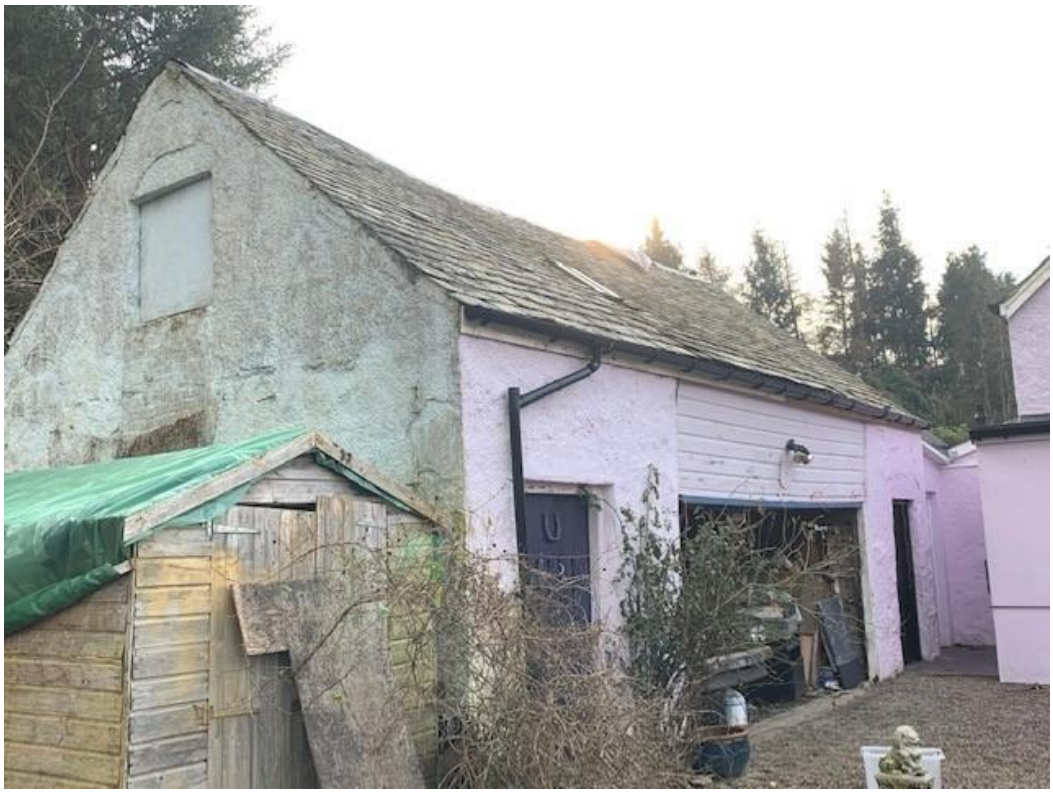
Cottage of Clunie Bat Survey



June 2023

Alison Hannah Ecology

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Executive Summary

Prior to proposed demolition works, bat survey work was carried out on the garage of Cottage of Clunie. No roosting bats were recorded in the garage, only 3 roosting common pipistrelles in the house which will be unaffected by the work. There are therefore no ecological constraints to the proposed demolition works.

As individual bats can frequently change roosts, should contractors find any bats during works, advice should be sought from a licensed bat worker.

1. Introduction

The garage of Cottage of Clunie is to be demolished and a new residential property built on the site. Prior to the proposed demolition work, Alison Hannah Ecology (AHE) were commissioned to carry out appropriate bat survey work.

2. Site Description

Cottage of Clunie, Forneth, Blairgowrie, PH10 6SG (grid ref.: NO 12967 44903) is located 4.4.km west of Blairgowrie. The garage is stone built with a slate covered roof. At the time of survey, the north side of the garage roof has collapsed in the middle section (Photo 3).

There is a mixed woodland block behind the cottage which extends 400 m south to the Lunan Burn. There are therefore bat foraging areas immediately around the cottage.

3. Legislation

Legislation relating to bats is included in Appendix A.

4. Methodology

4.1 Desk Study

A data search was carried out on 1st May 2023 for publicly available bat records on the NBN Gateway[1].

4.2 Preliminary Roost Assessment

A preliminary Roost Assessment (PRA) was caried out by a licenced bat surveyor on 14th February 2023. The aim of the PRA is to assess the potential for, or any evidence of the presence of roosting bats associated with specific habitat features. Where significant potential for roosting is identified, further bat roost surveys are generally necessary to determine the presence or likely absence of a

[1] NBN Gateway - National Biodiversity Network

roost, and to characterise any roost present. The method described below has been followed with due consideration for the current best practice guidelines (Collins, 2016).

A detailed ground level inspection was undertaken to (i) identify any Potential Roost Features (PRFs) and potential bat ingress/egress points, and (ii) locate any evidence of bats such as live or dead specimens, droppings, urine splashes, fur-oil staining, feeding remains (e.g., moth wings) and/or squeaking noises. Torches, an endoscope and high-powered binoculars were used to search gaps where appropriate.

4.3 Evaluation

Following the assessment, the building was assigned one of the following categories in respect of its potential to support roosting bats (adapted from Collins, 2016):

- Negligible – no obvious PRFs
- Low – a structure with one or more PRFs that could be used by 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 by large numbers of bats.
- Moderate – a structure with one or more PRFs 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.
- High – a structure 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.

4.4 Activity surveys

Based on the Preliminary Roost Assessment, the garage was determined to have moderate bat roost potential. As such, in accordance with BCT good practice guidelines, two activity surveys were undertaken to confirm the presence/likely absence of roosting bats in association with the building. New BCT guidance due to be published in September 2023 encourages dusk surveys with night vision aids and discourages dawn surveys. As night vision aids were used, both surveys carried out were dusk emergence surveys.

One surveyor was positioned on the north side of the garage and one on the south.

The dusk emergence surveys commenced 15 minutes before British Summer Time (BST) sunset and finished 1.5 hours after BST sunset.

The surveys were carried out by two experienced surveyors, as summarised in Table 1 below.

Table 1. Bat Activity Survey Details

Date	Survey Type	Weather	Sunset	Start Time	Finish Time
10/05/23	Dusk emergence	11.0^0 C, 50% cloud cover, wind still, dry	21:13	20:58	22:43
26/05/23	Dusk emergence	16.8^0 C, 100% cloud cover, wind still, dry	21:42	21:27	23:12

One surveyor was positioned north of the garage and one to the south. During the survey, each surveyor watched for any bats emerging from the garage or using key flight lines. Surveyors were equipped with Echo Meter Touch 2 detectors connected to Apple Ipads with Echo Meter Recording Software installed. Records were made of all observed bat activity, including time, species and any information regarding behaviour, including the direction of flight, and activity type, e.g., foraging/commuting.

Bat activity was also recorded with infra-red cameras (2 Nightfox Red infra-red cameras with additional lighting from Nightfox XC5 infra-red torches).

Following the surveys, all bat calls were downloaded from the bat detectors and analysed using Kaleidoscope. Sonograms were reviewed to identify any bat calls and/or the presence of non-bat audio data. Non-bat 'noise' files were removed from the data set. Where possible, confirmed bat calls were assigned a bat species (Daubenton's, *Myotis duabentonii*) or genus (e.g., *Myotis* sp.) based on known parameters (e.g., peak frequency of call, call duration, inter-pulse interval). Video footage from the infra-red cameras was also reviewed and where applicable matched with recorded calls.

4.5 Breeding Birds

Whilst carrying out the bat PRA and activity surveys, signs of nesting and roosting birds were checked for.

5. Results

5.1 Desk Study

The search on NBN Gateway produced 3 bat records within 2 km of the site, as summarised in Table 2 below.

Table 2. Data Search Results

Date	Species	Location	Number	Notes
29/06/2017	Common pipistrelle, *Pipistrellus pipistrellus*	NO 1045	2-5	Foraging bats identified with an EchoMeter Touch detector.
29/06/2017	Soprano pipistrelle, *Pipistrellus pygmaeus*	NO 1045	2-5	Foraging bats identified with an EchoMeter Touch detector.
1970-2007	Brown long-eared bat, *Plecotus auritus*	NO 1144	unknown	NatureScot Bat Caseworker record.

5.2 Preliminary Roost Assessment

No signs of bat use were recorded.

The garage is stone bult with wooden roof beams, wooden sarking board and a slate covered roof. Areas with potential for bat roosts include gaps under roof slates and roof flashing (Photos 2 & 4).

Overall, the garage is considered to have moderate bat roost potential, thus requiring two bat activity surveys.

5.3 Activity surveys

Dusk survey 1 (10th May 2023)

No bats were recorded emerging from the garage.

Both soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus*) activity was recorded, particularly on the south side of the garage. The activity is summarised below:

South side of garage: 79 soprano pipistrelle and 28 common pipistrelle passes were recorded. The earliest activity was a soprano pipistrelle pass at 21:30 (17 minutes after sunset). Given the timing, this bat is likely to have been roosting nearby. It came from further south of the garage.

North of the garage: 25 soprano pipistrelle and 4 common pipistrelle passes were recorded. The earliest activity was a soprano pipistrelle pass at 21:29 (16 minutes after sunset). This bat came from the direction of the trees north of the garage. At 21:31 and 21:34 a common pipistrelle emerged from near the western chimney of the house.

Dusk survey 2 (26th May 2023)

No bats were recorded emerging from the garage.

Both soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus*) activity was again recorded. One Daubenton's bat (*Myotis daubentonii*) pass was also recorded. The activity is summarised below:

South side of garage: 54 soprano pipistrelle and 27 common pipistrelle passes were recorded. The earliest activity was a common pipistrelle emerging from the western gable end of the house at 21:56 (14 minutes after sunset).

North of the garage: 23 soprano pipistrelle and 8 common pipistrelle passes were recorded. The earliest activity was a soprano pipistrelle foraging in the garden at 21:49 (7 minutes after sunset). This bat came from the direction of the trees north of the garage. At 22:48 a Daubenton's bat pass was recorded. The bat was not seen and is presumed to have passed north of the surveyor.

5.4 Hibernation Potential

There is a very small possibility that some areas of the building could be used by hibernation bats, however, it is understood that work will begin before the hibernation period.

5.5 Breeding Birds

No breeding birds were recorded using the garage.

6. Summary

The data search produced records of 3 species: common pipistrelle, soprano pipistrelle and brown long-eared bat. Both common and soprano pipistrelles were recorded during the activity surveys. No brown long-eared bats were recorded during the surveys and the record from the data search only provides very general information. These data search results therefore do not add to or alter the findings of the surveys.

No roosting bats were recorded using the garage during bat activity surveys. The 3 roosting common pipistrelles noted emerging from the house will not be affected by the garage demolition works. There are therefore no ecological constraints to proceeding with the demolition work.

As individual bats can frequently change roosts, should contractors find any bats during works, advice should be sought from a licensed bat worker.

7. References

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.) The Bat Conservation Trust, London.

Appendix A. Legislation

All bat species in the U.K. are afforded full statutory protection as European Protected Species (EPS) listed on Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended in Scotland, which transpose into Scots Law, the European Community's Habitats Directive (92/43/EEC). Under the terms of Regulation 39(1), with certain exceptions, it is an offence to deliberately or recklessly:

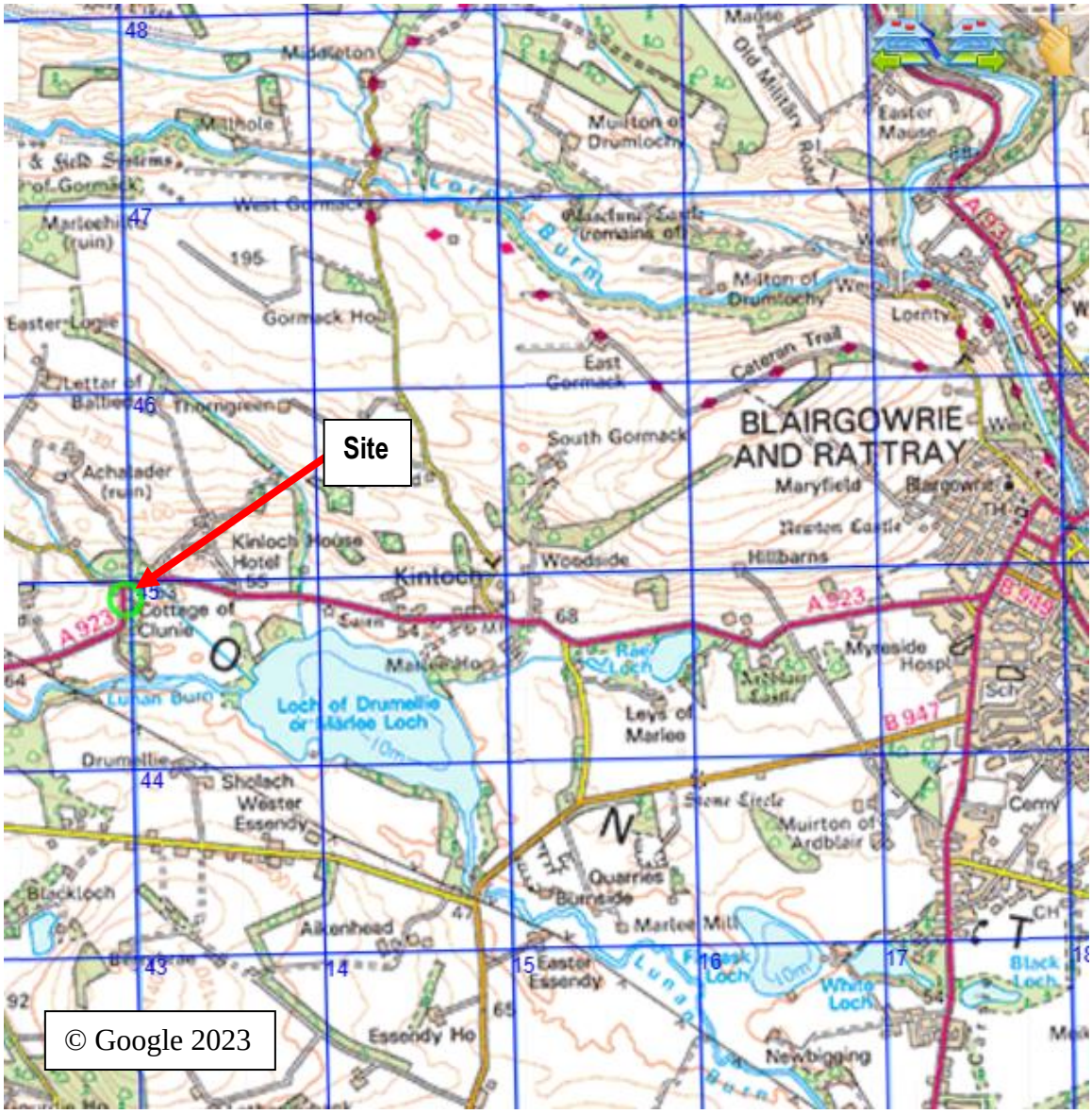
- harass a wild bat or group of wild bats;
- to disturb a wild bat while it is occupying a building or place which it uses for shelter or protection;
- to disturb a wild bat while it is rearing or otherwise caring for its young;
- to obstruct access to a breeding site or resting place of a wild bat, or otherwise to deny the bat use of the breeding site or resting place;
- to disturb a wild bat 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 a wild bat 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; or
- to damage or destroy a breeding site or resting place of such an animal.

All the above protections apply regardless of the stage of the life of the animal in question.

Of the 18 U.K. bat species, ten occur in Scotland: Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*P. pygmaeus*), Nathusius' pipistrelle (*P. nathusii*), Natterer's (*Myotis nattereri*), Daubenton's (*M. daubentonii*), Noctule (*Nyctalus noctule*), Brown long-eared bat (*Plecotus auratus*), Leisler's (*N. leisleri*), Whiskered (*M. mystacinus*), and Brandt's (*M. brandtii*) bats.

Appendix B. Figure 1

Figure 1. Site Location



Appendix C. Photographs

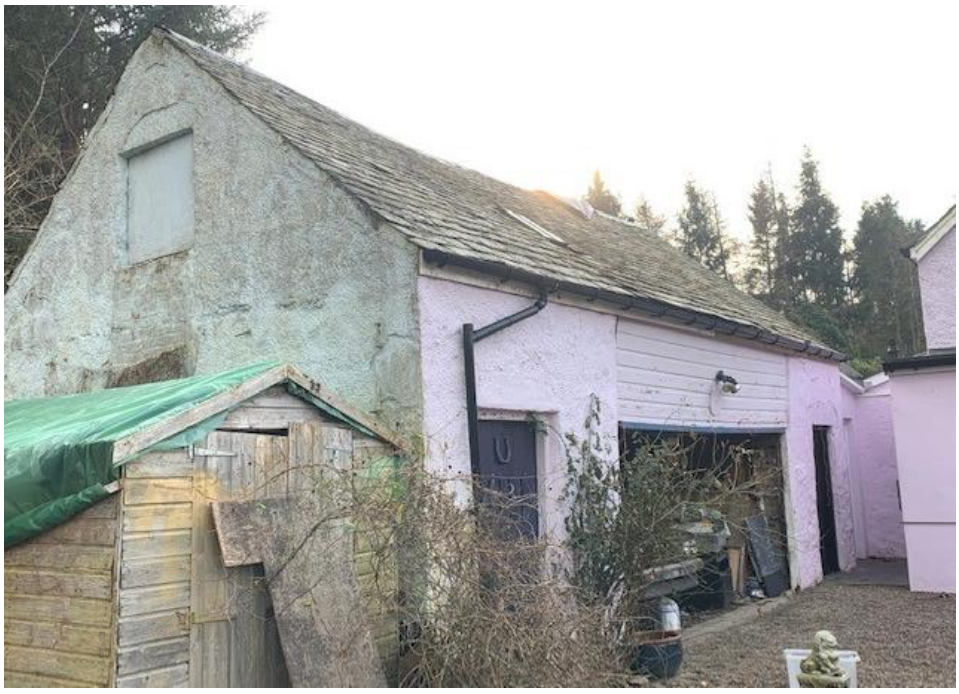


Photo 1. The south and west side of the garage.

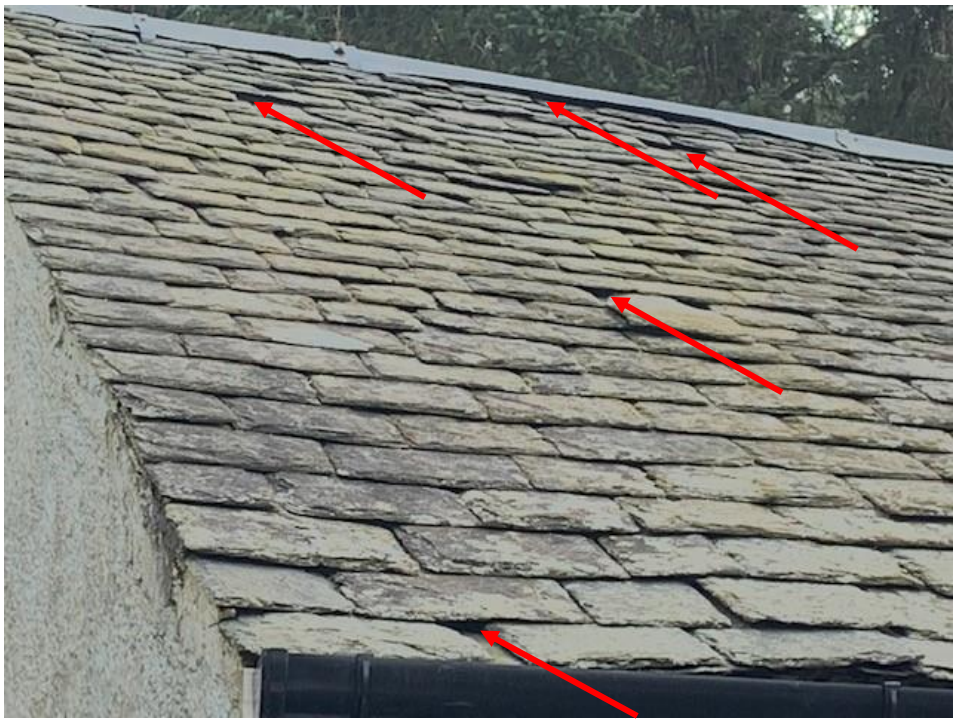


Photo 2. The roof of the south side of the garage with example gaps under roof slates and ridge flashing which provide bat roost potential indicated by red arrows.

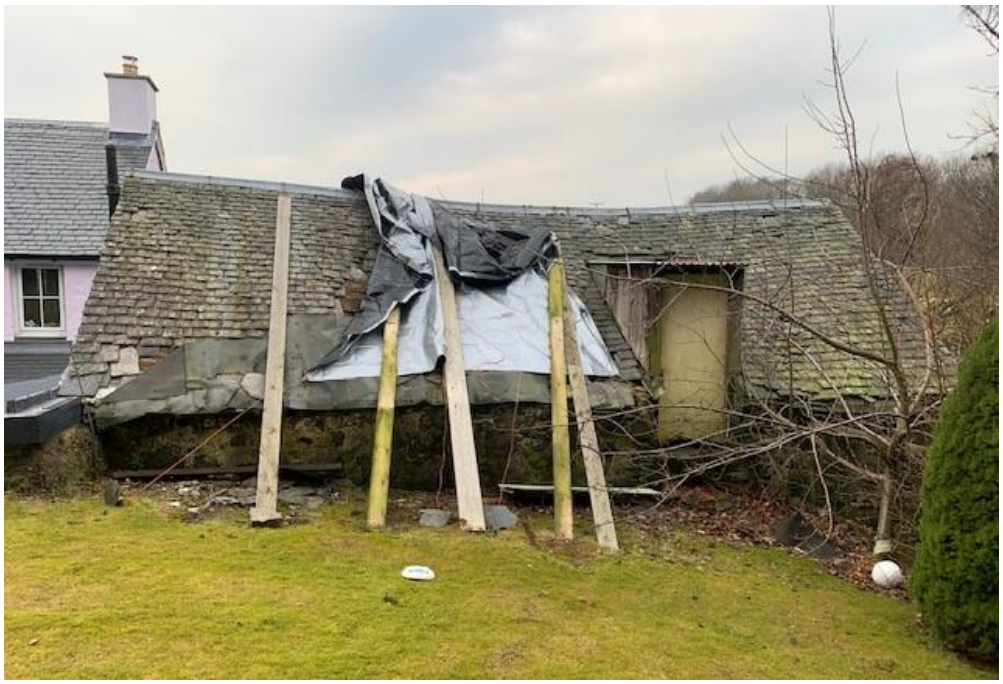


Photo 3. The northern side of the garage.

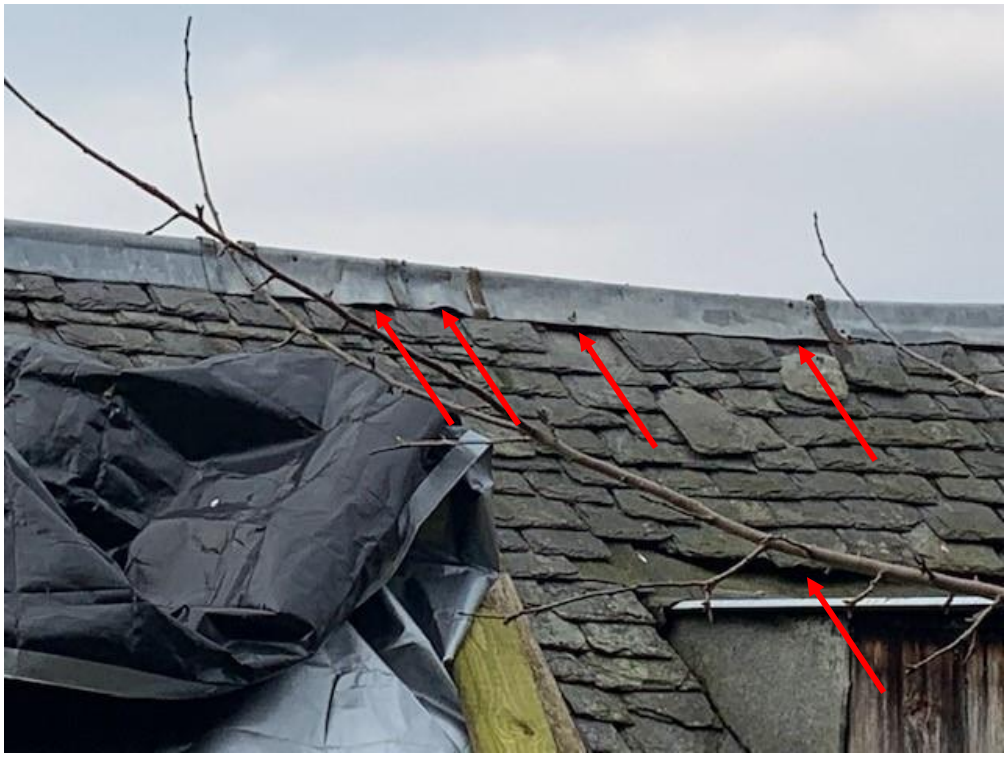


Photo 4. The north side of the garage. Example gaps under ridge flashing and roof slates which provide bat roost poytential are indicated by red arrows.