

# **Ecological Impact Assessment**

**THREEPWOOD HILL COTTAGE, NORTHUMBERLAND**

**Summer 2023**

Ruth Hadden, BSc. MCIEEM  
Ryal Soil and Ecology  
Ryal  
Northumberland

Tel: 01661 886562

<b>Document Title:      Threepwood Hill Cottage, Northumberland - Ecological Impact Assessment</b>		
<b>Principal Author</b>	Ruth Hadden	
<b>Client/Agent</b>	Galbraith	
<b>Date and version</b>	April 2023v2	
<b>Author Contact Details</b>	01661 886562	
	<b>Author</b>	<b>Date</b>
Originated	B Hadden	July 2023
Reviewed		
Approved for issue	R Hadden	26 July 2023

**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.

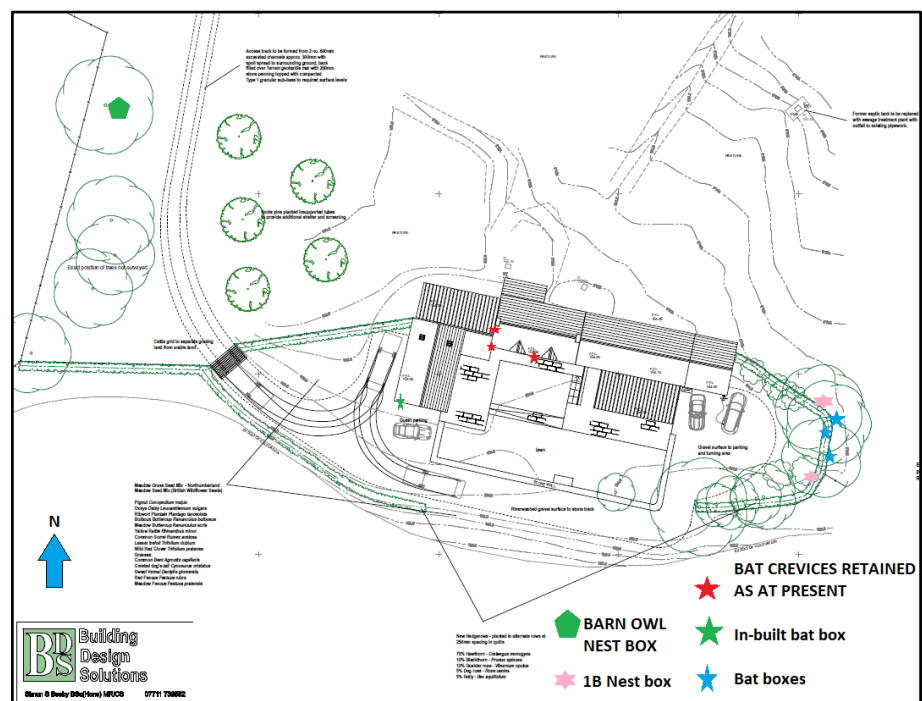
<b>Contents</b>	
<b>Summary</b> .....	<b>4</b>
<b>1. Introduction</b> .....	<b>5</b>
<b>2. Relevant Policies and Legislation</b> .....	<b>6</b>
<b>3. Methodology</b> .....	<b>6</b>
<b>3.1 Scope of the Assessment</b> .....	<b>6</b>
<b>3.2 Desktop Survey</b> .....	<b>7</b>
<b>3.3 Site Survey</b> .....	<b>7</b>
<b>3.4 Assessment</b> .....	<b>8</b>
<b>4. Baseline Ecological Conditions</b> .....	<b>8</b>
<b>4.1 General</b> .....	<b>8</b>
<b>4.2 Designated Sites</b> .....	<b>9</b>
<b>4.3 Habitats</b> .....	<b>9</b>
<b>4.4 Species and Species Groups</b> .....	<b>10</b>
<b>4.4.1 Desktop Search</b> .....	<b>10</b>
<b>4.4.2 Plants</b> .....	<b>10</b>
<b>4.4.4 Amphibians &amp; Reptiles</b> .....	<b>12</b>
<b>4.4.5 Bird Assessment</b> .....	<b>12</b>
<b>4.4.6 Other Mammals</b> .....	<b>13</b>
<b>4.4.7 Invasive Species</b> .....	<b>13</b>
<b>5. Photographs of the Site</b> .....	<b>14</b>
<b>6. Description of Proposed Development</b> .....	<b>17</b>
<b>7. Assessment of Impacts</b> .....	<b>17</b>
<b>7.1 Constraints</b> .....	<b>17</b>
<b>7.2 Site Based Impacts</b> .....	<b>18</b>
<b>7.3 Impacts on the SSSI</b> .....	<b>18</b>
<b>8. Mitigation and Enhancement</b> .....	<b>18</b>
<b>8.1 Pollution Prevention</b> .....	<b>18</b>
<b>8.2 On Site Mitigation</b> .....	<b>18</b>
<b>8.3 Mitigation Summary</b> .....	<b>19</b>
<b>8.4 Enhancement</b> .....	<b>20</b>
<b>8.5 Conclusions</b> .....	<b>20</b>
<b>9. References</b> .....	<b>21</b>
<b>APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES</b> .....	<b>22</b>
<b>APPENDIX 2. SURVEY DATA</b> .....	<b>24</b>
<b>APPENDIX 3. BAT METHOD STATEMENT FOR CONTRACTORS</b> .....	<b>25</b>
<b>Identifying roosts</b> .....	<b>25</b>
<b>APPENDIX 4 SPECIES RECORDS WITHIN 1KM FROM ERIC NORTH EAST</b> .....	<b>30</b>

# Ecological Impact Assessment for Threepwood Hill Cottage, Northumberland

## Summary

- An ecological survey was requested for Threepwood Hill Cottage, near Birtley, Northumberland by Simon Beeby on behalf of the owner.
- The proposals are to renovate and extend one residential unit, associated access and parking areas.
- Threepwood Hill Cottage is situated south of Birtley and is immediately located in farmland that consists of improved grassland to the north and arable land to the south with boundaries of walls and fences. The site is surrounded by woodlands and plantations within 500m. The Dinley Burn is also wooded and runs 450m to the southeast.
- Data search results reveal that there are no statutory designated site and no non-statutory sites within 1km of the site and the site lies within the Impact Risk Zones of the nearby SSSI's. Known bat activity in the area within 1km, consists of maternity and occasional roosts of Pipistrelle 45kHz bats. Maternity roost of Brown long-eared 600m to the southeast and occasional roosts of Pipistrelle 55kHz, Daubenton's and Whiskered/Brandt's, plus foraging Natterer's are also known.
- The building inspected is a two storey, stone-built house with a slate roof. Crevices are present at the gables and dormers of the house and the Outbuilding 1 is very gappy. Due to the moderate roost potential two emergence/dawn surveys were carried out.
- The emergence survey confirmed bat emergence of one Pipistrelle 45kHz, Pipistrelle 55kHz and Daubenton's bat from the south and west aspects. During the dawn survey no bats re-entered.
- As three bat roosts will be temporarily disturbed due to the works proposed, the site requires to be registered under a Low Impact Natural England Licence to proceed. The occasional bat may be present in any suitable crevice on the wall tops at any time of the year in small numbers. Timing of the destructive works to avoid the hibernation period will ensure that the works has as little negative affect on bat conservation status as possible.
- Bat roost mitigation will be put in place with the retention of the bat crevices and provision of bat boxes and one in-build bat box.
- The impacts due to the access being a grass gravel track to the site will be minimal.
- Any nesting bird species will be allowed access to the nest until the young have fledged.

Figure 1. Ecological Mitigation Plan



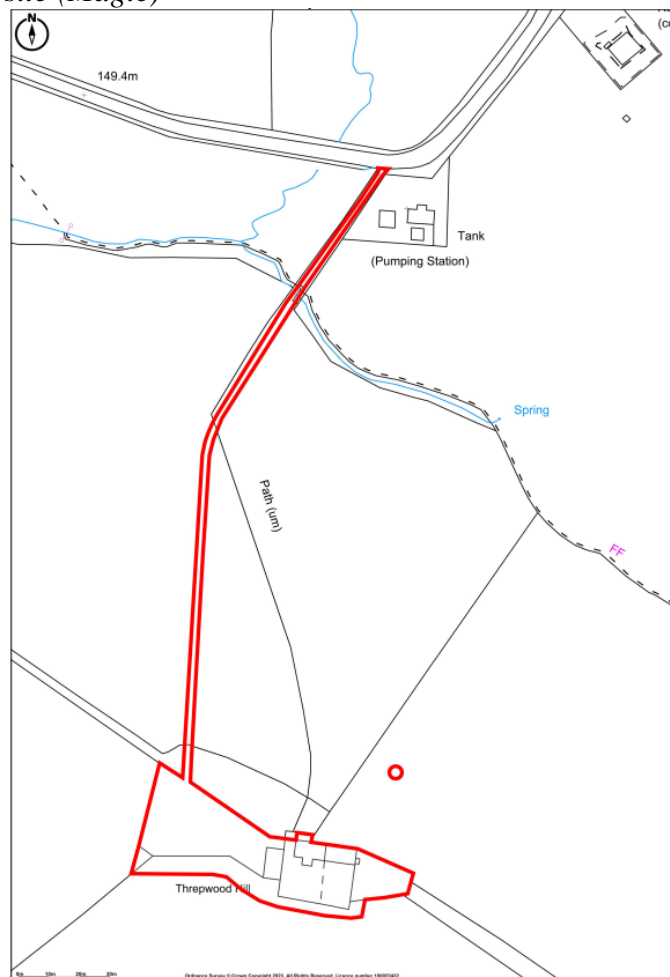
1. Introduction.

The inspection was carried out and reported by Ben Hadden BSc and Ruth Hadden BSc experienced Ecologist.

Figure 2. Survey areas marked in red.



Figure 3. Location of site (Magic)



## **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.

### **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 was for any protected and notable species, as this is the major constraint to any 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 is 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 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 convert 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	15 May 2023	Externally (30 mins) Internally 30min30 min	Fine and dry
Emergence	15 May 2023	9.058.55-10.55pm40pm (Sunset 9.10pm)	Fine, light cloud and slight breeze 11-9°C
Re-entry	29 June 2023	3.002.55-4.45am (sunrise 4:32 am)	Clear, fine, still. 9°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. 19 years of experience. Qualifications MSc Ecological Consultancy, Newcastle upon Tyne.

Francesca Dearden, 2 year’s 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 guidelines<sup>1</sup> 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.

## 4. Baseline Ecological Conditions

### 4.1 General

The land surveyed is located at NY876772 as shown below.

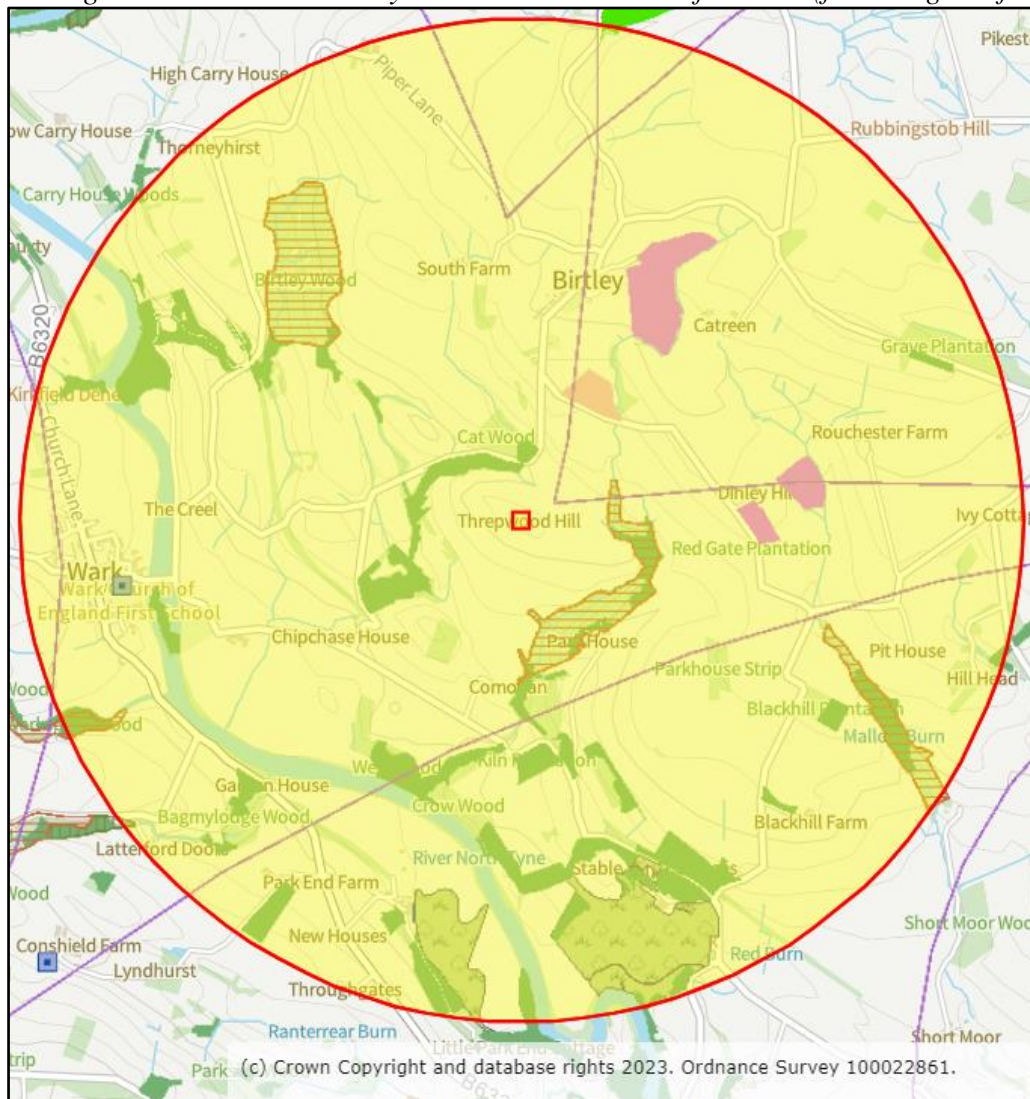
<sup>1</sup> *Guidelines for Ecological Report Writing Second Edition* December 2017



## 4.2 Designated Sites

There are no statutory designated sites within 2km of the site, and no non statutory sites within 1km of the site. The proposed development site falls within the impact risk zones for the SSSI's in the wider area.

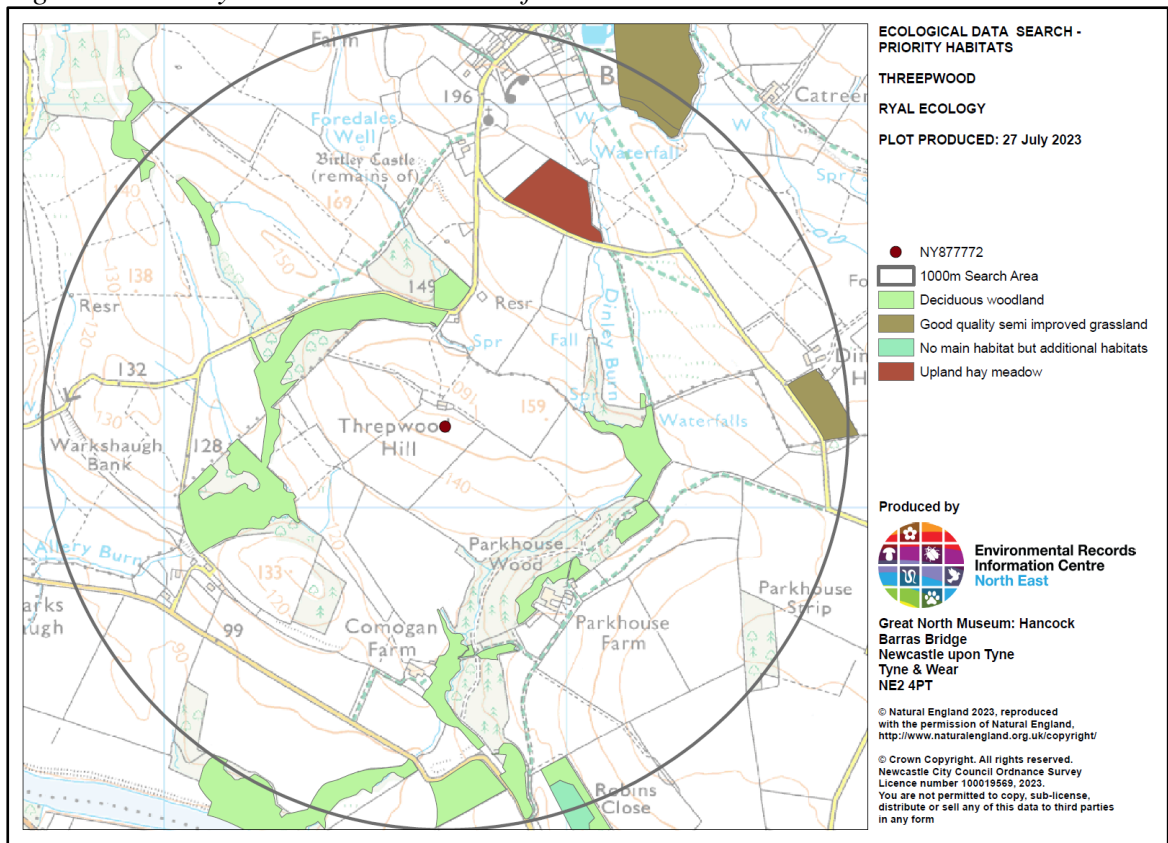
Figure 4. Designated Sites and Priority Habitats within 2km of the site (from [magic.defra.gov.uk](http://magic.defra.gov.uk))



## 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 deciduous woodland, upland hay meadows, good quality semi-improved grassland, wood pasture and parkland and ancient woodland.

Figure 5. Priority Habitats within 1km of the site



## 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 1km of the site for all protected and notable species.

The Magic Site shows no ponds within 500m of the site. There are two granted European Protected Species licences for bats in Wark 1.8km to the southwest, for Natterers (2009) and Daubentons, Pipistrelle 45kHz and 55kHz bats (2018) and none for great crested newts within 2km.

### 4.4.2 Plants.

#### Status of species in the local/regional area.

There are no known protected species on site.

#### Survey

Threepwood Hill Cottage is situated south of Birtley in an exposed location of the top of a hill and is immediately located in farmland that consists of improved grassland to the north and arable land to the south with boundaries of walls and fences. The site is surrounded by woodlands and plantations within 500m. The Dinley Burn is also wooded and runs 450m to the southeast.

The field to the north through which the track will run consisted of poor semi-improved grassland with a restricted number of herbs. Species consisted of abundant False Oatgrass (*Arrhenatherum elatius*), frequent Perennial Rye-grass (*Lolium perenne*), Meadow Foxtail (*Alopercurus pratensis*) and Common Mouse-ear (*Cerastium fontanum*). Occasional

Common Sorrel (*Rumex acetosa*), Creeping Thistle (*Cirsium arvense*), Dock (*Rumex obtusifolia*) and Creeping Buttercup (*Ranunculus repens*). Rarely Ladies Smock (*Cardamine pratensis*), Daisy (*Bellis perennis*), and Dandelion (*Taraxacum officinale*).

Trees to the west of the steading were Beech (*Fagus sylvestris*) and Ash (*Fraxinus excelsior*).

#### 4.4.3 Bats

##### Status of species in the local/regional area.

Known bat activity in the area within 1km, consists of maternity and occasional roosts of Pipistrelle 45kHz. bats (2004/2015), maternity roost of Brown long-eared (2004) 600m to the southeast. Occasional roost of Pipistrelle 55kHz, Daubenton's (2015) and Whiskered/Brandt's (2004) plus foraging Natterer's are also known (2004). (ERIC North East, A full data set is available upon request).

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.

There are two granted European Protected Species licences for bats in Wark 1.7km to the southwest, for Natterers (2009) and Daubentons, Pipistrelle 45kHz and 55kHz bats (2018).

##### Bats – Daytime Risk Assessment

The buildings inspected are a two storey, stone-built house and adjacent outbuildings. Please see Table 1 below for details

**Table 1 Observations**

Building/ Section	Description	Comments
Farmhouse	Two storey stone house with pitched slate roof. No loft space accessible.	Crevices present externally, moderate roost potential. Barn Owl traces upstairs
Outbuilding 1	Single storey, stone built with corrugated underline roof. Sections of roof missing.	Open access through storm damaged roof. No bat traces, low roost potential
Outbuilding 2	Single storey, stone built, roofless structure	No bat traces, low roost potential

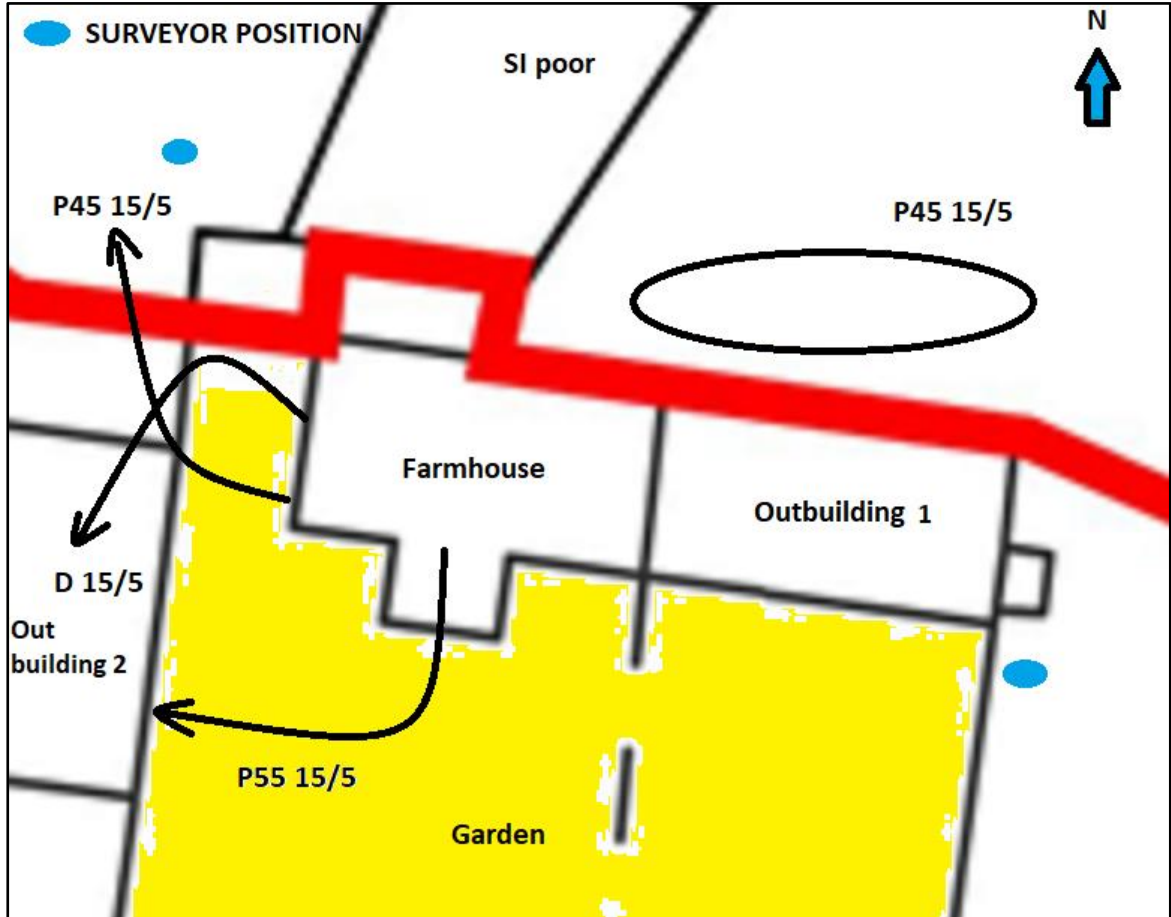
Due to the moderate roost potential of the house two bat activity surveys were carried out.

No potential bat hibernation sites were identified in the building; however, bats may be present if there is a suitable crevice at any time of the year.

### Bats – Activity Surveys

The emergence survey confirmed bat emergence of one Pipistrelle 45kHz, Pipistrelle 55kHz and Daubenton’s bat from the south and west aspects. During the June dawn survey no bats re-entered. Please see Appendix 2 for detail.

Figure 6. Plan of Bat activity



#### 4.4.4 Amphibians & Reptiles

##### Status of species in the local/regional area.

There are records for reptiles within 1km. Common Lizard has been recorded within 1km (2020) (ERIC North East)

There is one record of amphibians for great crested newt within 1km in Birtley to the north (2001) (ERIC North East).

##### Survey

No standing water is present on site. Great Crested Newts are unlikely to be impacted.

#### 4.4.5 Bird Assessment

##### Status of species in the local/regional area.

Notable species in the area consist of Grey Partridge, Black Grouse, Lapwing, Tree Sparrow, Yellow Wagtail and Curlew all UK and Northumberland BAP species (Magic Web Site/ERIC North East). A full list of species can be found in Appendix 3.

##### Survey

During the ecology survey Robin, Song Thrush, Tawny Owl, Blackbird, Great Spotted Woodpecker, Swallows, Chiffchaff, Willow Warbler and Wren were seen or heard.

Evidence of barn owl was seen in the outbuilding and upstairs of the house.

#### **4.4.6 Other Mammals**

##### **Status of species in the local/regional area.**

There is the occasional record for hedgehog, several for Red Squirrel, Badger and Hare, all Northumberland and UK BAP species that have also been recorded in the area.

##### **Survey**

No evidence of protected species was noted on site.

#### **4.4.7 Invasive Species**

##### **Status of species in the local/regional area.**

These are non-native invasive species included in Schedule 9 of the Wildlife & Countryside Act 1981 (as amended), which makes it illegal to release or allow to escape into the wild. Grey Squirrel, Canada Goose *Rhododendron ponticum* and Himalayan Balsam have been recorded, all Schedule 9 species, in the area within 1km.

##### **Survey**

No invasive species were noted on site.



**5. Photographs of the Site**



**The buildings from the north**

**Threepwood from the north looking along proposed route of the access track**



**South aspect of the house**



**Outbuilding 1 from the southwest**



**From the southeast**



**East gable of the Outbuilding 1 with small lean-to**







**Outbuilding 1 from the northwest**

**West gable wall of the house**



**Interior of the upper rooms, note coombed ceiling**

**Damp patches**



**Traces of Barn Owls with lime and pellets present**

**Interior of Outbuilding 1 with a very gappy roof**







**Close-up of the west gable showing crevices**

**Nests present in small lean-to on the east gable**



**Dormer window with crevices below the slates**

**Occasional raised or missing slate**



**Trees to the west**

**Looking north back to the road**





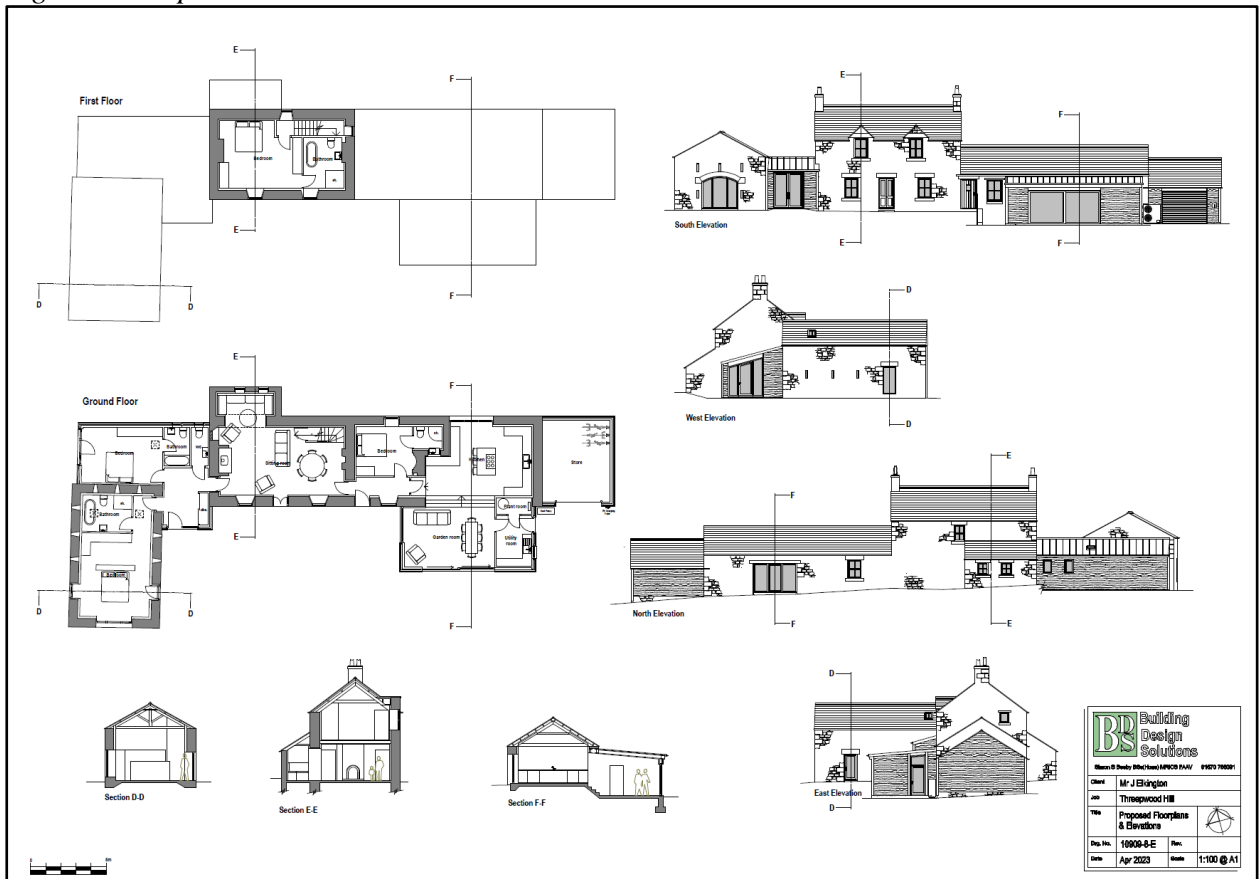


**Outbuilding 2 from the northwest**

**6. Description of Proposed Development.**

The proposals are to provide one residential unit, associated access and parking areas. No trees will be felled.

*Figure 7. Proposed Works*



**7. Assessment of Impacts**

**7.1 Constraints**

No access to the lofts. The survey was within the optimum period, which is April to September inclusive though some plant species present and normally visible at other times of the year may not be recorded. The species mentioned should not therefore be considered as being exhaustive, however it does give an indication of the plant

communities present and it would be unlikely for the habitats to be classified differently if the survey was carried out at a different time of year.

## **7.2 Site Based Impacts.**

The land and house have low value due to the habitat present. The native flora species recorded are common and representative of the widespread habitats in which they occur.

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

Mid-activity impacts would be high and can cause disturbance, injury and death to bats, if no mitigation is carried out in the eventuality of a bat being located during works, however mid-activity impacts on bats could be reduced further if mitigation such as caution for any dismantling work carried out.

### **Site Assessment**

The development site is considered to have low conservation significance for bats and birds and negligible conservation significance for great crested newts.

As some shrubs will be removed in the proposals, the impact will be moderate for any nesting birds during the nesting period.

## **7.3 Impacts on the SSSI.**

The development site does fall within the risk impact zone for the nearby SSSI in the area, assessments of potential impacts on these sites need to be considered, however the development is a relatively small residential scheme and it is unlikely to greatly impact the 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.

### **8.1 Pollution Prevention**

To protect any nearby waterways and drains, 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**

*As a bat roost is present which will be impacted, the site will require to be registered under a Natural England Mitigation Licence (Low Impact) before the works can proceed. This is applied for after any necessary consents are granted and can take up to 2 weeks (10 days). Surveys have to be current in the year of registration.*

Prior to the development commencing three low profile WoodStone bat boxes will be positioned on a tree facing southeast and southwest at a height of 3m with no overhanging branches and will be maintained for five years.

When the roof is re-laid the bat crevices will be re-instated in the existing locations.

One integrated Build-in WoodStone Bat Box to be built into the south gable wall at 500mm below the wall top of the new build. Please see plan at Fig. 8 for locations and Appendix 2 for detail.

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.

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 provision or potential foraging area, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

Any trenches or excavations to be closed overnight or provided with an earth or timber ramp not less than 300mm wide and no steeper than 45 degrees to provide an escape route for ground animals that might otherwise become entrapped.

Any nesting bird species that may be present will be allowed access to the nest between April and October until the young have fledged.

A barn owl box to be provided on a tree to the 50m northwest. Please see Method Statement at Appendix 3 for more detail.

### 8.3 Mitigation Summary

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

- An integrated Build-in WoodStone Bat Box to be built into the south gable wall of the new building. Please see plan at Fig. 8 for locations.
- Existing bat crevices will be retained as at present.
- Final check for breeding barn owls undertaken by an appropriate ecologist.
- Tool box talk and watching brief undertaken by a suitably qualified and licensed ecologist.
- 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.
- One Barn Owl nesting box to be provided and two 1B Schwegler Nest Box with **32mm entrance hole** Location on northeast aspect of tree/shrub at height of 3m to the east of the steading. The 1B boxes can be put behind overhanging branches etc to give some cover.

Figure 8. Mitigation Locations

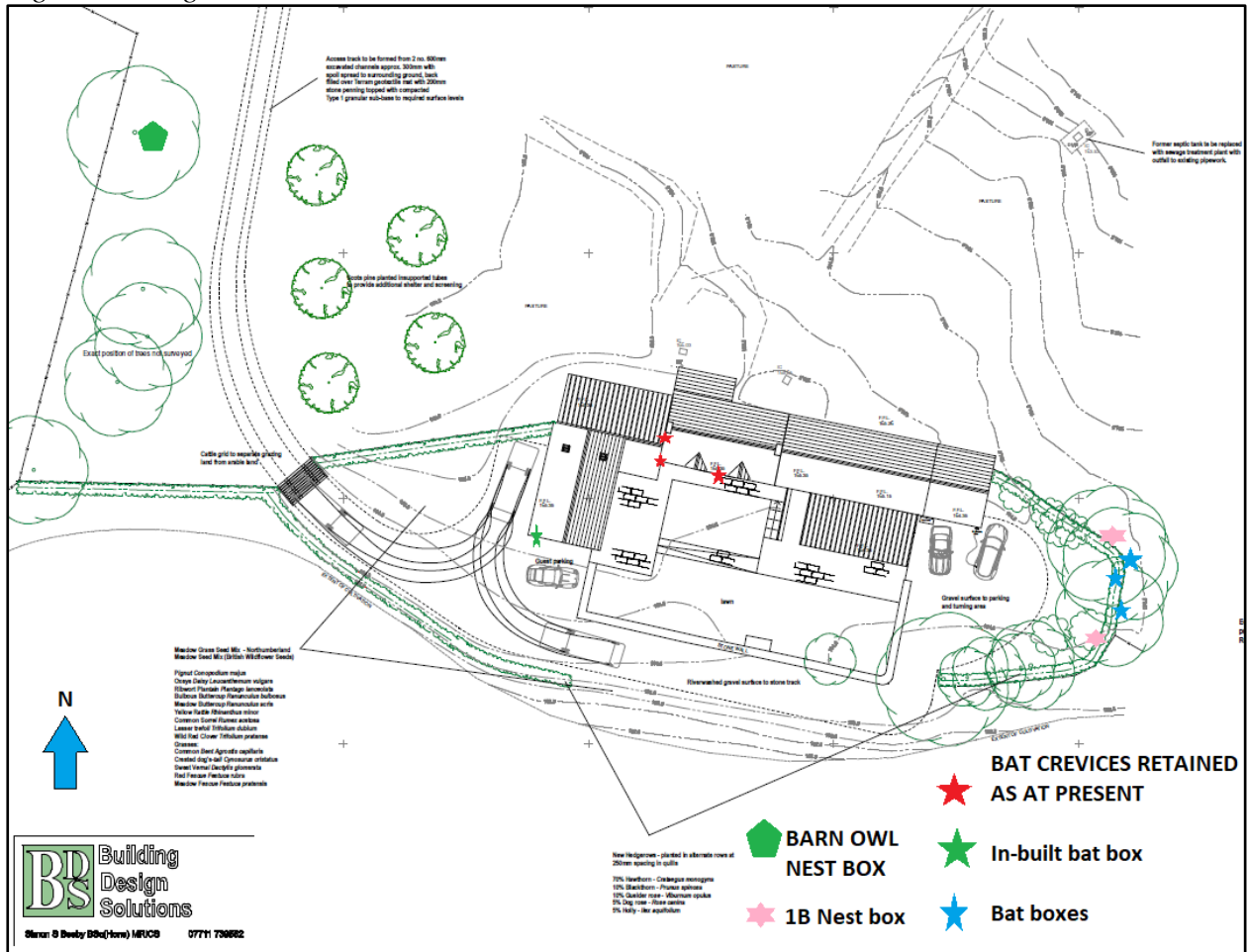


Table 1 Mitigation Summary

Location	Mitigation Type
South gable wall of new build	One integrated Build-in WoodStone Bat Box to be built into the gable wall at 500mm below the wall top away from windows and doors.
Farmhouse – South eaves and west gable	Crevice will be retained as at present
Tree 50m to the west	Barn Owl Nest Box

### 8.4 Enhancement

Any landscaping on the site will use locally native species and pollinator friendly species where possible.

In areas to be planted with shrubs, (such as the proposed site boundaries), native shrubs are recommended for any plantings, these are Elder, Hawthorn, Crab Apple, Dog Rose, Field Maple, Guelder Rose, Honeysuckle and Hazel. A mix of species shown on the proposals will add a net gain to the biodiversity of the site.

Any disturbed soils to be sown with a Northumberland meadow seed mix (see references) either in Spring or early Autumn to prevent unwanted agricultural weeds becoming dominant.

### 8.5 Conclusions

- Without any mitigation the proposed works will result in low negative impact on the vegetation and wildlife present.
- The provision of mitigation in the form of an in-build batbox, retention of the bat crevices and native species planting will give a net biodiversity gain over the existing site.

## 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 2<sup>nd</sup> Ed.
- Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> 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/1sp-schwegler-sparrow-terrace](http://www.nhbs.com/1sp-schwegler-sparrow-terrace)
- Swift boxes:** <https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>
- Bird box :** <https://www.nhbs.com/1b-schwegler-nest-box>
- Meadow seed mix:** <https://britishwildflowermeadowseeds.co.uk/products/northumberland-meadow-seed-mix>

## 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 converted 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.

### Birds

Under the Wildlife and Countryside Act (1981) it is illegal to :-

- Kill, injure or take any wild bird (unless under licence);
- Take, damage or destroy a bird's nest whilst in use or being built;
- Take or destroy the egg of any wild bird;
- Disturb any wild bird listed on Schedule 1 of the Act while it is nest building or at a nest containing eggs or young or disturb the dependant young of such a bird.

Priority species in the UK BAP are also considered to be Species of Principal Importance for the Conservation of Biodiversity in England under Section 74 of the Countryside and Rights of Way Act 2000.

All bird's nests and their contents are protected under the Wildlife and Countryside Act 1981 from damage or destruction while the nests are being built or in use. Specially protected species, i.e. those that must not be disturbed whilst nesting, are very unlikely to occur on the site.

### 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.

## **Great Crested Newts**

Great crested newts are fully protected under UK and European legislation:

Great crested newts are protected under Schedule 5 of the Wildlife and Countryside Act 1981(as amended).

Under this law it is illegal to :-

- wilfully kill, injure, take, possess or cruelly ill-treat a great crested newt, or attempt to do so;
- intentionally or recklessly disturb them at their breeding sites and places of shelter;
- destroy or damage their breeding sites or places of shelter;
- sell barter or exchange any animal.

As an European protected species, listed on Annexes II and IV of the EU Natural Habitats Directive, it is implemented in English law through the Conservation of Habitats and Species Regulations 2017, which makes provisions to protect both the species and its habitat. Under these regulations, it is also an offence to:

- Deliberately disturb a great crested newt;
- Including to impair their ability — to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate;
- Or to affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately capture, injure or kill a great crested newt;
- Deliberately take or destroy great crested newt eggs
- Damage or destroy a breeding site or resting place.

## **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 timber buildings or in leaf 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.**

<b>Date</b>	<b>Bat Activity</b>
15 May 2023	
9.10pm	Sunset.
9.33pm	Pipistrelle 55kHz bat emerged from the south eaves between the two windows.
9.34pm	Pipistrelle 45kHz bat emerged from the southwest corner from beneath the slate on the slates on the west gable
9.38pm	Pipistrelle 55kHz bat heard not seen to the northwest.
9.44pm	Pipistrelle 45kHz bat foraging in the garden to the east
9.55-10.09pm	Intermittent foraging by Pipistrelle 45kHz and Pipistrelle 55kHz bats to the north
10.04pm	Daubenton's bat emerged from the west gable wall top.
10.15-10.28pm	Intermittent foraging by Pipistrelle 45kHz.
10.40pm	Survey concluded.
29 June 2023	
3.36am	Pipistrelle 55kHz bat heard not seen to the south.
4.32am	Sunrise.
4.45am	Survey concluded.



### **APPENDIX 3. BAT METHOD STATEMENT FOR CONTRACTORS**

This statement should be copied to the site owner, architect, clerk of works and to those contractors whose work may affect bat roosts including those involved in conversion, stone treatment, roofing and building works.

Bats are fully protected by law. To avoid breaking the law by damaging or disturbing bat roosts, resulting in possible imprisonment, fines or confiscation of equipment, certain procedures have to be followed.

#### **Legislation**

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.

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.

#### **Identifying roosts**

Pipistrelle the most common bat, favours small crevices and spaces between brickwork, stone and roofing felt. Bats are small mammals and when at rest the bodies are only 4-6 cm long, their fur colour can range from brown to pale and dark grey. When disturbed the bat is likely to be torpid and unable to fly effectively for some minutes, because of this they are vulnerable to injury as they are not fast moving and may fall to the ground, breaking bones or be accidentally crushed. Basically, when material from the roof and tops of the walls is removed any crevices underneath should be checked to ensure that no bat has been disturbed.

Other traces that can indicate a past presence of bats are their droppings. These resemble mouse droppings but unlike mouse droppings can be crumbled to dust between finger and thumb. Droppings may be found on wall tops and beneath slates and tiles on top of any sarking.



**Photo showing disintegrated bat droppings beneath coping stones. If examined carefully, in the black dust exoskeletons of insects can be seen shining.**

### **Timing**

*As a bat roost is present which will be impacted, the site will require to be registered under a Natural England Mitigation Licence (Low Impact) before the works can proceed. This is applied for after any necessary consents are granted and can take up to 2 weeks (10 days). Surveys have to be current in the year of registration.*

Any development work involving the removal of the existing roof materials or brickwork will be carried out avoiding the hibernation period (November to March inclusive). Periods of cold weather (below 5°C including night temperatures) will also be avoided if possible as any bats present will be in hibernation torpor and be extremely vulnerable. If torpid bats are encountered and disturbance is unavoidable the bat will be taken into care and fed until suitable conditions for release at the site is possible.

### **Contractors**

All contractors will be aware that bats may be present in the area and could be present within the loft space and may be found torpid in crevices if any. Table 1 below highlights where bats may be found and the recommendations. Any bats found during operations will have the cavity re-covered for its safety and any work in the vicinity will cease. Ruth Hadden to be informed for advice immediately (01661 886562). As only licensed bat handlers can move bats and the contractors are not permitted to handle bats, the bat will be allowed to disperse of its own accord overnight.

**Table 1 General Methodology for Works**

<b>STRUCTURE</b>	<b>METHOD</b>	<b>INSPECT</b>
Roofs	Remove any ridge tiles, tiles/slates or roof coverings including loose felt by hand, lifting vertically to prevent any bats from being crushed. Removal of any timbers/beams.	Check any crevices underneath the roofing materials including the underside, as it is removed. Check any crevices around the beams as work proceeds.
Wall Eaves	Expose the wall tops. Remove any gutters. Dismantle any walls required, by hand.	Examine for bat droppings and any wall cavities for bats.
Wall - Pointing	Only point crevices where the full depth can be seen otherwise leave as at present.	Check deep crevices for the presence of bats using a torch.
Windows/doors	Remove windows, doors and frames by hand, where gaps exist around the frames.	Examine any wall cavities exposed. Avoid blocking any external pre-existing gaps.

Any nesting bird species will be allowed access to the nest until the young have fledged between April and October.

## Mitigation Summary

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

- The site requires to be registered under a Natural England Low Impact Licence before work can commence.
- **Prior to the development commencing** three low profile WoodStone bat boxes will be positioned on a tree facing southeast and southwest at a height of 3m with no overhanging branches and will be maintained for five years.
- A watching brief by a suitable ecologist and toolbox talk to be carried out when the ridge tiles and tiles are removed in the location of the bat roosts.
- When the roof is re-laid the bat crevices will be re-instated in the existing locations.
- An integrated Build-in WoodStone Bat Boxes to be built into south gable wall of the garage at 500mm below the wall top. Please see plan below for locations.
- An external crevice will be created on the west gable walltop of the annex to provide a roosting site for crevice-loving bats. This will be in the form of an access gap measuring 20mm by at least 150mm created between the watertable and the gable wall top through the mortar fillet into a larger crevice on the wall top below the watertable, resembling a 'flattened bottle' measuring c.100 x c.200 x 20mm. This provides a small space that acts as a suitable bat roost for the occasional bat. Please see plan below for locations.
- Timbers used should be treated only with 'bat friendly' products; permethrin or cypermethrin based as insecticides or chitin inhibitors, your contractors should be able to advise.
- 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 trenches or excavations to be closed overnight or provided with an earth or timber ramp not less than 300mm wide and no steeper than 45 degrees to provide an escape route for ground animals that might otherwise become entrapped.
- To protect any nearby waterways and drains, 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.
- To prevent any disturbance to the trees or hedges on this site the tree protection areas will be cordoned off to prevent machinery access and excavated soils from being dumped in between trees causing damage and disruption to vegetation and the tree roots.
- Any nesting bird species will be allowed access to the nest until the young have fledged.

If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance.

### Barn Owl Mitigation

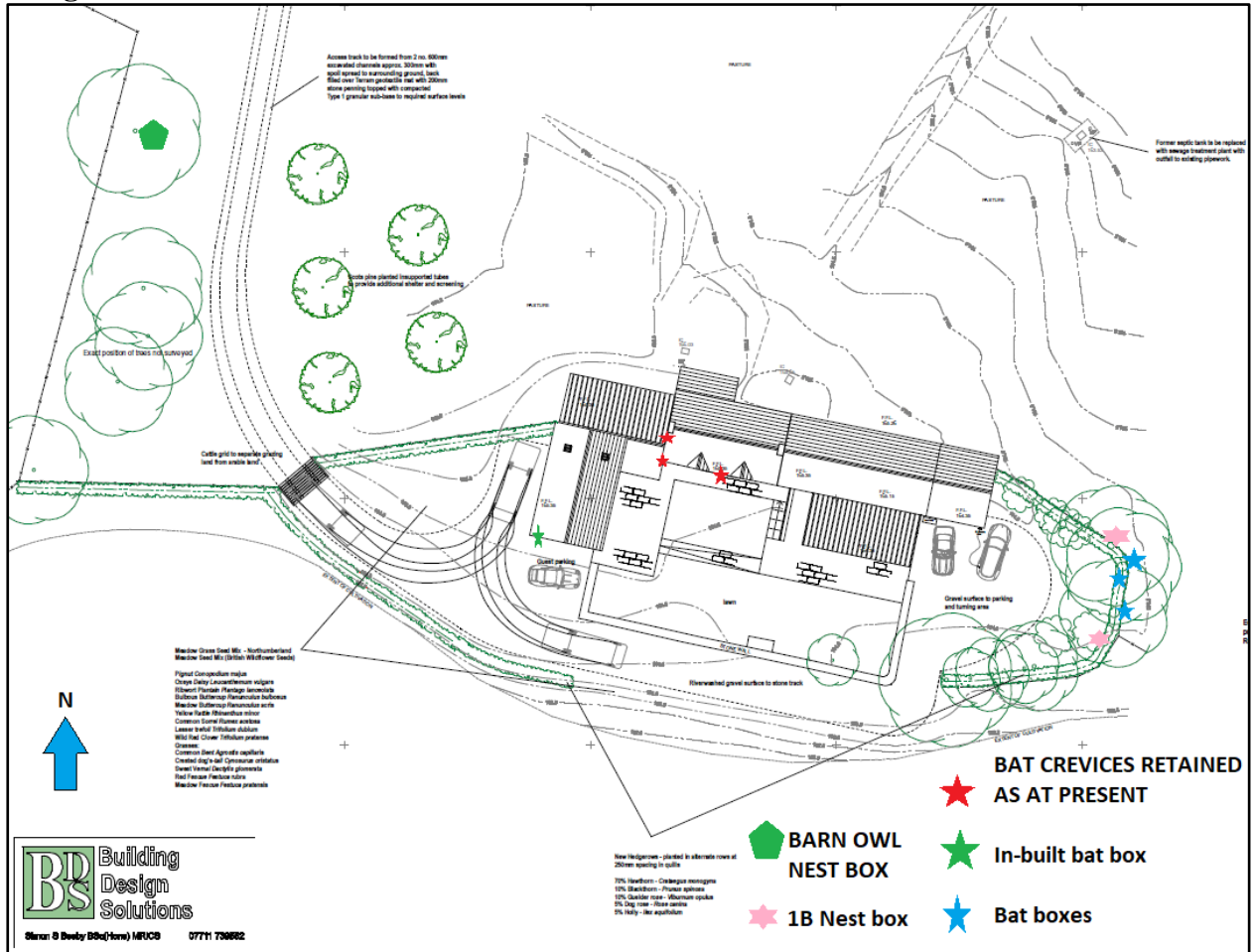
A barn owl nesting box will be erected 3+m high facing northeast on a tree 50m to the northwest of the buildings, at least 30 days before work is to commence and disturbance kept to a minimum. This is to prevent the owls from being overly disturbed and moving on by providing an alternative roosting area. This nesting box will be maintained 5 years after development work has ceased.

Other precautions are as follows

- Before any building work starts a final search of the building involved will be undertaken to ensure that no breeding is taking place, by a suitably qualified ecologist. Barn owls can be tolerant of noise etc when they move in.

- Position static noisy machinery away from the buildings occupied by owls.
- Contractors will not disturb the barn owl box or any known nesting site.
- No steep-sided container or water will be left uncovered on site – to avoid the risk of owls drowning.
- The landscape around the buildings will be maintained and made good after development to provide rough grassland around the periphery of the site as hunting areas for the owls.

### Mitigation Locations



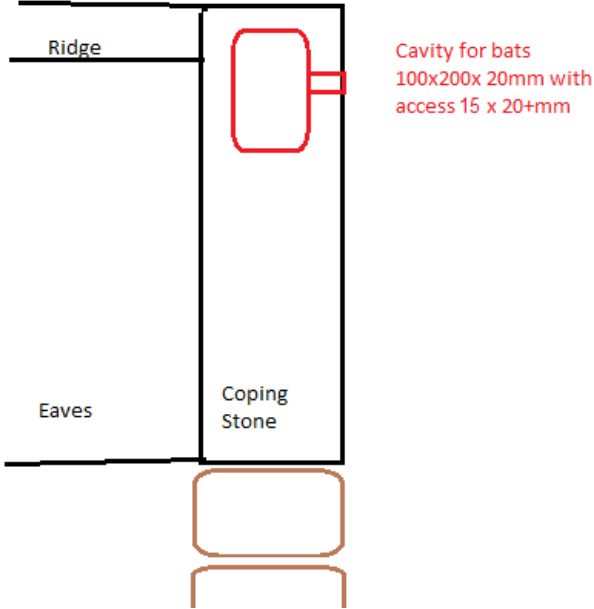
### Low Profile Bat Box



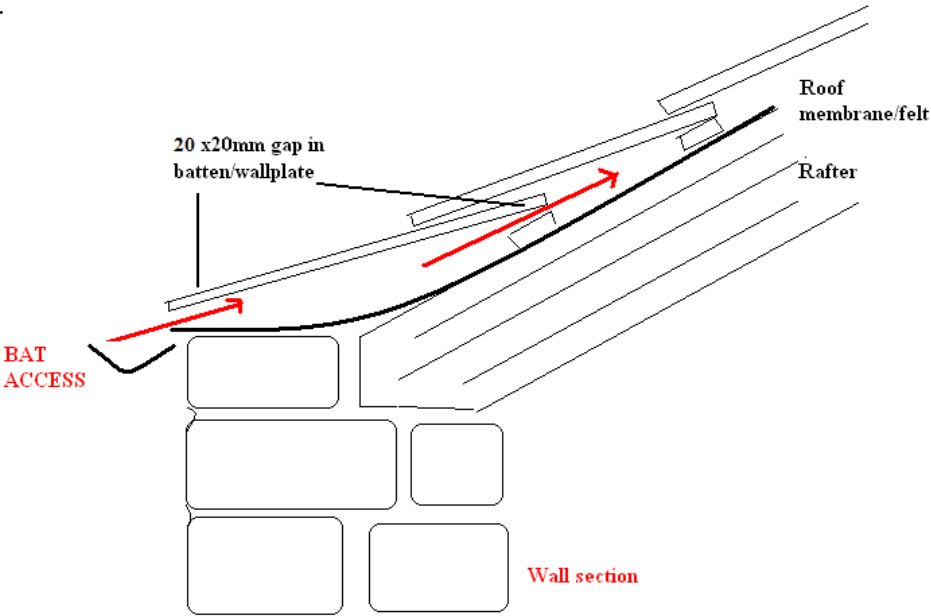
### Build-in WoodStone Bat Box



### Gable wall crevice



### Eaves Crevice



**APPENDIX 4 SPECIES RECORDS WITHIN 1KM FROM ERIC NORTH EAST**

<b>Taxon group</b>	<b>Latin Name</b>	<b>Common Name</b>
amphibian	<i>Triturus cristatus</i>	Great Crested Newt
bird	<i>Accipiter gentilis</i>	Goshawk
bird	<i>Alauda arvensis</i>	Skylark
bird	<i>Anas platyrhynchos</i>	Mallard
bird	<i>Branta canadensis</i>	Canada Goose
bird	<i>Chroicocephalus ridibundus</i>	Black-headed Gull
bird	<i>Cinclus cinclus</i>	Dipper
bird	<i>Corvus corone</i>	Carrion Crow
bird	<i>Corvus monedula</i>	Jackdaw
bird	<i>Delichon urbicum</i>	House Martin
bird	<i>Falco tinnunculus</i>	Kestrel
bird	<i>Gallinula chloropus</i>	Moorhen
bird	<i>Hirundo rustica</i>	Swallow
bird	<i>Luscinia megarhynchos</i>	Nightingale
bird	<i>Mergus merganser</i>	Goosander
bird	<i>Motacilla alba</i>	Pied Wagtail
bird	<i>Oenanthe oenanthe</i>	Wheatear
bird	<i>Perdix perdix</i>	Grey Partridge
bird	<i>Saxicola rubicola</i>	Stonechat
bird	<i>Turdus merula</i>	Blackbird
bird	<i>Vanellus vanellus</i>	Lapwing
clubmoss	<i>Lycopodium clavatum</i>	Stag's-horn Clubmoss
crustacean	<i>Austropotamobius pallipes</i>	White-clawed Crayfish
fern	<i>Gymnocarpium dryopteris</i>	Oak Fern
fish, bony (Actinopterygii)	<i>Anguilla anguilla</i>	European Eel
fish, jawless (Agnatha)	<i>Lampetra planeri</i>	Brook Lamprey
flowering plant	<i>Blysmus compressus</i>	Flat-sedge
flowering plant	<i>Briza media</i>	Quaking-grass
flowering plant	<i>Campanula rotundifolia</i>	Harebell
flowering plant	<i>Carex pulcaris</i>	Flea Sedge
flowering plant	<i>Centaurea scabiosa</i>	Greater Knapweed
flowering plant	<i>Cirsium heterophyllum</i>	Melancholy Thistle
flowering plant	<i>Crepis mollis</i>	Northern Hawk's-beard
flowering plant	<i>Cruciata laevipes</i>	Crosswort
flowering plant	<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
flowering plant	<i>Dactylorhiza maculata</i> subsp. <i>ericetorum</i>	<i>Dactylorhiza maculata</i> subsp. <i>ericetorum</i>
flowering plant	<i>Dactylorhiza purpurella</i>	Northern Marsh-orchid
flowering plant	<i>Drosera rotundifolia</i>	Round-leaved Sundew
flowering plant	<i>Euphrasia arctica</i> subsp. <i>borealis</i>	<i>Euphrasia arctica</i> subsp. <i>borealis</i>
flowering plant	<i>Geranium sylvaticum</i>	Wood Crane's-bill
flowering plant	<i>Gymnadenia conopsea</i>	Common Fragrant-orchid
flowering plant	<i>Hyacinthoides non-scripta</i>	Bluebell
flowering plant	<i>Hydrocotyle vulgaris</i>	Marsh Pennywort

flowering plant	<i>Impatiens glandulifera</i>	Himalayan Balsam
flowering plant	<i>Knautia arvensis</i>	Field Scabious
flowering plant	<i>Meconopsis cambrica</i>	Welsh Poppy
flowering plant	<i>Melampyrum pratense</i>	Common Cow-wheat
flowering plant	<i>Menyanthes trifoliata</i>	Bogbean
flowering plant	<i>Nardus stricta</i>	Mat-grass
flowering plant	<i>Orchis mascula</i>	Early-purple Orchid
flowering plant	<i>Oxalis acetosella</i>	Wood-sorrel
flowering plant	<i>Pedicularis palustris</i>	Marsh Lousewort
flowering plant	<i>Pinguicula vulgaris</i>	Common Butterwort
flowering plant	<i>Plantago media</i>	Hoary Plantain
flowering plant	<i>Platanthera bifolia</i>	Lesser Butterfly-orchid
flowering plant	<i>Potentilla erecta</i>	Tormentil
flowering plant	<i>Potentilla palustris</i>	Marsh Cinquefoil
flowering plant	<i>Rhododendron ponticum</i>	Rhododendron ponticum
flowering plant	<i>Ribes alpinum</i>	Mountain Currant
flowering plant	<i>Salix repens</i>	Creeping Willow
flowering plant	<i>Sanguisorba minor</i> subsp. <i>minor</i>	Salad Burnet
flowering plant	<i>Sanicula europaea</i>	Sanicle
flowering plant	<i>Senecio aquaticus</i>	Marsh Ragwort
flowering plant	<i>Silaum silaus</i>	Pepper-saxifrage
flowering plant	<i>Silene flos-cuculi</i>	Ragged-Robin
flowering plant	<i>Solidago virgaurea</i>	Goldenrod
flowering plant	<i>Succisa pratensis</i>	Devil's-bit Scabious
flowering plant	<i>Tilia cordata</i> x <i>platyphyllos</i> (T. x <i>vulgaris</i> )	Lime
flowering plant	<i>Triglochin palustre</i>	Marsh Arrowgrass
flowering plant	<i>Valeriana dioica</i>	Marsh Valerian
flowering plant	<i>Valeriana officinalis</i>	Common Valerian
fungus	<i>Hygrocybe virginea</i> var. <i>virginea</i>	Snowy Waxcap
insect - beetle (Coleoptera)	<i>Lampyris noctiluca</i>	Glow-worm
insect - butterfly	<i>Coenonympha pamphilus</i>	Small Heath
insect - butterfly	<i>Coenonympha tullia</i>	Large Heath
insect - moth	<i>Chiasmia clathrata</i>	Latticed Heath
lichen	<i>Anaptychia ciliaris</i> subsp. <i>ciliaris</i>	Eagle's Claws
lichen	<i>Cladonia arbuscula</i> subsp. <i>squarrosa</i>	<i>Cladonia arbuscula</i> subsp. <i>squarrosa</i>
lichen	<i>Cladonia coccifera</i> s. lat.	Scarlet-Cup Lichen
lichen	<i>Cladonia portentosa</i>	<i>Cladonia portentosa</i>
lichen	<i>Collema dichotomum</i>	River Jelly-Lichen
lichen	<i>Lecania cyrtella</i>	<i>Lecania cyrtella</i>
lichen	<i>Lobaria amplissima</i>	<i>Lobaria amplissima</i>
lichen	<i>Lobaria pulmonaria</i>	Lungwort Lichen
lichen	<i>Ramalina fraxinea</i>	<i>Ramalina fraxinea</i>
mollusc	<i>Margaritifera</i> ( <i>Margaritifera</i> ) <i>margaritifera</i>	Freshwater Pearl Mussel
moss	<i>Hedwigia ciliata</i>	Fringed Hoar-moss

moss	<i>Leucobryum glaucum</i>	Large White-moss
moss	<i>Sphagnum capillifolium</i> subsp. <i>rubellum</i>	Red Bog-moss
moss	<i>Sphagnum compactum</i>	Compact Bog-moss
moss	<i>Sphagnum cuspidatum</i>	Feathery Bog-moss
moss	<i>Sphagnum denticulatum</i>	Cow-horn Bog-moss
moss	<i>Sphagnum girgensohnii</i>	Girgensohn's Bog-moss
moss	<i>Sphagnum magellanicum</i>	Magellanic Bog-moss
moss	<i>Sphagnum papillosum</i>	Papillose Bog-moss
moss	<i>Sphagnum recurvum</i>	<i>Sphagnum recurvum</i>
moss	<i>Sphagnum subnitens</i> var. <i>subnitens</i>	<i>Sphagnum subnitens</i> var. <i>subnitens</i>
moss	<i>Sphagnum subsecundum</i>	<i>Sphagnum subsecundum</i>
moss	<i>Sphagnum tenellum</i>	Soft Bog-moss
reptile	<i>Zootoca vivipara</i>	Common Lizard
terrestrial mammal	<i>Erinaceus europaeus</i>	West European Hedgehog
terrestrial mammal	<i>Lepus europaeus</i>	Brown Hare
terrestrial mammal	<i>Meles meles</i>	Eurasian Badger
terrestrial mammal	<i>Myotis</i>	<i>Myotis</i> Bat species
terrestrial mammal	<i>Myotis daubentonii</i>	Daubenton's Bat
terrestrial mammal	<i>Myotis mystacinus/brandtii</i>	Whiskered/Brandt's Bat
terrestrial mammal	<i>Myotis nattereri</i>	Natterer's Bat
terrestrial mammal	<i>Oryctolagus cuniculus</i>	European Rabbit
terrestrial mammal	<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
terrestrial mammal	<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
terrestrial mammal	<i>Plecotus auritus</i>	Brown Long-eared Bat
terrestrial mammal	<i>Sciurus carolinensis</i>	Eastern Grey Squirrel
terrestrial mammal	<i>Sciurus vulgaris</i>	Eurasian Red Squirrel
terrestrial mammal	Vespertilionidae	Bats