



Cocklick End Farm, Slaidburn

Further Bat and Barn Owl Surveys

July 2012

Control sheet

Project No & Title: BOW0020/083 Cocklick End - Further Bat and Barn Owl Surveys

Client: United Utilities Property Services Ltd

Prepared by: Alice Helyar *Senior Ecologist*

Checked by: Jules Wynn *Principal Ecologist and Director*

Date of Issue: July 2012 **Status:** Final

Version No: 1

Revisions: 0

CONTACT DETAILS

Bowland Ecology Ltd
No 8 Poorsland Barn
Slaidburn
Clitheroe
BB7 3AE

Tel: 01200 446777
Fax: 01200 446775
Web : www.bowlandecology.co.uk

Contents

1. Introduction	4
2. Methodology	5
3. Results	7
4. Evaluation and Recommendations	9
References	12
Appendix 1 – Site Photographs	13
Appendix 2 – Emergence and Activity Survey Results	15
Dawn Return Survey Results	16

Executive Summary

Bowland Ecology Ltd was commissioned by United Utilities Property Services Ltd to undertake internal inspections of the farm house and attached barn along with further evening emergence and dawn return bat surveys of a property known as Cocklick End, Slaidburn, Lancashire. The site is located at approximately SD 737 583.

A partial internal inspection of accessible areas of the farmhouse and attached barn was undertaken during this survey for signs of bats and barn owls. Evening emergence and dawn return surveys were conducted.

The farm comprises two rectangular adjoining buildings; the main farmhouse and an attached stone barn. A few field signs of bats were found during the initial survey including smoothing and staining around the entrance to two crevices in the barn wall, indicating a potential bat roost. No further physical evidence of a bat roost within the structure was encountered during the internal inspection. A barn owl nest box was observed within the barn during the internal inspection and barn owl pellets were found beneath the box and adjoining structural beams. Barn owl pellets were also found on a first floor window ledge of the farm house, where an owl has perched on a broken window that had been boarded up.

During the evening emergence survey one common pipistrelle bats was observed to emerge from the main entrance of the stone barn and a second pipistrelle foraged around the barn. One *Myotis* bat was heard but not seen along the south eastern elevation. Occasional pipistrelle (common and soprano) bat passes were heard during the survey. A barn owl was observed to leave the barn at sun set and commence hunting activities along the adjacent forest edge and field boundaries; noise from within the barn following the departure of the barn owl indicated that other barn owls were present within the barn.

During the dawn return survey three common pipistrelle bats were observed to pass the barn and one entered the main entrance of the barn during the survey. Two *Myotis* bats were briefly observed along the south eastern elevation. Barn owl chicks were heard calling for the adult bird throughout the survey and one chick was observed at the entrance to the box when a surveyor entered the barn to collect the Anabat detector which had been placed within the barn for the duration of the survey. This incidental observation confirmed that barn owls are breeding within the barn.

Bats were confirmed to be emerging from the barn during the initial emergence survey (September 2011) and during the second emergence survey. It can be confirmed that the barn is being used by bats as a roost; however it is a roost with low level usage and not a maternity roost. A licence from Natural England to undertake the development works will be required before the project can proceed, as the project would be likely to result in an offence according to the legislation, as it would lead to the loss of a roosting site for bats. A licence will provide a derogation from the legal protection afforded by the Conservation of Habitats and Species Regulations 2010. A licence application can only be made once full planning permission has been granted.

Barn owl is a Schedule 1 species which means that in addition to the general protection against killing, injury and destruction of eggs and nests afforded to all birds under the Wildlife and Countryside Act, 1981 as amended, it is also afforded protection from disturbance whilst breeding. Barn owls were confirmed to be breeding at the site during the final bat survey. A licence will therefore be required if the birds are breeding and are to be disturbed at the time of the works.

Mitigation for barn owls will be incorporated into the design of the development in order to accommodate the barn owl, given that it has been confirmed to be breeding at the site. It is now considered standard practice to incorporate barn owl roosting space into rural new builds and conversions and given that breeding barn owl use has been identified, it is considered appropriate to accommodate provision for barn owl within the project.

1. Introduction

- 1.1 Bowland Ecology Ltd was commissioned by United Utilities Property Services Ltd to undertake a bat and barn owl survey of a property known as Cocklick End Farm, Slaidburn, Lancashire. The site is located at approximately SD 737 583.
- 1.2 The farm comprises a farm house, to which one stone barn outbuilding is connected. The farm is no longer occupied and is in a declining state of repair, with collapsing roofs in the farm house and barn. The farm is surrounded to the south and east by conifer plantations and to the north and west by semi-improved pasture. The farmyard around the property is enclosed by a stone wall, which connects the property to the nearby woodland.
- 1.3 The aim of the further bat and barn owl surveys was to further assess the size and nature of the bat roost present within the barn and to confirm that barn owls were still using the property. This survey comprises detailed internal inspections of the building to search for bat and barn owl field signs. This was followed by one evening emergence and activity survey and one dawn return survey, carried out at the optimal time of year for bat surveys. Information from the surveys is used to identify any developmental constraints and mitigation requirements.
- 1.4 This report presents; 1) a description of the survey methodology, 2) a summary of the bat and barn owl survey results, 3) an assessment of the potential impacts, and 4) recommendations.

2. Methodology

Bat Survey

Internal Building Inspection

- 2.1 An internal search of safely accessible areas of the building was undertaken, checking for bats and the field signs of bats such as bat droppings, urine stains, bat feeding remains (moth wings, insect cases), bat staining, distinctive smell of bats, scratch marks and smoothing of surfaces which would indicate a roost site. An assessment of the potential of the building was also made during the survey i.e. searching for suitable roosting crevices. High power torches (Cluson Clu-lite 500,000 candlepower), close focus binoculars and scaffolding were used to aid the survey.
- 2.2 It was possible to inspect the interior of the entire barn from the ground floor and half of the house from the ground floor and half of the first floor of the house from a window via external scaffolding. It was not possible to inspect the roof void.
- 2.3 The daytime internal inspection survey was undertaken by Alice Helyar BSc (Hons), MSc, PhD, AIEEM (Natural England Licence Number 20121998) on the 2nd July 2012.
- 2.4 Natural England's Bat Mitigation Guidelines (2004) state that a significant bat roost can normally be determined on a single visit at any time of the year, provided that the entire structure is accessible and that signs of bats have not been removed by others. The timing of this survey was therefore considered to be optimal; part of the interior of the structure was accessible for the inspection.

Dusk Emergence and Activity Survey

- 2.5 A dusk emergence and activity survey was undertaken by Alice Helyar, Laura Bennett MSc, BSc (Hons), AIEEM and Paul Webb MSc, BSc (Hons) on 2nd July 2012. The survey was undertaken with the aid of dual heterodyne and frequency division detectors (EM3, BatBox Duet and Petterssen), and an Anabat detector placed inside the barn. Species identification is aided by the use of detectors and the experience of the surveyors.
- 2.6 The surveyors positioned themselves to get the best coverage of the site, and used the results of the initial emergence survey undertaken in September 2011 to focus in on the areas of the site with most potential as roosting habitat.
- 2.7 The weather during the survey was warm (15.5 degrees Celsius), with 100% cloud cover and no wind (Beaufort Force 0). The survey commenced at 21:15 and continued until 23:00. Sun set was at approximately 21:45. The date and timing of the survey follows the guidance for survey standards presented in the Bat Conservation Trust, Bat Surveys Good Practice Guidelines 2007.

Dawn Return Survey

- 2.8 A dawn return survey was undertaken by Alice Helyar, Mark Breaks MSc, BSc (Hons) and Hilary Smith BSc, MSc, MIEEM, CEnv, on the 10th July 2012. The survey was conducted between 03:20 and 04:50; sun rise was at approximately 04:47. The weather was warm (11 degrees Celsius), with a continual light mist (100% low cloud cover) throughout the survey and no wind (Beaufort Force 0).

- 2.9 The survey was undertaken with the aid of dual heterodyne and frequency division detectors (EM3, BatBox Duet and Petterssen), and an Anabat detector placed inside the barn. Species identification is aided by the use of detectors and the experience of the surveyors.

Barn Owl Survey

- 2.10 The buildings were inspected internally for evidence of past and present usage by barns owls (*Tyto alba*) and assessed for suitability as a nesting site for this species. Field signs for barn owls include:

- Droppings - white vertical streaks on roof beams and large white splashes on floors.
- Pellets - Barn owls generally swallow their prey whole and regurgitate the indigestible parts (bones, fur etc.) as pellets. The colour and condition of pellets can give an indication as to when a site was last used by barn owls.
- Feathers - Barn owl nestlings begin their initial moult at 11 months. Adult barn owls tend to shed their primary and secondary wing feathers before and after breeding.
- Nest debris - barn owls do not build nests but nesting areas may contain nestling fluff and pellet debris.
- Potential entrance points - the minimum entrance hole size required for barn owls to gain access to a building is 7 cm x 7 cm.
- Suitable nesting platforms - Barn owls need a level area to lay eggs usually over 3 m in length and over 3 m off the ground. Typical nesting places include tops of walls, between bales and on attic floors.

3. Results

Internal Building Inspection – Bats and Birds

- 3.1. A selection of photographs of the farm is presented in Appendix 1. The farm comprises two adjoining rectangular structures; the main farmhouse and an attached stone barn.
- 3.2. Internally the barn is double height with a tiled roof on timber batons, beams and trusses. Mortar work is present between the tiles; some of which has failed leaving gaps between the tiles in which bats could roost or access the barn. The roof is not lined. The internal walls are stone built with the mortar work that is in moderate condition. Gaps and cracks are present between the stones where the mortar has failed. The walls are partially lime rendered. Opportunities exist for bats such as brown long eared bats and pipistrelle bats to roost between the timber beams and roof tiles, at the top of the walls and within crevices in the stone work of the walls. Cavities in the walls (ventilation holes) have been used by nesting birds; although they were not active at the time of the survey, large piles of debris on the floor below these nest sites indicate that corvids may have used the nests.
- 3.3. A barn owl nest box is present within the barn and evidence from the presence of feathers, splashes and pellets on and beneath the box suggest that barn owls have or currently use the box.
- 3.4. The main farmhouse is of solid stone construction with a pitched slate roof, which is on a poor state of repair. It was possible to inspect half of the ground floor and half of the first floor (from external scaffolding) for signs of bats and assess the potential of the structure to support bats. The interior of the building is exposed to external conditions due to the poor state of repair of the roof which reduces the suitability of the building for roosting bats. Limited opportunities exist within the cracks in the walls and behind the boarded windows; however, it was not possible to inspect these closely for reasons of health and safety. It was also not possible to inspect the roof void; however, as this was also exposed to the exterior conditions due to its poor state of repair, it is likely that it is unsuitable for use by roosting bats.
- 3.5. Barn owl pellets were found on the window ledge of the window that was used to access the first floor for inspection. The location of the pellets indicated that the owl perches on the broken window frame and the age of the pellets suggest that this activity is not recent.

Dusk Emergence and Activity Survey

- 3.6. The results of the emergence and activity survey are described below and the foraging and commuting flight lines are represented schematically in the bat activity plan in Appendix 3.
- 3.7. Three surveyors were positioned around the barn, at the northern and southern corners and opposite the main entrance to the barn. The first bat heard was a common pipistrelle at 22:07 flying along the north eastern elevation, around to the south eastern elevation and then into the barn through the main entrance. It foraged within the barn before flying along towards the conifer plantation to the south. A second common pipistrelle bat was heard foraging within the barn at 22:16 and then it emerged from the barn at 22:17. The same bat was then observed to fly into the house via the collapsed roof and then out and towards the conifer plantation. Finally a *Myotis* bat was heard at 22:14, however, it was not clear whether it emerged from the barn itself. No further bats were observed during the survey.

- 3.8. Recordings from the Anabat and EM3 detectors confirmed that common pipistrelle bats and *Myotis* species were observed during the survey.
- 3.9. One barn owl was observed to leave the barn at 21:37 and commence hunting activities along the conifer plantation edge to the south east of the barn.

Dawn Return Survey

- 3.10. Three surveyors were positioned around the barn, at the northern and southern corners and opposite the main entrance to the barn. The first bat heard was a common pipistrelle at 03:21 flying along the north western elevation. Two *Myotis* bats were heard but not seen along the south eastern elevation at 03:36 and 03:38 and a common pipistrelle was seen in front of the house at 03:40. Finally a pipistrelle bat was seen entering the barn at 03:53. It was not observed to leave the barn. No further bats were observed during the survey.
- 3.11. No adult barn owls were observed during the survey. However, barn owl chicks were heard calling the adult bird from inside the barn throughout the survey. When the surveyor retrieved the Anabat detector from within the barn at the end of the survey, a chick was observed looking out of the barn owl nest box within the barn. It was therefore confirmed that barn owls are breeding in the barn.

4. Evaluation and Recommendations

Bats

- 4.1 The surveys confirmed the result of the survey undertaken in September 2012 that the site (stone barn) is used for roosting by common pipistrelle bats and possibly by *Myotis* bats. A pipistrelle bat was recorded within the barn with pre-emergence chatter, followed by an emergence; a pipistrelle bat was also recorded returning to the barn at dawn, indicating that it was roosting within the barn. Two *Myotis* bats (most likely to be natterer's) were also observed to emerge from the barn during the survey in September 2011. Whilst it was not confirmed that these bats were roosting within the barn during the surveys undertaken in 2012, *Myotis* bats were observed in the vicinity of the barn during both surveys.
- 4.2 These surveys indicate that the barn is being used as bat roost of low level usage and it was confirmed that the barn was not being used as a maternity roost. It is likely that the roost is used by solitary males and is most heavily used during the autumn lekking/mating period.
- 4.3 Bats are protected under the Conservation of Habitats and Species Regulations 2010. They are listed on Schedule 2 of the Act as European Protected Species (all bats). Part 3, Section 41 of the Act states that it is an offence to:
- 1a) Deliberately capture, injure or kill any wild animal of a European Protected Species.
 - 1b) Deliberately disturb wild animals of any such species.
 - 1c) Deliberately take or destroy the eggs of such an animal.
 - 1d) Damage or destroy a breeding site or resting place of such an animal.
- For the purposes of 1b) disturbance of animals includes in particular to impair their ability to:
- 2a) i) Survive, breed or reproduce, or to rear or nurture their young.
 - ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate.
 - 2b) Significantly affect the local distribution or abundance of the species to which they belong.
- 4.4 Bats are also protected under the Wildlife and Countryside Act, 1981, as amended. Several bat species including soprano pipistrelle, which was recorded at the site and brown long eared bat, which is known to occur in the area, are UK BAP Priority Species and there is a grouped plan for bats in the Lancashire Biodiversity Action Plan.
- 4.5 Given the survey information collected, the project would be likely to result in an offence according to the above legislation, as it would lead to the loss of a roost for bats. A licence from Natural England will therefore be required for the project to proceed, as this will provide a derogation from the legal protection afforded by the Conservation of Habitats and Species Regulations 2010. A licence application can only be made once full planning permission has been granted and can be applied for at any time of year. A licence can take up to 35 working days to be considered by the statutory bodies once submitted. The licence application must pass three tests as follows:
- The development must be for the purpose of preserving public health and safety or other imperative reasons of overriding public interest including those

of social or economic nature and beneficial consequences of primary importance for the environment, providing that:

- There is no satisfactory alternative, and
- The action authorised will not be detrimental to the maintenance of the species concerned at a Favourable Conservation Status in their natural range.

4.6 Mitigation will be required as part of the licence application and should include:

- Measures to make reasonable effort to avoid accidental killing, injury or disturbance to bats during works – such as timing restriction, removal of certain materials by hand, supervision by a licensed bat worker.
- Provision of temporary alternative roosting habitat whilst works take place – such as installation of bat boxes.
- Provision of permanent bat roosting habitat within the conversions – to include suitable crevices and access points.
- Monitoring – to check on the success of the implemented mitigation measures.

4.7 There are many opportunities to provide bat roosting habitat within new or converted developments. Incorporation of roosting spaces within the proposed development should be achievable, and can be designed to meet with planning requirements and building regulations.

4.8 Provision of roosting opportunities within the building should include:

- Access gaps between soffits and wall (15-20 mm).
- Access to the roof void via bat tiles.
- Access to the roof void via bat tiles, bat tubes built into gaps in masonry or into wall surfaces, soffit gaps or purpose built entrances.
- Access points over top of cavity walls by specifically constructed gaps.
- External bat boxes erected or bat bricks installed, providing cavities within walls for different species.

4.9 The integration of bat roosting habitat will not cause disturbance to users of the development, nor create aesthetic problems. Bats will not nibble or gnaw at wood, wires or insulation. Bat droppings do not smell strongly, there are no known health risks associated with them. The droppings are dry and do not putrify, but crumble away to dust, or are washed away by rain.

Barn Owls

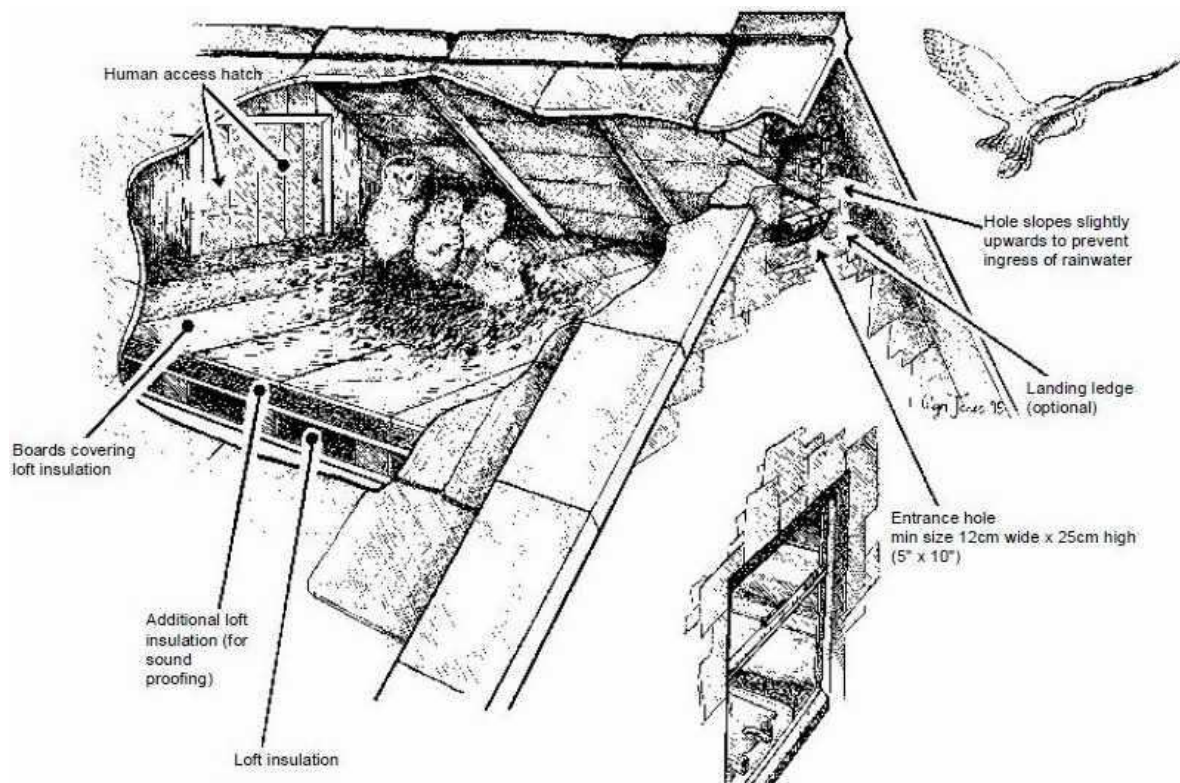
4.10 It was confirmed during the bat surveys that barn owls are breeding within the barn. Field signs of barn owl within the building suggest that it has been used by barn owls for a significant length of time. Within the barn and house white splashes, feathers, pellets and prey remains were all observed. Owl pellets were found outside the barn beneath a ledge located in the apex of the north eastern elevation. A barn owl was observed to emerge from the barn at dusk and barn owl chicks were sighted in the barn owl nest box.

4.11 Barn owl is a Schedule 1 species which means that in addition to the general protection against killing, injury and destruction of eggs and nests afforded to all birds under the Wildlife and Countryside Act, 1981 as amended, barn owl is afforded additional protection against disturbance whilst breeding, implemented by a penalty system. Barn owl is also listed as an amber list species of medium conservation concern (Eaton *et al.*, 2009).

4.12 Barn owls are protected against disturbance whilst at or near a nest containing eggs or young. The birds are legally protected against disturbance from the time a

scrape is made in the nest debris (shortly before egg laying) until the time the last dependent young stops returning to the nest (about three weeks after first flight). Roost sites are only protected when occupied and therefore, if the works are undertaken when barn owls are not present, no offence will be committed under the Wildlife and Countryside Act (1981, as amended) (pers comm. Debbie Frost, Natural England National Licensing Team). Whilst the bird nesting season runs from mid February to September, barn owls can nest at any time of year. It is therefore recommended that the works are undertaken outside the bird breeding season and that the nest box is checked by a licenced surveyor (one who holds a Natural England licence allowing them to disturb nesting barn owls) prior to works commencing in order to declare that the nest is empty.

- 4.13 It is now considered standard practice to incorporate barn owl roosting space into rural new builds and conversions. Given that the barn was confirmed to be a breeding site for barn owls, it is considered appropriate to permanently accommodate barn owl within the project. Such accommodation will be required as part of a mitigation strategy. Guidance on ways of incorporating barn owl roosts into buildings are provided in the publications 'Barn Owls on Site – A Guide for Developers' and in a series of design guides available from The Barn Owl Trust. An example of mitigation is shown below; it is recommended that this design is incorporated into the design of the building and utilises the existing entrance in the north eastern elevation at the apex of the wall, as this was observed to be used by barn owls during the bat surveys.
- 4.14 Whilst the works are being undertaken, temporary accommodation in the form of a timber barn owl nest box positioned on a tree (for example on the sycamore tree adjacent to the property) must be provided. This will then be removed once the permanent barn owl accommodation within the property is available.



From: The Barn Owl Trust (2009) 'Barn Owls on Site – A Guide for Developers'.

References

- Bat Conservation Trust (2004) *Best Practice Guidelines for Bat Surveys*. BCT
- English Nature (2004). *Bat Mitigation Guidelines*. Natural England.
- The Barn Owl Trust (2009) 'Barn Owls on Site – A Guide for Developers'.
- Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296–341.

Appendix 1 – Site Photographs



Image 1 – Interior of the barn, showing the roof structure and location of the barn owl nesting box.



Image 2 – Partially lime rendered walls and mortar work in good condition.



Image 3 – Fresh barn owl pellet beneath the barn owl box.



Image 4 – Splashes and pellets on first floor window ledge of house.

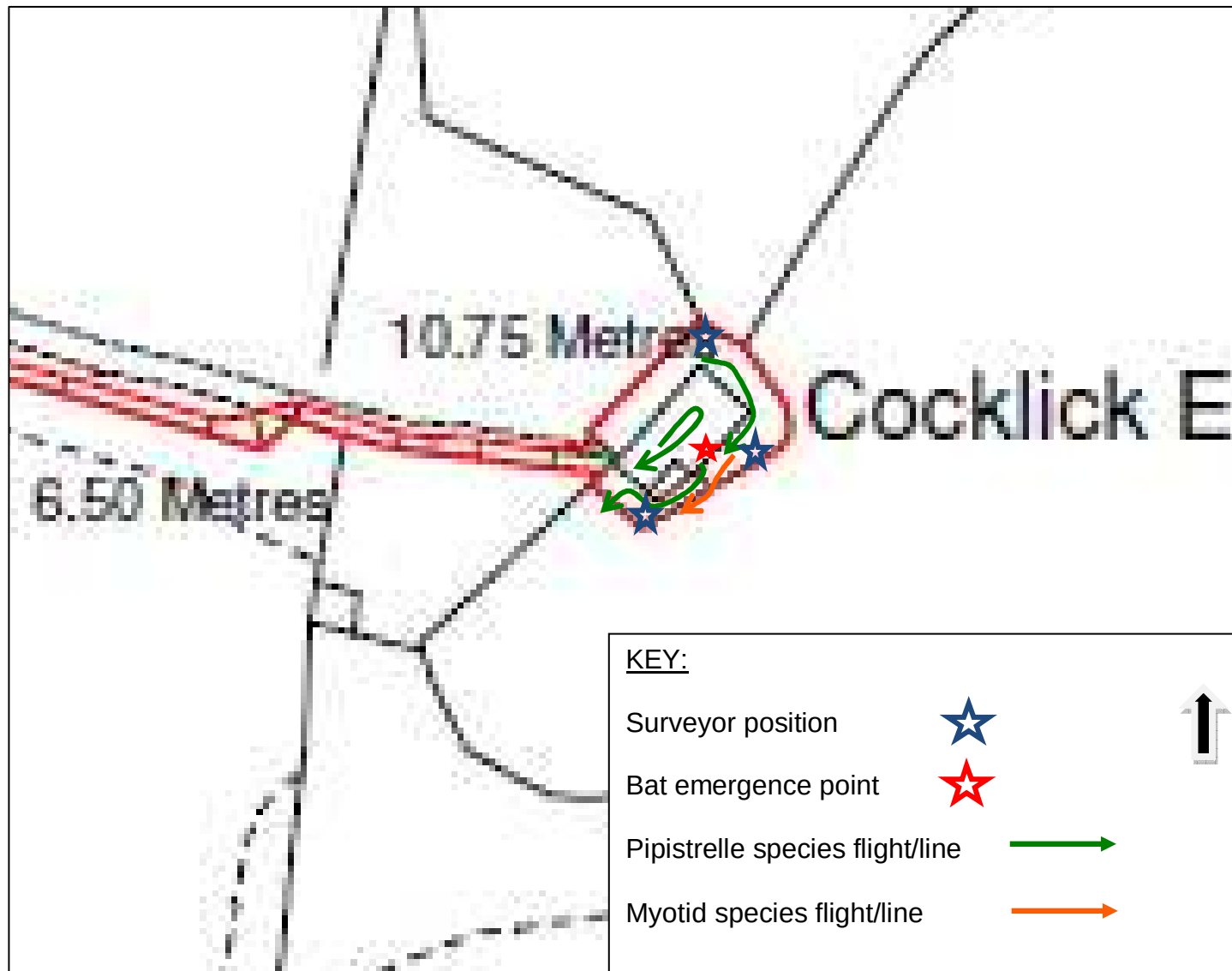


Image 5 – Splashes and pellets on first floor window ledge of the house.



Image 6 – Field signs of barn owl across the first floor level of the house.

Appendix 2 – Emergence and Activity Survey Results



Dawn Return Survey Results

