



BAT SURVEY REPORT

PRELIMINARY ROOST ASSESSMENT

LITTLE DRUMQUHARN

BALFRON STATION, GLASGOW

09.03.2022 (Version 1)

PREFACE

This document is a tender for ecological services to be carried out by the company.

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REVISION AND SIGN OFF

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EXECUTIVE SUMMARY

Direct Ecology Ltd. was commissioned by Julie McCallum to undertake a bat and bird survey of a farm steading at Little Drumquharn, Balfron Station. This report details the findings of the desk study and daytime bat survey.

It is understood that there are proposals to convert a section of a farm steading into a residential dwelling. A bat and bird survey was commissioned as these works could result in the disturbance, modification, or destruction of any bat roosts or bird nests present.

No bats (or confirmed signs of bat use) were found during the survey, however a number of features suitable for overwintering and transient non-breeding roosting bats were noted, including gaps in the stonework in the three sections of the steading, and between door lintels on the east and west aspects. Given the overall openness of the structure and corrugated asbestos roof present, the structure has been assessed as offering Low – Moderate bat roost potential.

A number of old bird nests were recorded within the steading, and both the building and the trees surrounding the site offer foraging and nesting opportunities for birds. A barn owl nest box was noted within the wood store, and multiple splashings and barn owl pellets were noted inside the steading.

The report details a number of recommendations regarding roosting bats and nesting birds. The following is a summary of key recommendations:

- At least one nocturnal activity survey (within the bat active season May-August) and a second nocturnal survey may be required. In addition, several bat boxes should be erected on the trees surrounding the site and integral boxes should be included within the new dwelling to compensate for the loss of potential roosting sites. Some of the conversion works may need to be supervised by a licensed bat ecologist.
- To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), renovation works and any habitat clearance should be undertaken outside of the nesting bird season (generally considered to be late-March to early-September inclusive; but with occasional breeding outside of this period).
- If works take place within the bird nesting season, a suitably qualified and experienced person should check the area for nesting birds immediately before works begin. If birds were found to be nesting, any works that may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.
- If it is not possible to schedule works outside the breeding period, then a nesting bird survey should be carried out by a suitably experienced ecologist immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.
- Works that could cause **disturbance** to nesting barn owls would have to be delayed, for this reason nesting barn owl survey should be undertaken well ahead of works commencing. Barn owl are specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
- Appropriate mitigation should be in place to provide a long-term nesting/roosting area within the buildings for barn owl. A permanent accessible roosting and nesting place should be included following guidance within The Barn Owl Trust Guidelines (Barn Owl Trust, 2021).
- In the event that works do not commence within 18 months of the last survey visit, then update surveys will be required.

CONTENTS

1	PROJECT INFORMATION	6
1.1	SCOPE	6
1.2	SITE LOCATION AND DESCRIPTION	6
1.3	RELEVANT LEGAL FRAMEWORK AND POLICY	6
2	SURVEY METHODS	7
2.1	DESK STUDY	7
2.2	SURVEY METHODS	7
2.3	SURVEY PERSONNEL	8
2.4	SURVEY LIMITATIONS	9
2.5	EVALUATION	9
3	SURVEY RESULTS	10
3.1	DESK STUDY	10
3.2	PRELIMINARY ROOST ASSESSMENT	11
3.3	BIRDS	16
4	IMPACTS AND RECOMMENDATIONS	18
4.1	INTRODUCTION	18
4.2	GENERAL MITIGATION	21
5	REFERENCES	23
	APPENDIX 1 – RELEVANT LEGISLATION	24
	EUROPEAN PROTECTED SPECIES	24
	WILDLIFE AND COUNTRYSIDE ACT 1981	25
	APPENDIX 2 – FIGURES	26

1 PROJECT INFORMATION

1.1 SCOPE

This report presents the results of bat and bird survey carried out at a section of a farm steading at Little Drumquharn, Balfroon Station. There are proposals for conversion and extension of a farm steading into a dwellinghouse (Planning ref: 21/00647/FUL). The survey was undertaken on behalf of Julie McCallum to advise on potential ecological constraints at the site and to advise on compliance with relevant legislation and planning policy.

The survey work included:

- A desk study;
- An assessment of the buildings and habitat to support roosting bats and nesting birds; and
- Recommendations.

1.2 SITE LOCATION AND DESCRIPTION

The site is located at Little Drumquharn, Balfroon Station, Glasgow, centred at grid reference NS 51330 87825 (Figure 1). The surrounding landscape comprises a matrix of grazing pasture, arable farmland and small areas of woodland and scattered trees. The Endrick Water is situated approximately 160m north of the site.

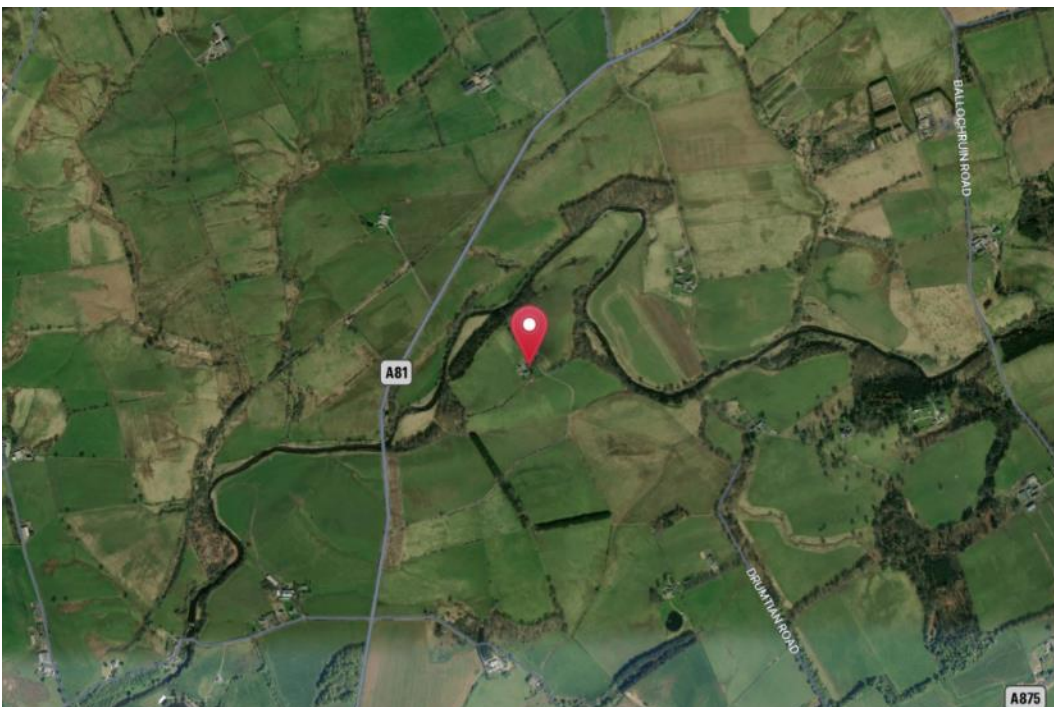


Figure 1: Site location (@AppleMaps)

1.3 RELEVANT LEGAL FRAMEWORK AND POLICY

Bats and the places they use for shelter or protection (i.e. roosts) receive protection under 'The Conservation (Natural Habitats, & c.) Regulations' 1994 (as amended). Bats and their roosts are protected from disturbance or destruction (whether intentional or reckless) at all times.

All active bird nests are protected under the Wildlife and Countryside Act (1981) as amended.

Details of legislation are given in Appendix 1.

2 SURVEY METHODS

2.1 DESK STUDY

A desk study was undertaken to determine the presence of bats recorded within a 2km radius of the survey area. Only commercially available records within the last 25 years have been included.

The following sources were consulted:

- National Biodiversity Network (NBN) Atlas (NBN, 2016);
- Scottish Biodiversity List (SBL) (Scottish Government, 2012); and
- The Atlas of the Mammals of Great Britain and Northern Ireland (Crawley *et al.*, 2020).

2.2 SURVEY METHODS

The site was visited on 4th February 2022. Ten figure grid references were taken to record notable site features as target notes, using a handheld GPS device. Time and weather data for the survey visit is given in Table 2.

2.2.1 PRELIMINARY ROOST ASSESSMENT

In line with guidance from NatureScot and the Bat Conservation Trust (BCT) (Collins, 2016), a detailed internal and external survey of the building was conducted, where safe to do so. During the assessment, surveyors searched the building for potential or actual bat roosting sites including lifted slates, lifted ridges, gaps at wallheads, areas of degraded mortar, etc. Surveyors also assessed the suitability of the surrounding habitat for commuting and foraging bats. This information allowed the buildings to be classified as High, Moderate, Low or Negligible in terms of suitability for roosting bats (Collins, 2016). Table 1 details BCT categories in relation to roosting and commuting/foraging habitats.

Where accessible, all suitable bat ingress and roosting features were subject to a detailed inspection using a ladder, a high-powered torch and an endoscope. Any bats, or evidence of bat activity present (such as droppings, urine staining, grease marks, scratch marks or feeding remains), were recorded. Any features that were considered beyond the safe reach of a ladder were assessed using binoculars, where possible.

An internal survey was completed on the steading and an external assessment was made of the adjacent buildings.

An assessment of the hibernation roosting potential of the buildings was also undertaken as per BCT guidelines.

Table 1: BCT Categories of Roosting Habitats and Commuting and Foraging Habitats.

BCT Categories	Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats
Low	A structure with one or more potential roost sites that could be used by the individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as fragmented hedgerows or an unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

2.2.2 BIRDS

An assessment was made of the suitability of the habitats present on site for birds for nesting and foraging, and all birds seen during the surveys were recorded. Any signs of nesting attempts from previous seasons, or any other field signs (for example owl pellets, splash) were recorded.

A full breeding or wintering bird survey was not undertaken.

2.3 SURVEY PERSONNEL

All survey work and reporting was managed and overseen by Beccy Osborn (Company Director, MCIEEM). She is an experienced bat surveyor, a NatureScot licensed bat worker and has a NatureScot low impact licence. The Preliminary Roost Assessment was carried out by Beccy Osborn and Katherine Watson (Ecologist, Qualifying CIEEM).

Table 2: Survey details

Date	Surveyor	Survey Type	Sunset/Sunrise	Start / Finish	Weather
04.02.2022	Beccy Osborn Katherine Watson	Preliminary Roost Assessment	N/A	12:00 - 14:30	Rain: 1 Temp: 4°C WS: 0 CC: 8/8

Key: Temp = Temperature (°C); WS = Wind speed - 0 (calm) 12 (hurricane); CC = Cloud cover (in eighths); Rain = 0-4 (0 = dry)

Table 3: Surveyor experience and licence number (where applicable)

SURVEYOR	LICENCE NUMBER (IF APPLICABLE)	BRIEF SUMMARY OF EXPERIENCE
Beccy Osborn	132913	Beccy has 22 years' experience as an ecological consultant (since 1999) and holds an NatureScot bat survey licence and a bat low impact licence. She has a full membership with CIEEM (MCIEEM) and has extensive experience carrying out a range of bat surveys throughout Scotland including Preliminary Roost Assessments (PRAs), nocturnal bat surveys and tree climbing surveys, and has undertaken numerous bat ECoW roles under licence.
Katherine Watson	N/A	Katherine has five years experience working in the ecological/conservation sectors, with extensive experience undertaking a range of bat surveys, including PRAs, nocturnal surveys, and hibernation surveys over the last three years. She has a Qualifying membership with CIEEM (QCIEEM).

2.4 SURVEY LIMITATIONS

The survey was limited to a daytime assessment.

Small bat roosts with one or two non-breeding bats that may be transitional can be virtually impossible to identify at any time in the year, and therefore precautionary recommendations are made where appropriate.

Debris was present in the enclosed rooms in the steading which may have obscured signs of bats from being found.

2.5 EVALUATION

An evaluation of a roost where present in a building is given. A roost of less than five bats would generally be considered to be of local value. NatureScot classes the following roosts as exceptional, i.e. of regional value (Scotland):

- Any roost comprising noctules, Leisler's bats, whiskered/Brandt's bats or Nathusius' pipistrelles;
- Exceptionally large roosts of any of the other five widespread species:
 - Soprano pipistrelle >800
 - Common pipistrelle >200
 - Daubenton's bat >80
 - Brown long-eared bat >50
 - Natterer's bat >50; or
- Roosts of any species at the edge of its UK or European distribution.

For any building with a roost, mitigation is proposed, in line with the value of the roost and the species present.

3 SURVEY RESULTS

3.1 DESK STUDY

Within this area of Scotland, the following bat species are known to be present (Richardson, 2000; Russ, 2012; Crawley *et al.*, 2020):

- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Nathusius' pipistrelle *Pipistrellus nathusii* (rarely);
- Daubenton's bat *Myotis daubentonii*;
- Noctule bat *Nyctalus noctule* (rarely);
- Leisler's bat *Nyctalus leisleri* (rarely);
- Natterer's bat *Myotis nattereri*; and
- Brown long-eared bat *Plecotus auritus*.

Therefore, it is possible that any of the regularly occurring species listed above could be present on site or within the surrounding landscape. All species listed above (with the exception of Leisler's bat) are Scottish Biodiversity List species (Scottish Government, 2012).

Table 4 provides a summary of the bat and barn owl records within 2km of the survey area. Only records from the past 25 years are included in the table, and those which are licensed for commercial use. The absence of records should not be taken as confirmation that a species is absent from the search area.

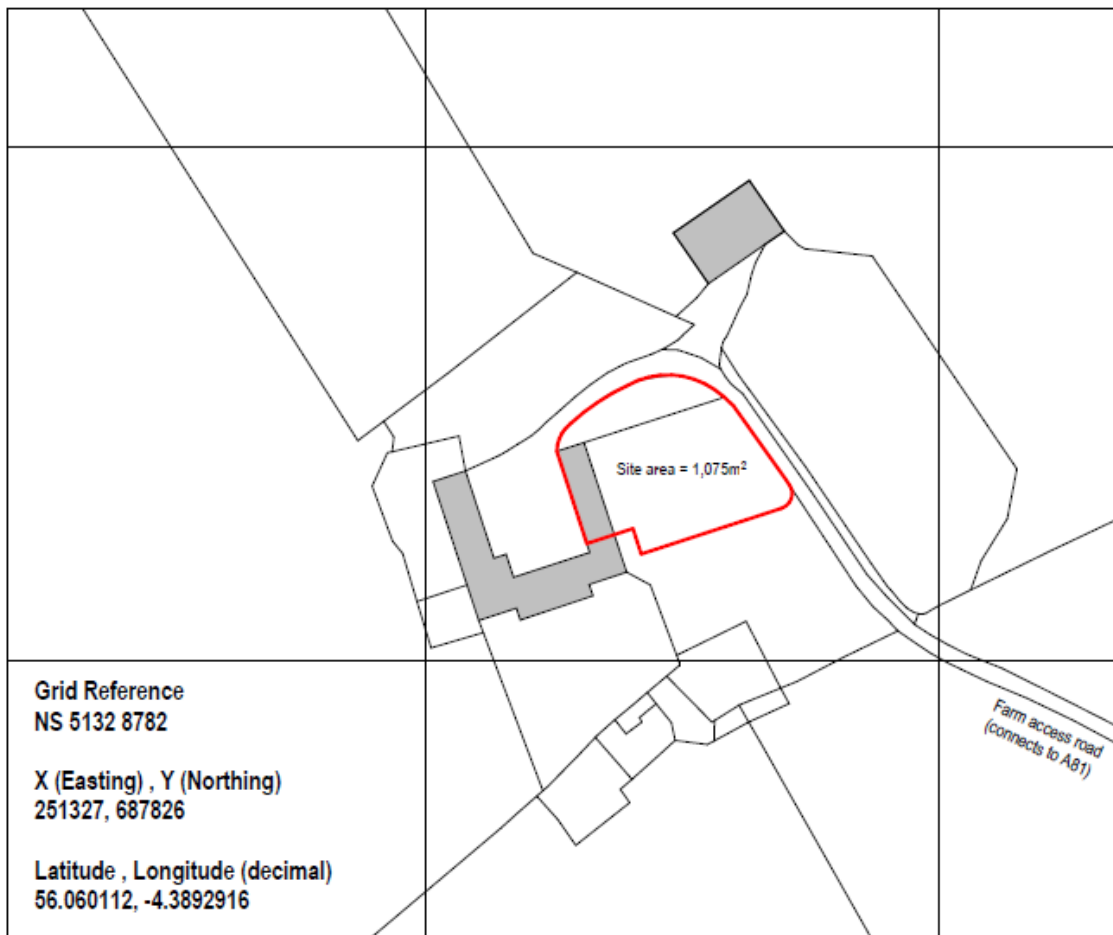
Table 4: Summary of bat and barn owl records within 2 km of the site.

Species	No. of records	Most recent	Proximity of nearest record to study area	Legislation / conservation status
BATS				
Myotis species <i>Myotis</i> sp.	1	2005	Records to 1km ² only. Closest record is approximately 1.93km north-west of the site.	ECH 4, HR, SBL
Common pipistrelle <i>Pipistrellus pipistrellus</i>	5	2005	Records to 1km ² only. Closest record is approximately 1.45km south-west of the site.	ECH 4, HR, SBL
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	74	2020	Records to 1km ² only. Closest record is approximately 1.21km south-east of the site.	ECH 4, HR, SBL
Pipistrelle species <i>Pipistrellus</i> sp.	9	2005	Records to 1km ² only. Closest record is approximately 1.32km south of the site.	ECH 4, HR, SBL
BIRDS				
Barn owl <i>Tyto alba</i>	4	2011	Records to 2km ² only. Closest record is approximately 0.88km south-west of the site.	WCA Sch. 1, BoCC Green, SBL
<p>Key: ECH 4: Annex IV of the EC Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal HR: Conservation Natural Habitats & C Regulations 1994 as amended WCA: Wildlife and Countryside Act 1981 as amended SBL: Scottish Biodiversity List species BoCC: Birds of Conservation Concern (as given in Stanbury <i>et al.</i>, 2021) Datasets: BCT/MTUK Bats & Roadside Mammals Survey, Mammal Records From Britain From The Atlas Of Mammals (1993), With Some Subsequent Records, Roost Count</p>				

3.2 PRELIMINARY ROOST ASSESSMENT

3.2.1 BUILDING

The surveyed building is the eastern side of a steading complex as shown in Figure 2. The survey building includes several linked adjoining sections. Adjacent buildings outwith the red line boundary are lived in houses. A farm building is present to the north-east outwith the red line boundary.



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Figure 2: Site plan of steading (red line boundary indicates part of steading to be developed)

External

The steading is constructed from stone, with a corrugated asbestos type roof and clear Perspex panels (Photo 1). The external stonework is generally in a good state of repair, however there are some gaps present including along the eastern aspect that extend up to 30cm deep (Photos 5, 6).

There are a number of bat roosting features largely in the walls/ doorways; but the roof appeared to be well sealed to the wall head in most locations (Photo 2). There are some gaps around the various doorways on both aspects of the building, which hold bat roost potential. On the west aspect, are two large open doorways to the woodstore (photo 1). The corrugated asbestos roof has little bat roost potential and panels were generally tightly fitting.

The steading is adjacent to other properties in a U-shape steading, which all have stone walls and with most adjacent sections of the steading with a slate roof, providing bat roost potential. The other properties in the steading consist of residential properties with wooden porches, slate roofs and stone walls.



Photo 1: Inner (west) aspect of steading showing woodstore



Photo 2: Southern gable end tightly sealed at wall head



Photo 3: Outer aspect of steading along east aspect



Photo 4: East aspect of steading showing gaps around door frame



Photo 5: External wall on east aspect with deep gaps on stone wall



Photo 6: Crevices along eastern aspect

Internal – Rooms 1 (southernmost) and Room 2 (middle)

The southernmost room (named in this report as Room 1) is a storeroom in two sections, adjacent to the residential property to the south of the steading. There is an internal part brick wall (to the north) and a block partition wall between the internal rooms. The roof has wooden ceiling joints exposed (Photo 7) with the corrugated asbestos laid onto the wood frame.

Gaps are present internally within the stonework of the outer walls, in areas of missing mortar (Photos 8, 10). Some of these gaps were deep. There were also gaps around the door lintels (photos 14 and 16). Some gaps were cobwebbed and others were more clear. No signs of bats were recorded, but there is potential for roosting.

The shelves and floor had dust and debris, but there were no signs of bat droppings. Feeding remains of moths (yellow underwing) and butterflies were noted on the floor and in the sink; these could be from either birds or bats feeding (Photos 11, 12). Yellow underwing moths are a favoured

food of brown long-eared bats. There was evidence of swallow nests (see section 3.3). The wall ledges had remains of a few butterflies; these could be either bird or bat feeding remains.

Room 2

This room (called Room 2) is smaller room adjacent to room 1, in the centre of the study building. There is a door on the east and west aspects, and the room was open to the roof, with exposed wooden rafters (Photo 13). An old oil storage tank is present in this room. No signs of bats were noted.

No signs of bats were confirmed in these rooms.



Photo 7: West view of room 1



Photo 8: Gaps in stonework in room 1



Photo 9: East view of room 1



Photo 10: Deep crevice within stonework on eastern aspect of room 1



Photo 11: Feeding remains of butterflies/moths on floor



Photo 12: Feeding remains of yellow underwing moths on floor



Photo 13: Eastern wall of room 2 (oil tank visible)



Photo 14: Large gap on door lintel with roosting potential



Photo 15: Doorway with lintel providing roosting potential



Photo 16: Gaps along door frame providing roosting potential

Woodstore

The woodstore is situated at the northern end of the building, with two open entrance ways along the west aspect, with stone walls and a corrugated asbestos roof (Photo 17). Crevices were present along the wall at the west aspect and the eastern corner, some deep. These were checked with an endoscope, but no signs of bats were found.

Debris was present on the floor including several log piles.

Barn owl pellets were recorded on the floor of the woodstore (see section 3.3).



Photo 17: External view of woodstore



Photo 18: Internal view of woodstore



Photo 19: Northern wall with crevice down wall



Photo 20: Hole in stone wall along eastern aspect

3.2.2 HABITAT ASSESSMENT

The habitats present in the immediate vicinity of the site are suitable for foraging and commuting bats, although the site is relatively exposed near the top of a hill. The site has scattered trees nearby, a thin line of trees/hedge then connects into larger areas of woodland and tree-lined water courses. The Endrick Water is approximately 200m to the north of the site. Watercourses provide foraging potential for species of bat such as Daubenton's bat and soprano pipistrelles.

Linear features such as watercourses, tree-lined fields, hedges and woodland edges provide shelter from the elements to optimise foraging success and are known to be used by commuting bats. Additionally, it is expected that the adjacent properties are likely to have features suitable for roosting bats including the slate roofs.



Photo 21: Adjacent house in centre of steading complex



Photo 22: House opposite steading complex



Photo 23: Mature trees to the south of the building



Photo 24: Trees to the north of the building

3.2.3 EVALUATION

The day survey recorded a number of suitable roosting features throughout the rooms in the steading, such as gaps in the stonework inside and outside the building and gaps in the door lintels. Some of these features could provide bats with the stable, low temperatures associated with suitable hibernation sites.

The roof and general state of the building although deteriorating, appeared watertight at the time of survey. It is also likely there are roosting features present in the adjacent properties, but these were not included in the survey. Overall, the steading is assessed to be of Low – Moderate roosting potential.

3.3 BIRDS

Birds were recorded on and around the site, as detailed in Table 5 below. Rooms 1 and 2 have signs of old swallow *Hirundo rustica* nests (Photo 28), and an old blackbird *Turdus merula* nest was found on the floor of room 2.

Multiple splashings, feathers and pellets (Photos 26, 27) from barn owl *Tyto alba* (BoCC green listed, Schedule 1 WCA) were noted in room 1 and the woodstore, and a barn owl box is present in the wood store. The box did not appear to be used for breeding, but the steading appears to be used regularly by the species (Photo 25). An old nest was noted on the eastern external wall in a gap at the wall head, likely from a blue tit *Cyanistes caeruleus* or great tit *Parus major* or house sparrow *Passer domesticus*.

Table 5: Birds recorded on site

Species	BTO Code	Notes	Conservation Status (BoCC)/ Legislation
<i>Barn Owl</i>	BO	Evidence of roosting in 2 of the 3 rooms. A barn owl nest box present in the woodstore. No definitely evidence that it has been used for breeding. Signs of roosting including droppings and pellets.	Sch 1 WCA
Blackbird <i>Turdus merula</i>	B.	Heard calling nearby, could nest in outbuildings. Likely old nest present.	Green
House sparrow <i>Passer domesticus</i>	HS	Heard and seen nearby, nesting in shed and likely nest in the steading buildings within holes in stonework.	Red, SBL
Starling <i>Sturnus vulgaris</i>	SG	Heard calling nearby in trees adjacent to building. Could nest in larger gaps within stonework.	Red
Swallow <i>Hirundo rustica</i>	SL	Nesting within buildings.	Green
Tit species (Blue or Great)	BT / GT	Old nest in external crevice in wall	Green
Key: BoCC: Birds of Conservation Concern, as given in Stanbury <i>et al.</i> (2021) SBL: Scottish Biodiversity List. WCA: Wildlife and Countryside Act 1981 (as amended)			



Photo 25: Barn owl box in woodstore

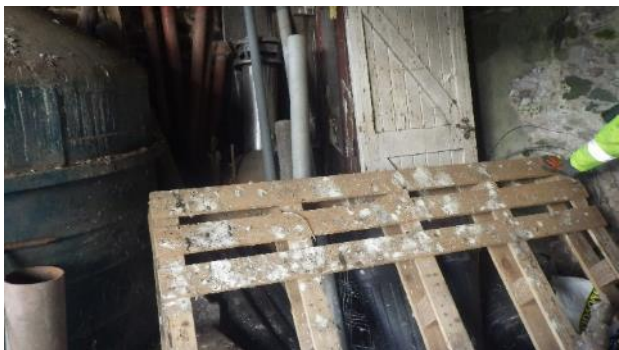


Photo 26: Barn owl splashings



Photo 27: Barn owl pellets



Photo 28: Swallow nest

4 IMPACTS AND RECOMMENDATIONS

4.1 INTRODUCTION

This section of the report makes recommendations that aim to minimise the impact of the proposal on local ecology, fulfil any legal obligations and provide best practice advice based on relevant guidelines. The building is being renovated into a residential dwelling with associated parking to the east (Figure 3).

4.1.1 BUILDINGS

The building is considered to have Low – Moderate bat roost potential for overwintering and transient non-breeding bats. The recommended further survey guidelines as per the Good Practice Guidelines provided by the Bat Conservation Trust (Collins, 2016) and endorsed by NatureScot, are summarised in Table 6 below. This advises that one nocturnal survey should be undertaken on buildings with Low bat roost potential, and two surveys undertaken on buildings with Moderate bat roost potential. However, the guidance also states that the Ecologist can make a professional judgment on the best way to proceed. The following advice has been provided, taking into account evidence, and project details such as potential roost locations and timings.

Table 6: Recommended survey guidance (Collins, 2016)

Low roost potential	Moderate roost potential	High roost potential
1 dusk emergence and/or pre-dawn re-entry survey during May to September Optimum period May – August	2 dusk emergence and/or pre-dawn re-entry surveys during May to September Optimum period May – August.	3 dusk emergence and/or pre-dawn re-entry surveys during May to September Optimum period May – August

4.1.2 RECOMMENDATIONS

One nocturnal survey should be carried out (within the bat active season – see Table 6). The need for a second survey should be assessed following the 1st survey visit.

Depending on the nocturnal survey results, initial works of the conversion works (that could affect potential bat roost areas) may need to be supervised by a licensed bat ecologist.

Should any bats be found during the further survey and/or supervised demolition then all works must stop, and a licence would be required from NatureScot before works could continue.

Non-breeding roosts are the most likely to be recorded in this building. If a non-breeding pipistrelle roost is confirmed, work could proceed under a NatureScot Low Impact Bat Licence, at any time of the year. This would still require an appropriate species protection plan, a method statement for the works and appropriate mitigation in place, i.e. a replacement roost(s).

If a non-breeding roost (non-pipistrelle) is found, work could proceed with a derogation licence (obtainable from NatureScot) in place at any time of year. An appropriate species protection plan, compensation plan and a method statement for the works would be required.

If a breeding roost of any bat species is found during the survey, works would have to be undertaken outwith the bat breeding period (i.e. no works would be permitted between May and August inclusive). If this is not possible, NatureScot may grant a licence to exclude the roost prior to the

start of the breeding season (generally considered to be May). A derogation licence would be required in either instance.

Compensation should be put in place for the loss of potential roosting locations. Several bat boxes could be erected on the trees surrounding the site, and integral boxes could be included within the new dwelling.

The following are enclosed units could be considered and/or others could be chosen to tie in with the finish on the proposed building:

- Schwegler 1FR bat tube: suitable for crevice dwelling bats such as pipistrelle species (e.g. <http://www.nhbs.com/1fr-schwegler-bat-tube>)
- Habitat bat box: suitable for crevice dwelling bats such as pipistrelle species (e.g. <http://www.nhbs.com/habitat-bat-box-custom-timber-facing>)
- Ibstock bat box: suitable for crevice dwelling bats such as pipistrelle species <http://www.ibstock.com/literature/eco-products/>

4.1.3 BIRDS

Nesting sites for birds for species of conservation would be lost, including barn owl, a species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), and therefore subject to additional protections than many other bird species.

Any clearance of trees, buildings, and shrubs within the nesting season could disturb or destroy active nesting bird sites, which are legally protected. Update survey or pre-works check should be undertaken should works proceed during the bird breeding season (generally late March – early September inclusive, dependent on species) including in particular for barn owl.

A roosting and /or breeding site for barn owl (a Schedule 1 species) will be lost during the works. It is an offence to disturb active nest sites for this species.

4.1.4 RECOMMENDATIONS

- To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), the clearance of vegetation or works to buildings which may support nests should be undertaken outside the bird nesting season (which is weather dependent but generally extends between late March and early September inclusive, dependant on species, but breeding birds can be present at almost any time of year).
- If it is not possible to schedule works outside the breeding period, then a nesting bird survey should be carried out by a suitably experienced ecologist immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged, and the nest has been abandoned naturally.
- Works that could cause **disturbance** to nesting barn owls would have to be delayed, for this reason nesting barn owl survey should be undertaken well ahead of works commencing. Barn owls can have two broods in a year and have been recorded with dependent young inside the nest into November (Anne Cotton, pers. comm.).

If works are proposed within the bird breeding period, a bird species protection plan should be in place to ensure legal compliance for all bird species. The plan should include:

- A pre-works ecological toolbox talk delivered to operatives prior to works commencing;
- An emergency procedure in place for nesting birds to ensure that the correct procedure is followed should an active bird's nest be discovered during the works;
- Pre-works surveys blocking potential nest holes temporarily (already undertaken in some areas);

- Pre-works survey for nesting birds (within the breeding season);
- Where possible undertaking priority works where birds are known to nest within the building out with the nesting bird season; and
- Provision of alternative nest sites for key species (including barn owl) during works and in the longer term in the building or close by.

All workers should receive a toolbox talk in relation to nesting birds. All areas will require nesting bird checks prior to works commencing in an area during the nesting season.

If active nests are identified, works within that area should be delayed until the young have fledged and/or the nest has been abandoned naturally. Appropriate buffer zones will need to be in place. It is only possible to get a licence to destroy an active bird nest on grounds of health and safety. Where there is a health and safety issue, a NatureScot general licence for some species can be used to destroy nest sites. Relevant species that may nest on site include feral pigeon *Columba livia*.

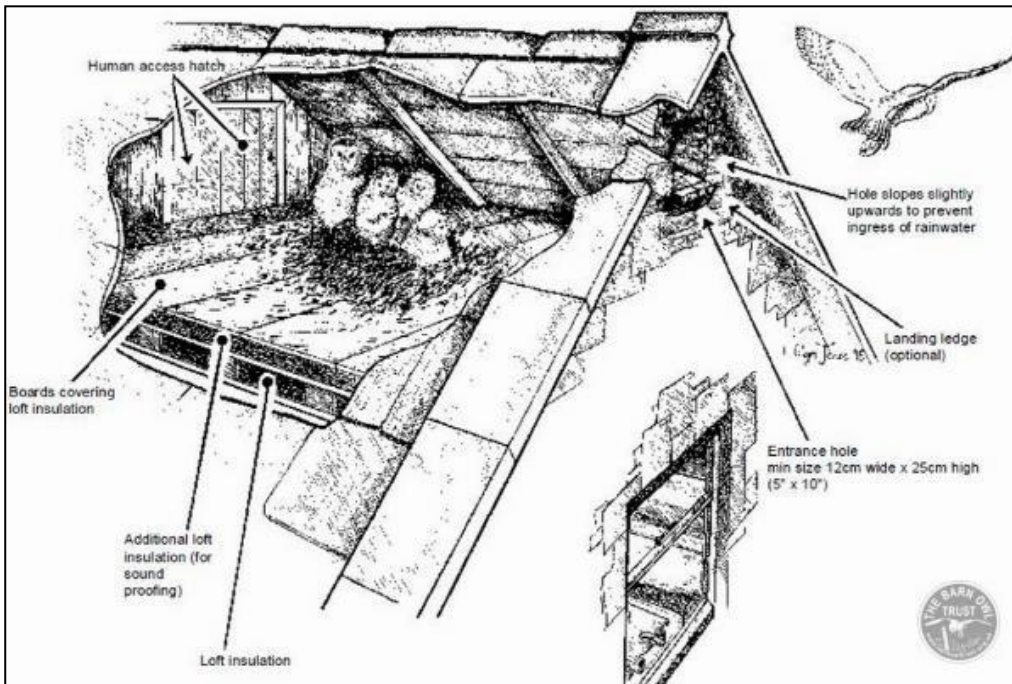
A licence to destroy an active barn owl nest would be highly unlikely to be granted under any circumstance.

If possible, steps should be taken to retain nest sites in the buildings, and an area for swallow nesting should be made available and barn owl box(es) included in the buildings or adjacent areas.

Some compensatory bird boxes could be installed on/ in the renovated buildings.

4.1.5 COMPENSATION

Appropriate mitigation should be in place to provide a long-term nesting/roosting area within the steading building complex for barn owl. Internal owl nest sites are generally better utilised for breeding than external boxes. A permanent accessible roosting and nesting place should be included following guidance within The Barn Owl Trust Guidelines (Barn Owl Trust, 2021). An access hole would be approximately 130mm x 250mm. The bottom of the hole must be smooth and a ledge outside the hole would be appropriate. Behind this should be a self-contained nesting and roosting box and this should have a hatch to allow it to be cleared out periodically. Alternatively, if other areas within a suitable nearby outbuilding are accessible, a ready-made internal barn owl box may be suitable (for example, see <https://www.barnowltrust.org.uk/product/barn-owl-nestbox-barns-buildings/>).



Example of an integrated Barn Owl Roost (Barn Owl Trust, 2021).

If an integral barn owl nesting space is not considered possible for the building, an external owl box should be erected on either the outside of a building or on one of the trees surrounding the site. This should be situated at least 3m above the ground, with no low branches obscuring the entrance hole. Some suitable examples include:

- <https://www.barnowltrust.org.uk/product/barn-owl-nestbox-for-use-on-trees/>
- <https://www.nhbs.com/barn-owl-nest-box>
- <https://www.nhbs.com/flat-pack-barn-owl-nest-box>
- <https://shopping.rspb.org.uk/bird-feeders-boxes-tables/bird-houses-nest-boxes/bird-prey-nest-boxes/barn-owl-nestbox.html>

Due to swallows returning to the same nesting site each year, it would be appropriate to retain an area for these nesting birds, and erect swallow boxes onsite so that a nesting site is still available for them. If boxes cannot be erected onto the new dwelling, adjacent buildings or sheds should be considered for nest sites.

The following bird boxes could be installed for swallows if an appropriate location is available:

- <https://www.nhbs.com/no-10-schwegler-swallow-nest>
- <https://www.nhbs.com/ceramic-swallow-bowl>

The following dropping boards can be used below the nests if required:

- <https://www.nhbs.com/search?q=dropping+board>

4.2 GENERAL MITIGATION

- All workers should receive a 'toolbox' talk during which contractors will be informed of any potential issues regarding protected species on site (including bats, nesting birds, etc.). This will ensure that all site workers are inducted in relation to the ecological requirements on the site.
- An emergency procedure should be in place should any protected species or their resting site (e.g. active bird nest) be encountered during operations. All work should cease in the

area immediately and a suitably experienced ecologist should be consulted to determine any mitigation requirements i.e. suitable set-backs or buffer zones, and consultation with statutory bodies or licence applications if required.

Should other species of note be encountered during works which do not receive enhanced statutory protection, a suitably experienced ecologist should be consulted.

- If works have not begun within 18 months of these surveys (December 2023) update surveys should be undertaken as the status of the buildings may have changed.

5 REFERENCES

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APPENDIX 1 – RELEVANT LEGISLATION

EUROPEAN PROTECTED SPECIES

European protected species are those that are protected by the EC Habitats and Species Directive 92/43/EEC. The Conservation (Natural Habitats, &c.) Regulations 1994 translates this European legislation into UK law. This has been amended in Scotland by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004 and 2007 and the Conservation (Natural Habitats, &c.) Amendment (No. 2) (Scotland) Regulations 2008. EPS includes bats (all species), otter, wildcat and great crested newt. These Regulations make it an offence to deliberately or recklessly:

- capture, injure or kill an EPS
- harass a wild animal or group of wild animals of EPS
- to disturb such an EPS while it is occupying a structure or place it uses for shelter or protection
- to disturb an EPS while it is rearing or otherwise caring for its young
- to obstruct access to a breeding site or resting place of an EPS or to otherwise deny an EPS use of a breeding site or resting place
- to disturb an EPS in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs
- to disturb an EPS in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young
- to disturb such an animal while it is migrating or hibernating

It is also an offence to:

- damage or destroy a breeding site or resting place of such an animal
- keep transport, sell or exchange or offer for sale or exchange any wild animal or plant EPS or any part or derivative of one (from 1st May 2007)

In relation to protected species of animal, licences can be issued under Regulation 44 to permit, for specific purposes, certain actions that would otherwise be against the law. NatureScot is responsible for all EPS licensing under the Habitats Regulations (with the exception of some areas of licensing for whales and dolphins).

There is no provision for development licences as such, however, under Regulation 44 (2e) of the Conservation (Natural Habitats, &c.) Regulations 1994 licences may be granted for:

- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

However, a licence will not be granted unless, importantly under 44 (3), the appropriate licensing authority is satisfied:

- That there is no satisfactory alternative; and

That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

WILDLIFE AND COUNTRYSIDE ACT 1981

The Wildlife and Countryside Act 1981 provides protection to species and habitats. The Nature Conservation (Scotland) Act 2004 amends the Wildlife and Countryside Act 1981 in Scotland.

BIRDS

All wild birds receive general protection to their nest and eggs under the Wildlife and Countryside Act 1981, as amended by the Wildlife and Natural Environment (Scotland) Act 2011. Some species receive enhanced statutory protection due to their listing in schedule 1 of the Wildlife and Countryside Act 1981. It is an offence to disturb a Schedule 1 species while it is building a nest or is in, on, or near a nest containing eggs or young.

There are obligations within the Birds Directive 1979 relating both to protection of species and maintenance of habitats. Birds on Annex 1 to the Birds Directive, regularly occurring migratory species, and birds on Schedule 1 to the Wildlife & Countryside Act are recognised in statute as requiring special conservation measures.

A number of bird species have been highlighted in non-statutory lists as priorities of Conservation Concern in the United Kingdom. This includes those listed in Birds of Conservation Concern 5 and *Priority Species* listed in the UK *Biodiversity Action Plan*. Stanbury *et al.* (2021) assigns all birds according to three categories:

- Red list species - those birds whose populations or range is rapidly declining (recently or historically), and those of global conservation concern;
- Amber list species - those birds whose populations are in moderate decline, rare breeders, internationally important and localised species and those of an unfavourable conservation status in Europe; and,
- Green list species - those other birds occurring in the United Kingdom not included in the red or amber lists above. Further details of the appraisal can be found in Stanbury *et al.* (2021).

APPENDIX 2 – FIGURES

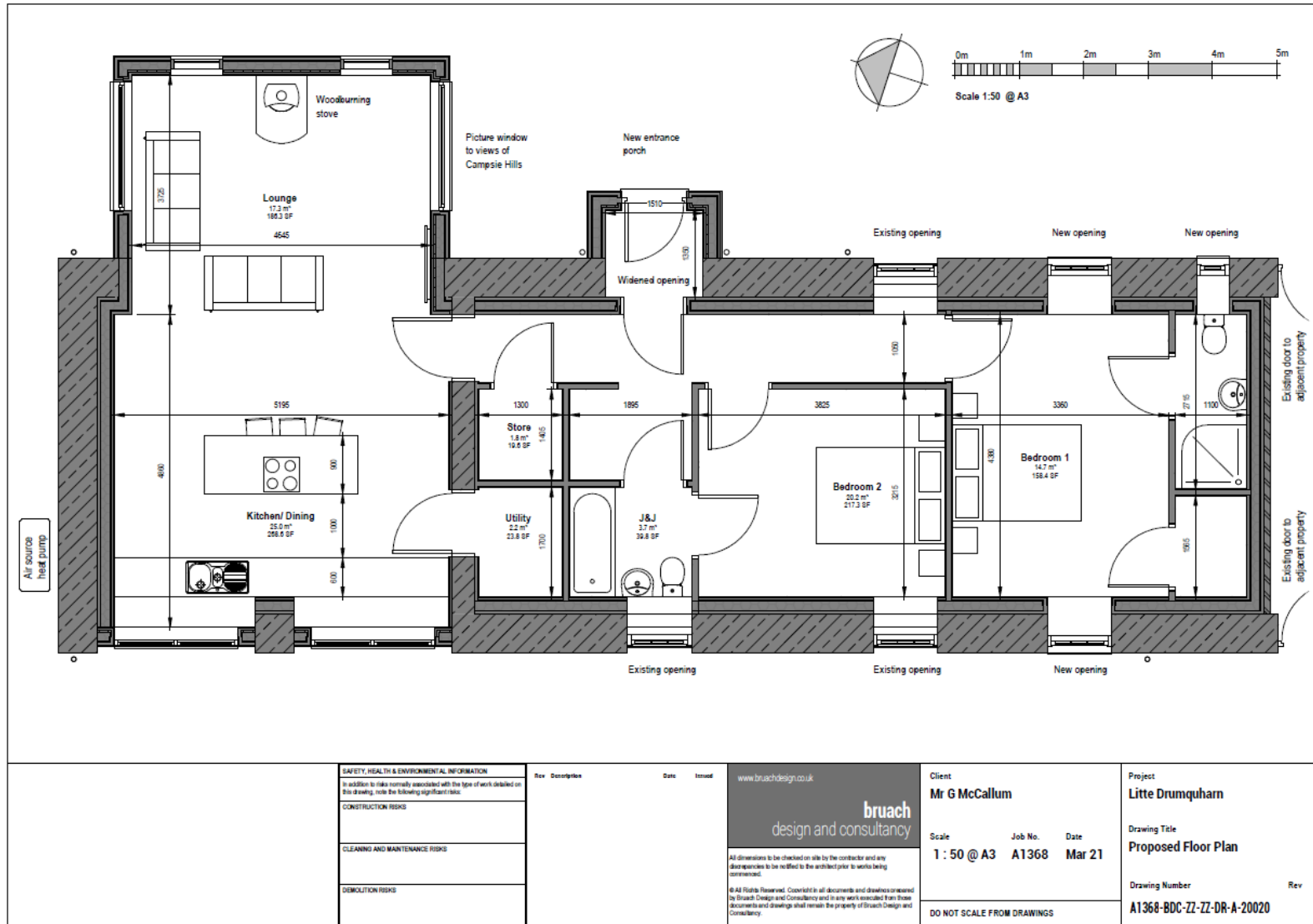


Figure 3: Proposed plans for steading, provided by client