated by Rose-bay Willowherb.

The site boundaries were 1m high stonewalls.

The area has restricted sheltered feeding and protection immediately present. Bat roost potential will be present in the village, scattered local residences and any suitable mature trees present in the area.

4.4.3 Bats

Pre-existing information on the species at the site.

There are no known pre-existing records for the site. The closest record is for a roost of Pipistrelle 45kHz bats within 225m to the southeast (2008) (ERIC North East).

Status of species in the local/regional area.

Data search results within 2km of the site consists of maternity roosts of Pipistrelle 45kHz (2008/2015), and occasional roosts of Pipistrelle 55kHz (2015), Brown long-eared (2008), Natterer's (2004/2015) and Whiskered/Brandt's (2009/2015). Foraging Noctule (2009/2015) and Daubenton's bats (2017) have also been recorded within 2km. (ERIC North East - A full data set can be made available upon request).

The granted European Protected Species Licences for bats were for occasional Pipistrelle 55kHz, Pipistrelle 45kHz, Natterer's and Daubenton's bats plus a maternity roost of Pipistrelle 45kHz 1km to the southeast (2010/2015) (Magic Site).

Locally and regionally, the Common Pipistrelle is the most common bat. Both Pipistrelle 45kHz and 55kHz bats are frequent in northern England, although Pipistrelle bats are the most abundant species, they are thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 monitoring by the National Bat Monitoring Programme (NBMP) has shown that bat numbers seem to be steady with small fluctuations up or down depending on the species and survey type carried out. The Brown long-eared bat is occasional with colonies much smaller in numbers than the Pipistrelle. Daubenton's,

Natterer's and Whiskered/Brandt's bats are also occasional but widespread in Northumberland with an average colony size being about 35 adult bats. The Nathusius' Pipistrelle is a rare bat, has migratory habits and has been proved to fly across the North Sea from Bristol to Holland and has occasionally been recorded in Northumberland throughout the season.

Bats – Daytime Risk Assessment

Inspection results of the exterior revealed that the single storey building affected by the proposals had crevices in the stone masonry and at the eaves. The pitched roof which was slate had no sarking present and was gappy in places. There was no obvious evidence of bats present, however due to the roost potential giving a moderate risk two surveys were carried out.

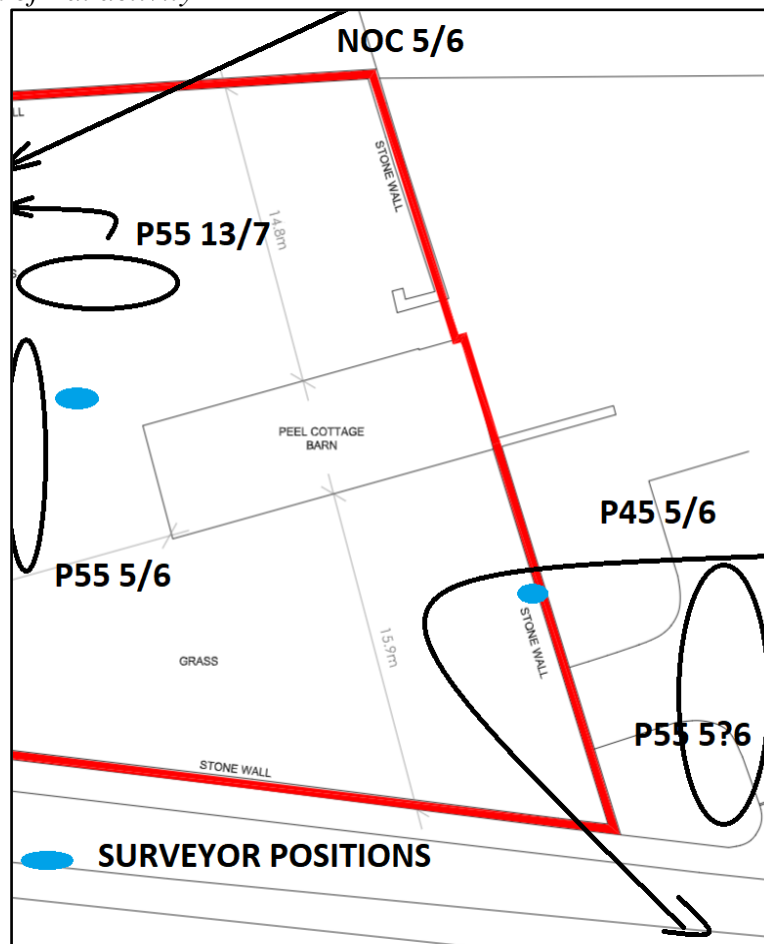
No potential bat hibernation sites were identified in the building; however, bats may be present in any suitable crevice, deep in the walls.

Since the activity surveys the building has been renovated, please see photographs.

Bats – Activity Surveys

The emergence survey confirmed no bat emergence from the property though after sunset small numbers of Pipistrelle 45kHz bats were noted passing over the site with Pipistrelle 55kHz bats foraging. The dawn survey identified no re-entry into the building though a Pipistrelle 45kHz were heard and a Pipistrelle 55kHz was seen foraging to the northwest before flying to the west. Please see Appendix 2 for further details.

Figure 4. Plan of Bat activity



4.4.4 Bird Assessment

No evidence of birds was noted. The building was enclosed.

4.4.5 Other Species

No other wildlife was noted during the survey.

4.4.6 Amphibians

Pre-existing information on the species at the site.

There are no known pre-existing records for the site.

Status of species in the local/regional area.

There is a record for great crested newts within 2km, which is located 1.3km to the southeast. (2017) (Magic Site). The River Rede is likely to act as a barrier to dispersing newts.

A large, stocked fishing pond is located 130m to the southeast.

5. Photographs of the Site 2022



Building from the northeast



Small lean-to at the east gable



From the southwest



Crevice retained on the east gable

East gable wall



Open wall tops



7.2 Site Based Impacts.

The building due to be converted has negligible conservation significance for bats as a roost site at present. This assessment takes into account the location of the building and the reasonable feeding habitat and shelter within 300m, the results of the inspection and survey, the construction of the building and the potential of the building as a maternity bat roost site.

Pre-activity impacts are negligible with no further changes being made to the use of the building.

Mid-activity impacts will be high for bats if no precautions are undertaken. The works may cause disturbance, injury and death to bats or birds, if no mitigation is carried out in the eventuality of an animal being located during any destructive works. With mitigation and the retention of the roosts any impacts would be low.

Site Assessment

The site is considered to have negligible conservation significance for bats.

7.3 Impacts on the SSSI.

The development site does fall within the risk impact zones for the nearby SSSI's in the area, mainly along the coast however the works are unlikely to greatly impact these designated areas.

8. Mitigation and Enhancement.

The National Planning Policy Framework (NPPF) requires that the planning system minimizes impacts on biodiversity and provides net gains. The following recommendations will likely be translated into conditions placed on any planning consent. They are intended to reduce the risk of this development to protected species and habitats.

Natural England guidelines on mitigation states timing constraints and like-for-like replacement is a minimum requirement.

8.1 Pollution Prevention

To protect any nearby waterways, measures to be made to ensure that there is no runoff (herbicides, wheel washing, cement washings etc.) either during construction to prevent pollution or sediment issues, or after development. (See Environment Agency's Pollution Prevention Guidelines (PPG5)) for guidance.

8.2 On Site Mitigation

An external crevice will be retained as at present in the masonry on the east gable of the converted building to provide a roosting site for crevice-loving bats. Please plan at Fig. 6 for location.

Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.

A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.

Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

A Low Profile WoodStone bat box will be positioned on the southeast wall at a height of 3m.

8.3 Mitigation Summary

To maintain bat and bird populations in the area the following will be carried out:-

- Any external lighting will be on a relatively short timer, directed away from bat roost access points and flight paths and motion-sensitive only to large objects.
- Any nesting bird species that may be present will be allowed access to the nest until the young have fledged between April and October.

Figure 6. Mitigation Locations

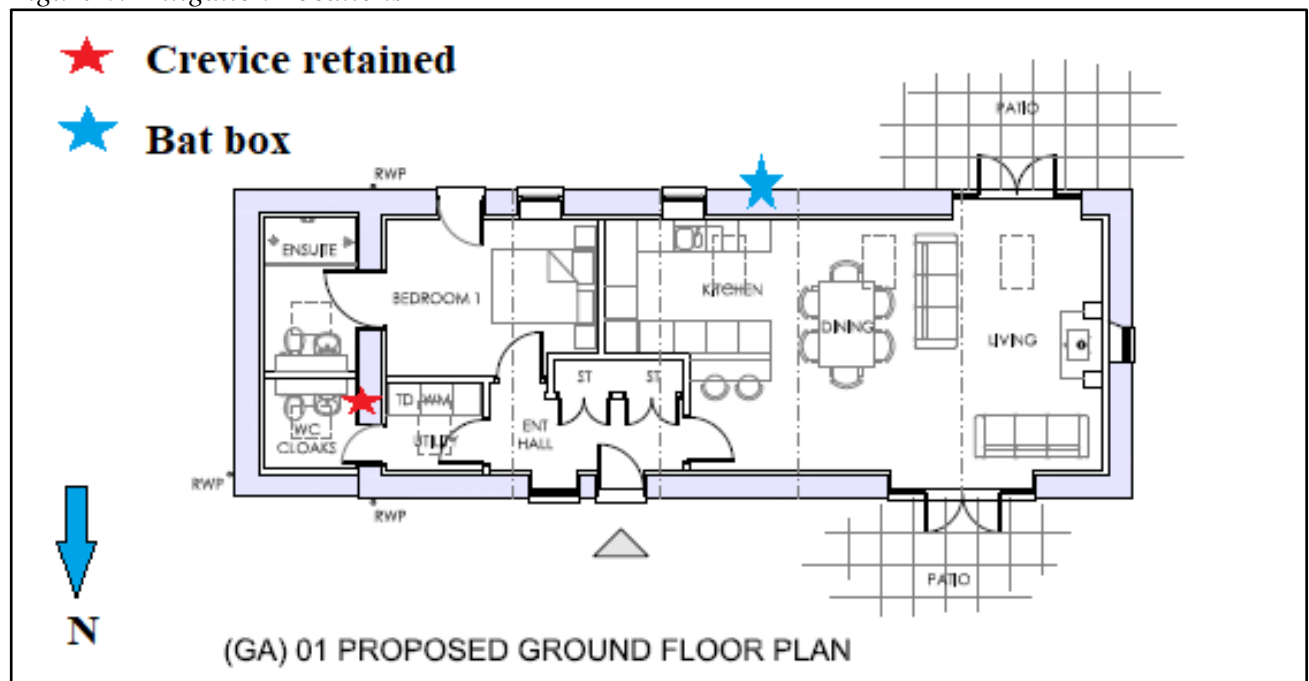


Table 1 Mitigation Summary

Location	Mitigation Type
Renovated building	Crevice retained on the east gable wall Low Profile WoodStone bat box will be positioned on the southeast wall at a height of 3m.

8.4 Enhancement

Not applicable.

8.5 Monitoring

Due to low impact on bat activity on site, by the proposals, no monitoring after the development is completed will be required to assess the success of mitigation. (Bat Mitigation Guidelines 2004, Section 7.2). Ruth Hadden available to liaise with the owners as required regarding the mitigation.

8.6 Conclusions

- Without any mitigation the proposed works will result in minimal impact on any bat population that may be present.
- The provision of mitigation in the form of roosting opportunities for bats in a masonry crevice and a bat box will give a small net biodiversity gain over the existing building.

9. References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
Chartered Institute and Ecology and Environmental Management (CIEEM) (2017). Guidelines for Ecological Report Writing 2nd Ed.
Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.
Corbet and Harris (1991). The Handbook of British Mammals. Blackwell.
Durkin J L (2016) Amphibian Atlas of North East England.
English Nature (2004) Bat Mitigation Guidelines. EN
Environment Agency's (2007) Pollution Prevention Guidelines: Works and maintenance in or near water: PPG5 <https://www.sepa.org.uk/media/100531/ppg-5-works-and-maintenance-in-or-near-water.pdf>
Institution of Lighting Professionals/Bat Conservation Trust (2018) Bats and artificial lighting in the UK, Guidance Note 08/18.
Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.

Bat boxes: <https://www.nhbs.com/low-profile-woodstone-bat-box>
Build-in WoodStone Bat Box <https://www.nhbs.com/build-in-woodstone-bat-box>
Barn Owl Box : <http://www.barnowltrust.org.uk/infopage.html?Id=41>
Sparrow Terrace: www.nhbs.com/lsp-schwegler-sparrow-terrace
Swift boxes: <https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>
Bird box : <https://www.nhbs.com/lb-schwegler-nest-box>

APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES

Bats

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Barn Owls

Similarly, the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Hedgehog

The hedgehog is protected under the Wildlife and Countryside Act (Schedule 6) and is a priority species in the UK BAP and Northumberland BAP.

The Act and Regulations make it illegal to:

- Intentionally or deliberately kill, injure or capture (take) using certain methods.
- Hedgehogs are closely linked with urban and in particular garden areas and can be commonly found hibernating beneath garden litter.

Biodiversity

The National Planning Policy Framework (NPPF) 2012 requires Local Planning Authorities (LPA's) to seek to deliver biodiversity enhancement through the planning system, see paragraphs 9, 109 and 118. In particular Paragraph 109 includes a statement:

The planning system should contribute to and enhance the natural and local environment by:

- 'minimising impacts on biodiversity and providing net gains in biodiversity.'

APPENDIX 2. SURVEY DATA

Table 2 Emergence survey results.

Date	Bat Activity
5 June 2021 9.43pm 10.04–10.15pm 10.06pm 10.08pm 10.15pm 10.16pm 10.45pm 11.10pm	Sunset. Noctule bats commuted north to southwest intermittent. Pipistrelle 55kHz bat seen foraging to the west of the site. 2 Pipistrelle 45kHz bats commuted from neighbouring house to the east. No bats inside the building. Pipistrelle 55kHz bat heard foraging to the east of the site. No bats inside the building. Survey concluded.
13 July 2021 3.54am 4.19am-4.35am 4.46am 5.00am	Pipistrelle 45kHz bat heard not seen to the northwest Pipistrelle 55kHz bat foraging north of the site before flying to the west Sunrise Survey concluded