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Meadowcroft, Raw
Bat and Bird Survey Report
5th February 2021



Prepared by:

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Document ref: MBE/BAT/2020/108/3				
Purpose and Description	Originated	Checked	Reviewed	Date
For Planning	R Bell MCIEEM	P Middleton MCIEEM	R Bell MCIEEM	05.02.21

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1. Summary

- 1.1.1 A bat and bird survey of Meadowcroft was commissioned by the client David Boulton on 9th August 2020.
- 1.1.2 The survey was undertaken to support a planning application to demolish the existing dwelling, garage and outbuildings and to construct a replacement dwelling and garage.
- 1.1.3 The bat survey works carried out comprise a preliminary roost assessment undertaken by Robert Bell on 15th December 2020.
- 1.1.4 No historic bat records were received for the site from North Yorkshire Bat Group.
- 1.1.5 The visual inspection recorded a single whiskered bat day roost beneath the ridgeline of the dwelling (B1). This building was considered to display a low-moderate level of bat roost potential, with this potential almost exclusively limited to space beneath the ridge tiles. Other site buildings and site trees are considered to offer negligible bat roost potential. No evidence of bird nesting was recorded from any site building, although trees and shrubs have potential for this use.
- 1.1.6 Demolition will result in the destruction of the roost location. Consequently, the site will either need to either be registered on the Bat Mitigation Class Licence (BMCL), or a European Protected Species (EPS) mitigation licence will need to be obtained. Neither process is possible until planning permission has been obtained and both licensing options will need to be informed by a bat mitigation plan.
- 1.1.7 The worst-case scenario in relation to roosting bats is considered to comprise the presence of a maternity roost of crevice dwellings bats. It would however be possible to mitigate for this scenario through provision of large crevice roosting features within the exterior of the new dwelling. Droppings collected from the roost have been confirmed as originating from whiskered bat on the basis of DNA analysis.
- 1.1.8 In order to characterise bat roost/s present to inform bat mitigation licensing, it is typically necessary to undertake at least two nocturnal bat surveys during the bat activity period (peak season: mid-May to August).
- 1.1.9 In this instance, given the limited range of bat roost features present and existing understanding of the roost, it may however be possible to obtain an EPS licence without nocturnal survey, if Natural England were to accept that Licensing Policy 4 could be applied. Licensing Policy 4 allows for reduced survey data requirements where the impacts of the development can be confidently predicted. An application of this type would rely on the DNA testing of collected droppings and the assumption that a maternity roost of this species is present on site.
- 1.1.10 It is advised that any tree and shrub removal works should commence outside the main bird nesting period (March to September inclusive). If such works are to take place during this period, then they should be preceded by a nesting bird check to be undertaken by an ecologist.

2. Introduction

- 2.1.1 A bat and bird survey of Meadowcroft was commissioned by the client David Boulton on 9th August 2020.
- 2.1.2 The survey was undertaken to support a planning application to demolish the existing dwelling, garage and outbuildings and to construct a replacement dwelling and garage.
- 2.1.3 The bat survey works carried out comprise a preliminary roost assessment undertaken on 15th December 2020.
- 2.1.4 Meadowcroft is located off Dark Lane in the hamlet of Raw near Robin Hood's Bay. The eastern edge of the North York Moors moorland is located c.760m west of the site with the village of Fylingthorpe approximately 250m southeast of the site.

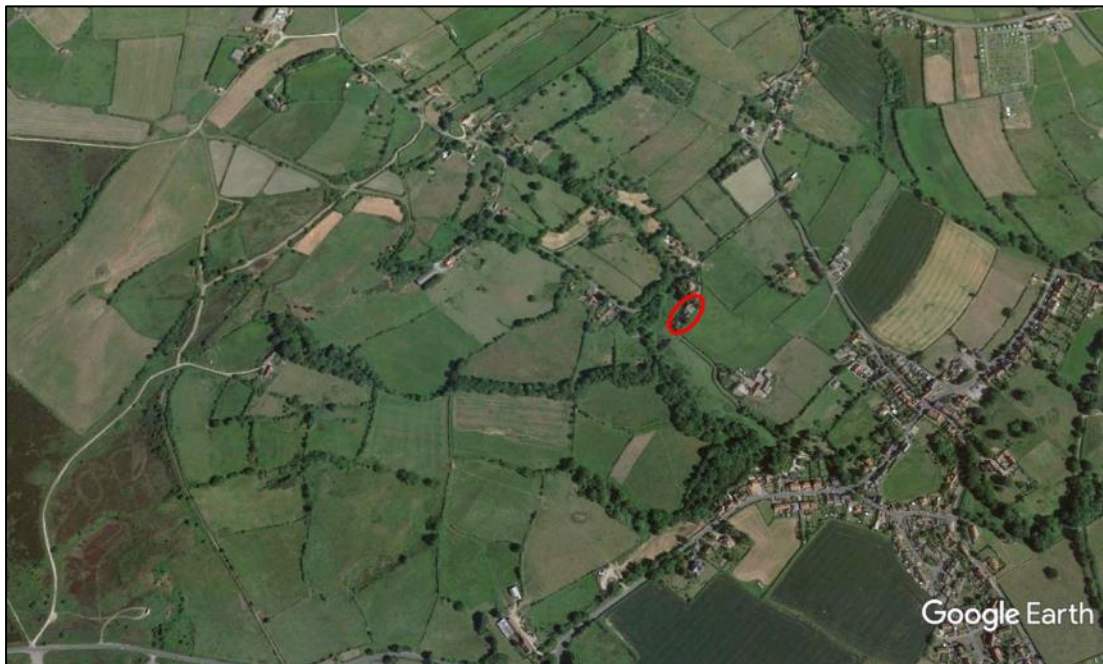
3. Habitat Assessment

- 3.1.1 Meadowcroft is located in a rural location experiencing little light pollution, adjacent to a hedge-lined lane, with another dwelling (Croft Cottage) immediately to the north. To the east and beyond Dark Lane to the south and west are areas of pasture.
- 3.1.2 The garden of Meadowcroft is mature and includes a number of fruit trees, ornamental planting, a small lawn and ornamental boundary hedges.
- 3.1.3 The site is located 50m east of Raw Beck, a minor stream which is bordered by a linear broadleaf woodland which extends along much of a network of tributary streams. Beyond the tree lined streams and low-density residential housing the local area is dominated by mixed farmland with pasture predominating.
- 3.1.4 The local area is likely to support a relatively high density of bats comprising a varied range of species.

Table 1. Location and habitat table

Name and address: Meadowcroft, Dark Lane, Raw, YO22 4PN			
OS Grid Ref. NZ 93931 05183		Altitude. 92m	
Local Planning Authority: North York Moors National Park Authority			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
Buildings	✓	✓	Located adjacent to another dwelling (Croft Cottage)
River			Raw Beck located 50m west of site. No local rivers
Standing water			Pond located 81m west of site
Bridges tunnels and culverts			
Trees	✓	✓	Scattered trees located on site
Woodland		✓	Woodland borders Raw Beck 50m west of site
Grassland	✓	✓	Lawns on site, with pasture adjacent

Figure 1. Site location, as indicated by red circle



3.2 Aims

3.2.1 The survey was conducted to help determine the following:

- The presence/absence of roosting bats.
- Bat roosting areas and access/egress points into the structures.
- The presence/absence of nesting by birds.
- The level of bat roost potential associated with the structures.
- The number and species of bat roosting within the structures.
- Identify further survey work or mitigation requirements.

4. Methodology

4.1 Data Consultation

4.1.1 Bat records for locations within 2km of the site were requested from North Yorkshire Bat Group (NYBG).

4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was also undertaken to identify historic European Protected Species (EPS) licences obtained for locations within 2km of the site.

4.2 Field Survey

Preliminary Roost Assessment

4.2.1 The following personnel conducted the preliminary roost assessment on 15th December 2020:

- Robert Bell (MCIEEM; Bat Survey Class License WML-A34-Level 4, 2016-25236-CLS-CLS)

4.2.2 The following activities were carried out during the surveys in compliance with relevant Bat Survey Guidelines (Collins 2016):

- A brief inspection and assessment of the site and habitats present to within 300m.
- An extensive examination of all parts of the buildings both inside and out to record structural features and condition and to record features that may be suitable for roosting bats. Particular attention was paid to any crevices or gaps in walls, lintels, gaps between beams and joists and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below beams, among a number of other factors. All signs indicative of a bat roost presence including live or dead bats, droppings, feeding remains, scratch marks and staining were recorded.
- An assessment of the buildings' bat roost potential (negligible, low, moderate, high or confirmed roost).

4.2.3 The following equipment was used or at hand during the survey:

- Clulight
- Binoculars
- Endoscope
- Ladders
- Camera

4.3 Survey Limitations

4.3.1 No limitations to an effective preliminary roost assessment survey were encountered.

5. Results

5.1 Data Consultation

5.1.1 A total of 21 records were received from NYBG. Species positively identified within these records comprise common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, whiskered bat *Myotis mystacinus* and brown long-eared bat *Plecotus auritus*. The closest record to site comprised a pipistrelle roost, recorded in 2004, from a school 470m east of the site.

5.1.2 Two European Protected Species (EPS) mitigation licences have been issued any locations within 2km of the site.

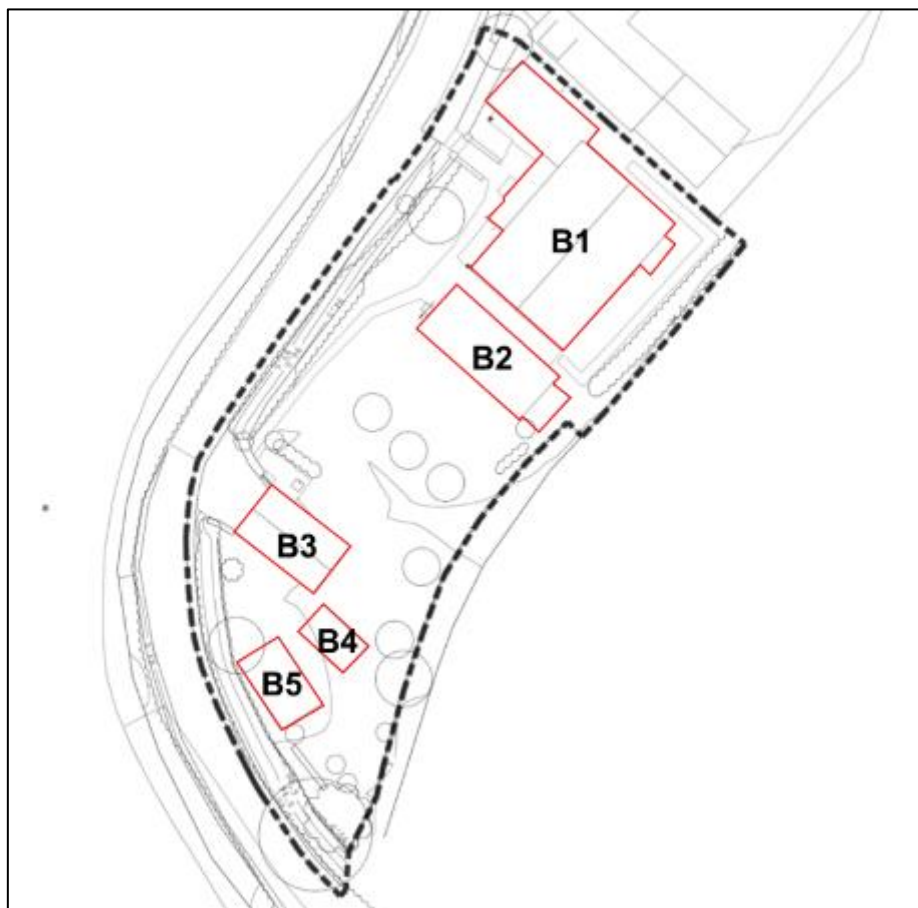
5.1.3 In 2015 a licence was issued to permit destruction of resting places of brown long-eared bat and common pipistrelle in a location c.570m northwest of the site. In 2011 a licence was issued to permit destruction of a soprano pipistrelle breeding site located c.850m south of site.

5.2 Field Survey

Preliminary Roost Assessment

- 5.2.1 For the purpose of aiding description, site buildings have been numbered, with building numbers shown on Figure 2.
- 5.2.2 A small accumulation of whiskered bat droppings was recorded beneath a ridge tile on B1. No other signs of roosting bat presence were recorded from the site. A DNA test of the droppings undertaken by Warwick University confirmed they originated from whiskered bat (Appendix 2).
- 5.2.3 The dwelling (B1) was considered to offer a low-moderate level of bat roost potential whilst all outbuildings (B2-B5) were considered to offer no more than a negligible level of bat roost potential. No features offering greater than negligible roost potential were recorded from site trees.
- 5.2.4 No signs of bird nesting were recorded from the surveyed buildings although trees and boundary hedgerows have potential for this use.

Figure 2. Building numbering plan



Building 1

- 5.2.5 Building 1 comprises a c.1920s single-storey and timber-clad dwelling with extra living space built within the pitched roof (Plates 1, 2 & 3). A single-storey kitchen extension with a sloping corrugated asbestos cement sheet roof is present at the northern end of the dwelling, whilst additional small-single storey extensions with flat felt covered roofs are also present on the northwest and southeast elevations. The roof is covered with fibre tiles and a brick chimney extends from the northeast gable, with metal capping over the gable verges. Windows are predominantly uPVC framed double-glazed units with some single paned wood framed windows also present.
- 5.2.6 Externally the building is in quite a good state of repair with no more than superficial crevices between timber cladding panels (Plate 2), with the exception of a missing section of timber cladding low down on the wall of the southeast elevation, which was easily and fully inspected. Potential bat roosting locations on the exterior of the dwelling are limited to a low number of potential access points, approximately 15mm deep below ridge tiles and occasional easily inspected crevices below the metal verge capping.
- 5.2.7 A ladder was used to access the ridge line and a direct inspection recorded the presence of a low number (c.50) of whiskered bat droppings below a central ridge tile (Plate 1). A sample of these droppings was taken for DNA analysis (Appendix 2), which confirmed they originated from whiskered bat. On the basis of the survey observations, it appears that a low number of whiskered bats are likely to day roost below ridge tiles, most likely using various locations beneath the ridge line. Other roosting opportunities on B1 offer no more than negligible bat roost potential.
- 5.2.8 The roof space of B1 mainly comprises living space (Plate 4), with a small 0.5m high roof-void above this (Plate 5) and a 1m high eaves space at either side of the bedrooms. The roof is underlined with wood sarking suspended on rafters and a ridge beam. No insulation is present in the roof void. The southeast eave-space is insulated with 100mm of glass fibre insulation whilst the northwest eave-space is uninsulated. Occasional scattered mouse (*Mus musculus*) droppings were recorded from the southeast eave space.
- 5.2.9 Building 1 was considered to offer a low-moderate level of bat roost potential with this potential almost exclusively limited to space beneath the ridge tiles.

Plate 1. Southeast elevation of B1 (main dwelling), with B2 (brick outbuilding) on left. The identified bat roost location is circled in red



Plate 2. Tightly fitting cladding on southeast gable



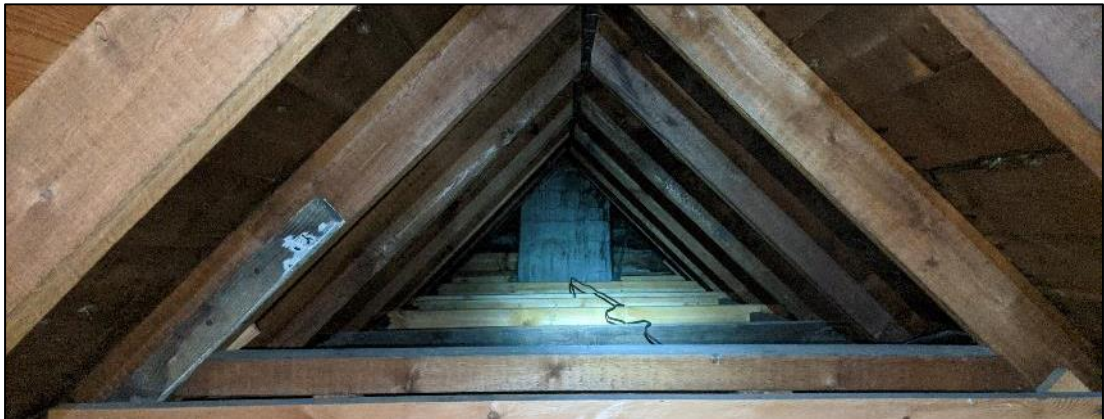
Plate 3. Western corner of B1



Plate 4. Room within roof of B1



Plate 5. Small void (0.5m high) present in B1



Building 2

- 5.2.10 Building 2 comprises a single-storey brick outbuilding with a sloping corrugated asbestos cement sheet roof. This building has single paned wood framed windows in its southwest elevation with metal ventilation panels above.
- 5.2.11 No features offering greater than negligible bat roost potential were recorded from the exterior of this building.
- 5.2.12 Internally the roof of B2 is open to the underside of the corrugated panels and it is suspended on simple wood beams. The walls are whitewashed. No signs of bat presence were recorded from B2 and the building was considered to offer negligible bat roost potential.

Plate 6. Southwest elevation of B2



Plate 7. Interior of B2



Building 3

- 5.2.13 Building 3 comprises a single-skin wood framed and clad garage with a pitched corrugated galvanised steel sheet covered roof and ridge. Single-paned wood-framed windows are present.
- 5.2.14 No potential bat roosting features were recorded from the exterior of this building.
- 5.2.15 Internally B3 is open to the underside of the roof sheeting and wall cladding. No evidence of bats was recorded from this building and the building was considered to offer negligible bat roost potential.

Plate 8. East corner of B3



Plate 9. Interior of B3



Building 4

5.2.16 Building 4 comprises a metal framed and glazed greenhouse which is unsuitable for use by roosting bats.

Plate 10. Building 4 (greenhouse)



Building 5

5.2.17 Building 5 comprises a single storey and single skin timber framed shed with the walls and the mono pitched roof clad in corrugated galvanised steel sheets. Single-paned wood-framed windows are present (Plate 11).

5.2.18 Internally the roof and walls are unlined, and no evidence of bats was recorded. This building was considered to offer negligible bat roost potential.

Plate 11. Northwest elevation of B5



Plate 12. Interior of B5



6. Assessment

6.1 Summary and Evaluation of Findings

- 6.1.1 The visual inspection recorded a whiskered bat roost beneath the ridgeline of the dwelling (B1). This roost is expected to comprise a day roost. The North Yorkshire Moors Bat Species Action Plan records that whilst whiskered bat are regularly encountered in flight in this area, relatively few of their roosts are known (NYMNP, 2013). This building was considered to display a low-moderate level of bat roost potential, with this potential almost exclusively limited to space beneath the ridge tiles.
- 6.1.2 The dwelling is considered to lack potential for use by hibernating bats and it is considered unlikely to be used by maternity roosting bats on the basis of the relatively low number of droppings observed from the roost location. Other site buildings and site trees are considered to offer negligible bat roost potential. No evidence of bird nesting was recorded from any site building, although trees and shrubs have potential for this use.
- 6.1.3 Given the proposed demolition will result in the destruction of at least one bat roost location, it will be necessary to obtain a bat mitigation licence prior to commencement of works.

6.2 Legislation and Policy Guidance

Bats

- 6.2.1 Bats receive protection under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- 6.2.2 It is an offence to:
- Deliberately capture (or take), injure or kill a bat.
 - Intentionally or recklessly disturb bats whilst they are occupying a structure or place used for shelter or protection or obstruct access to any such place.
 - Damage or destroy the breeding or resting place (roost) of a bat.
 - Possess a bat (live or dead), or any part of a bat.
 - Intentionally or recklessly obstruct access to a bat roost.
 - Sell (or offer for sale) or exchange bats (dead or alive), or parts of parts.
- 6.2.3 The Convention on Biological Diversity, signed in Rio de Janeiro, Brazil in 1992, requires member states to develop national strategies and to undertake a range of actions aimed at maintaining or restoring biodiversity. The UK Biodiversity Strategy was produced in response to the Convention.
- 6.2.4 In England & Wales, the Natural Environment and Rural Communities (NERC) Act, 2006 imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, “to have due regard, as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. It notes that “conserving biodiversity includes restoring or enhancing a population or habitat”. Barbastelle *Barbastella barbastellus*, Bechstein’s *Myotis bechsteinii*, brown long-eared, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, noctule *Nyctalus noctula* and soprano pipistrelle

Pipistrellus pygmaeus bats are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. At a more local level there are Local Biodiversity Action Plans for smaller geographical areas which may cover a greater or lesser range of bat species.

- 6.2.5 Where it is proposed to carry out works which will have an adverse impact on roosting bats, the site must either be registered on the Bat Mitigation Class Licence (BMCL) or a European Protected Species (EPS) license must first be obtained from Natural England. This requirement applies even if no bats are expected to be present when the work is carried out.
- 6.2.6 The National Planning Policy Framework for England was revised in 2019. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'.

Birds

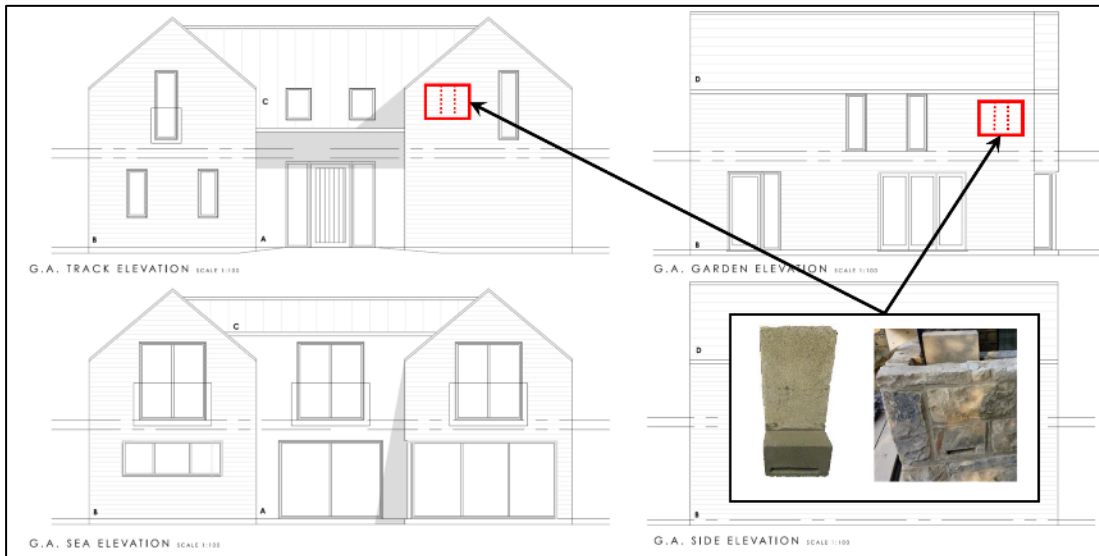
- 6.2.1 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:
- Intentionally kill, injure or take any wild bird.
 - Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

6.3 Further Survey, Recommendations and Enhancements

Bats

- 6.3.1 Depending upon the number and type of bat roost locations, the site will either need to be registered on the BMCL or an EPS mitigation licence will need to be obtained. Neither process can be undertaken until planning permission has been determined and both mitigation licensing options would need to be informed by a bat mitigation plan.
- 6.3.2 The worst-case scenario in relation to roosting bats is considered to comprise the presence of a maternity roost of crevice dwellings bats. It is however considered probable that roost use is limited to day roosting by whiskered bat beneath the ridge tiles.
- 6.3.3 It is possible to mitigate for the worst-case scenario through the provision of large crevice roosting features within the exterior of the new dwelling. Such provision could comprise two connected sets of three integrated bat boxes, with one on the southwest elevation and one on the northwest elevation (Figure 3) of the new dwelling. These boxes to be installed at wall top height and away from any external lighting.

Figure 3. Proposed compensatory roost provision plan



- 6.3.4 In order to characterise bat roost/s present to inform bat mitigation licensing, it is typically necessary to undertake at least two nocturnal bat surveys during the bat activity period (peak season: mid-May to August).
- 6.3.5 In this instance, given the limited range of bat roost features present and the understanding of the roost, it may however be possible to obtain an EPS licence without further nocturnal survey making use of Licensing Policy 4. Licensing Policy 4 allows for reduced survey data requirements where the impacts of the development can be confidently predicted.
- 6.3.6 In order to apply for an EPS licence making use of Licensing Policy 4 it would be necessary for planning permission to have been obtained. Any application would rely on the assumption that a maternity roost of whiskered bat was present on site.
- 6.3.7 In addition to implementing a high level of bat roost compensation, as detailed in Figure 3, demolition works would need to avoid the bat maternity roosting period (May-August). Whatever the licence obtained, demolition would need to be preceded by the supervised removal of potential bat roosting features (ridge tiles) by a licenced bat worker, with any roosting bats captured to be moved to a tree mounted release box.

Birds

- 6.3.8 It is advised that any tree and shrub removal works should commence outside the main bird nesting period (March to September inclusive). If such works are to take place during this period, then they should be preceded by a nesting bird check to be undertaken by an ecologist.

6.4 Conclusions

- 6.4.1 A bat roost has been confirmed from the dwelling (B1) at Meadowcroft. This roost is expected to comprise a day roost of whiskered bat. This dwelling is considered to display a low/moderate level of bat roost potential whilst other site buildings and trees display negligible bat roost potential.
- 6.4.2 The proposed works will result in the destruction of the roost and consequently the site

will either need to be registered on the BMCL, or an EPS mitigation licence will need to be obtained for the scheme.

7. References

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust.

NYMNP (2013) Bat Species Action Plan 2013-2017. North Yorkshire Moors National Park.

Appendix 1. Records Appendix

In accordance with the legal requirements of bat survey licensing, bat records collected during surveys are supplied to the relevant biological record centres and bat groups. The records to be supplied in accordance with this survey are shown below.

Date	Species	Site Address	OS Grid Reference	Notes
15.12.20	Whiskered bat	Meadowcroft, Raw	NZ 93931 05183	Probable day roost

Appendix 2. DNA Test Result

5 February 21

Re: Identification Results for Robert Bell, Middleton Bell Ecology

Job number 16302, received 29 January 2021

Sample labelled: 26.01.21 - Meadowcroft

PCR amplification successful. DNA sequence:

ATGACCAACATTTCGAAAGTCCCACCCCTTAGTAAAAATTATTAATAGCTCATTATCG
ACCTTCCTGCCCGATCAAATATCTCATCTTGATGAAATTTCCGGATCTCTTT

Phylogenetic analysis identification: *Myotis mystacinus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

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