

Appendix 12.8

Protected Vertebrate 2017 Survey

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1 Introduction

1.1.1 CH2M Fairhurst Joint Venture (CFJV) completed a series of surveys in 2017 to update the ecology baseline and ecological impact assessment of the Proposed Scheme (see **Chapter 12** in **Volume 1**). These 2017 surveys provided an update to the initial protected vertebrate survey undertaken in 2015 by Land Use Consultants (LUC) (see **Appendix 12.7** in **Volume 2**). The surveys also included protected species not considered during the initial 2015 surveys.

1.1.2 On this basis, target species for update surveys were:

- water vole
- badger
- otter
- red squirrel.

1.1.3 Target species surveyed, not considered in 2015, were:

- wood ant
- roosting bats in buildings
- habitat suitability index (HSI) for great crested newt (GCN).

2 Methodology

2.1 Field Survey

- 2.1.1 Field surveys were carried out between July and September 2017 during favourable weather conditions for each species. Guidance followed in relation to suitable weather conditions for undertaking each species survey, is provided under each species **sub-sections 2.2 to 2.9**.
- 2.1.2 Survey personnel included suitably qualified, and where appropriate licenced ecologists, see **Table 12.8.1** for details.

Table 12.8.1: Field survey personnel

| Dates | Surveys | CFJV personnel |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| July to September 2017 | <ul style="list-style-type: none"> - Water vole - Otter - Badger - Red squirrel - Wood ant - Great crested new t habitat suitability index (GCN HSI) - Preliminary Bat Roost Potential (BRP) assessment | Krzysztof Dabrowski (Fairhurst, Assistant Ecologist, Grad CIEEM) Laura Linsley (Fairhurst, Assistant Ecologist) Susan McAuley (CH2M, Project Ecologist, Grad CIEEM) Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM, SNH Bat Roost Licence: 89882) April Park (CH2M, Project Ecologist, Grad CIEEM) John Thompson (Fairhurst, Senior Project Ecologist, MCIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM, SNH Bat Roost Licence: 90533) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) |

2.2 Water Vole

- 2.2.1 Survey methods are detailed in **Appendix 12.7 in Volume 2**. Update surveys were carried out in areas of previously identified water vole habitat (e.g. watercourses, ponds and ditches) and along major watercourses within, and up to 50m from, the Proposed Scheme boundary. Efforts were made to undertake surveys in favourable conditions, as prescribed in relevant survey guidance (Strachan, R. 2011)¹.

2.3 Wood Ant

- 2.3.1 A search for potential habitat features, including nests, was carried out within accessible areas of woodland. In line with current guidance (Hughes & Broome 2007), the survey included a systematic visual inspection of woodland edges, rides and glades within, and up to 50m from, the Proposed Scheme boundary.

2.4 Roosting Bats

Preliminary Bat Roost Potential (BRP) Assessment

- 2.4.1 The 2015 preliminary BRP assessment carried out by LUC identified six structures within the study area and up to 50m from the Proposed Scheme boundary with potential to support

¹ Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford

roosting bats. During 2017, CFJV ecologists carried out a preliminary BRP assessment of each structure in line with current guidance (Collins 2016).

2.4.2 A seventh structure, not noted during the 2015 survey, was included in the 2017 BRP assessment as it may be demolished as part of the Proposed Scheme. Details of all seven structures are provided in **Table 12.8.2**.

2.4.3 As a result of design refinement, a BRP assessment was carried out on two additional structures in February 2018.

Table 12.8.2: Details of structures within the study area

| Structure reference from 2015 LUC BRP assessment | Structure description | Location and Grid Reference |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| BA 1 | A stone-built livestock tunnel below railway line, with gaps in mortar inside the tunnel | West of A9 - NN 69198 95310 |
| BA 7 | Knappach Cottage – small occupied steading-style cottage with a slate roof and un-rendered walls | East of A9 - NN 75528 99163 |
| BA 8 | Ruthven Cottage – small occupied building with shallow pitched roof surrounded by structured planting | East of A9 - NN 75862 99309 |
| BA 13 | Balavil – a large square farm steading, stone-built with slate roof, showing numerous gaps in the stone-work and slipped slates | West of A9 - NH 78996 02309 |
| BT23 | Chapelark – farm steading building with a metal corrugate roof allowing for gaps between the covering and sarking below | East of A9 - NH 78432 01918 |
| BT24 | Chapelark – farm steading in same complex as BT23 with a deteriorating slate roof | East of A9 - NH 78427 01967 |
| NA | Barn opposite Kerrow Cottage with cracks in south facing wall and corrugated iron roof | West of A9 - NH 76603 01216 |
| Additional structures surveyed in 2018 | Structure Description | Location and Grid Reference |
| Glentruim Railway Bridge | Stone railway bridge | West of A9 - NN 69166 95177 |
| Coulintyre Cottage | Occupied cottage adjacent to the entrance of the Highland Wildlife Park | East of A9 - NH 81232 03717 |

2.4.4 The assessment aims to identify and assess features that may support roosting opportunities for bats throughout the year. Structures are categorised as having low, moderate or high roost suitability which informs the number of bat roost activity surveys (emergence/re-entry) required. The recommended survey effort associated with each category is summarised in **Table 12.8.3**.

Table 12.8.3: Recommended survey effort associated with each category of roost suitability

| Low roost suitability | Moderate roost suitability | High roost suitability |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| One survey visit. One dusk emergence or dawn re-entry survey (structures) | Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. Surveys should be at least two weeks apart. | Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. Each survey should be at least two weeks apart. |

Bat Roost Activity Survey (Emergence/ Re-entry)

2.4.5 Bat activity surveys were carried out for structures detailed in **Table 12.8.2** where features with BRP were identified.

- 2.4.6 In line with the current guidance (Collins 2016), emergence (dusk) and re-entry (dawn) surveys were carried out between May and September 2017 to determine presence/ absence of roosting bats. Survey metadata is provided in **Table 12.8.4**.
- 2.4.7 Each survey was completed during favourable weather conditions (e.g. mild, light wind with little or no precipitation). Emergence surveys commenced at least 30 minutes prior to sunset and continued until at least 1.5 hours after sunset. Re-entry surveys commenced at least 2 hours before sunrise and continued until sunrise.
- 2.4.8 Surveyors used hand-held heterodyne, frequency division and/ or real-time expansion bat detectors to help identify bat species in the field and recorded any relevant qualitative data (e.g. species, activity, direction of flight, etc.) on survey forms.

Table 12.8.4: Bat roost activity survey metadata

| Structure name and ID | Date and sunrise / sunset time | CFJV personnel | Sunset/ Sunrise Time | Start time | Finish time | Weather |
|-----------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|-------------|--------------------------------------------------------------------------------|
| Knappach Cottage BA7 | 12th July 2017 | Laura Linsley (Fairhurst, Assistant Ecologist) Susan McAuley (CH2M, Project Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunset 22:05 | 21:30 | 23:30 | Temp 15°C Cloud cover 4/8 oktas No rain No wind |
| | 25th July 2017 | Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) John Thompson (Fairhurst, Senior Project Ecologist, MCIEEM) | Sunrise 05:00 | 03:00 | 05:15 | Temp 10°C Cloud cover 7/8 oktas No wind No rain |
| Ruthven Cottage BA8 | 24th July 2017 | Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) John Thompson (Fairhurst, Senior Project Ecologist, MCIEEM) | Sunset 21:45 | 21:15 | 23:15 | Temp 12°C Cloud cover 4/8 oktas No rain Light breeze |
| | 15th August 2017 | Laura Linsley (Fairhurst, Assistant Ecologist) Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunset 20:56 | 20:25 | 22:30 | Temp 13°C Cloud cover 6/8 oktas No wind No rain |
| Balavil BA13 | 13th July 2017 | Laura Linsley (Fairhurst, Assistant Ecologist) Susan McAuley (CH2M, Project Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunrise 04:30 | 02:30 | 04:30 | Temp 8°C Cloud cover 5/8 oktas No rain No wind |
| | 25th July 2017 | Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) John Thompson (Fairhurst, Senior Project Ecologist, MCIEEM) | Sunset 21:44 | 21:20 | 23:15 | Temp 15°C Cloud cover 8/8 oktas No wind Light rain from 21:54 – 21:57 |

| Structure name and ID | Date and sunrise / sunset time | CFJV personnel | Sunset/Sunrise Time | Start time | Finish time | Weather |
|------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------|-------------|--------------------------------------------------------------------------------------|
| | 16th August 2017 | Laura Linsley (Fairhurst, Assistant Ecologist) Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunrise 05:45 | 03:45 | 05:45 | Temp 9°C Cloud cover 8/8 oktas No wind No rain |
| Chapelark Farm Steading BT23 | 1st August 2017 | Krzysztof Dabrowski (Fairhurst, Assistant Ecologist, Grad CIEEM AEECW) Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunset 21:30 | 21:00 | 23:00 | Temp 10°C Cloud cover 5/8 oktas No wind No rain |
| | 31st August 2017 | Laura Linsley (Fairhurst, Assistant Ecologist) Susan McAuley (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunrise 06:15 | 04:15 | 06:15 | Temp 6°C Cloud cover 2/8 oktas No wind No rain |
| Chapelark Farm Steading BT24 | 2nd August | Krzysztof Dabrowski (Fairhurst, Assistant Ecologist, Grad CIEEM AEECW) Scott McKenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunrise 05:15 | 03:15 | 05:15 | Temp 7°C Cloud cover 7/8 oktas No wind No rain |
| | 29th August 2017 | Krzysztof Dabrowski (Fairhurst, Assistant Ecologist, Grad CIEEM) Laura Linsley (Fairhurst, Assistant Ecologist) Susan McAuley (CH2M, Project Ecologist, Grad CIEEM) Maria Thompson (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunset 20:22 | 19:52 | 21:52 | Temp 10°C Cloud cover 2/8 oktas No rain Light breeze |
| | 11th September 2017 | Dan Wales (Fairhurst, Assistant Ecologist, Grad CIEEM) Laura Linsley (Fairhurst, Assistant Ecologist) Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) Krzysztof Dabrowski (Fairhurst, Assistant Ecologist, Grad CIEEM) | Sunset 19:47 | 19:17 | 21:17 | Temp 12°C Cloud cover 7/8 oktas No wind Light drizzle at start of survey |
| Barn opposite Kerrow Cottage | 26th July 2017 | Scott Mackenzie (Fairhurst, Ecologist, Grad CIEEM) April Park (CH2M, Project Ecologist, Grad CIEEM) | Sunrise 05:00 | 03:00 | 05:00 | Temp 12°C Cloud cover 7/8 oktas No rain Light breeze |
| Glentriem Railway Bridge | 5th June 2018 | Melanie Roxburgh (CH2M, Project Ecologist, CEnv) April Park (CH2M, Project Ecologist, Grad CIEEM) | Sunrise 04:30 | 02:30 | 04:41 | Temp 10°C Cloud cover 7/8 oktas No rain Light breeze |
| | 25th June 2018 | | Sunset 22:16 | 21:45 | 23:45 | Temp 16°C Cloud cover 3/8 oktas No rain Light breeze |
| Coullintyre Cottage | 4th June 2018 | Melanie Roxburgh (CH2M, Project Ecologist, CEnv) April Park (CH2M, Project Ecologist, Grad CIEEM) | Sunset 22:02 | 21:45 | 23:38 | Temp 14°C Cloud cover 6/8 oktas No rain No wind |

| Structure name and ID | Date and sunrise / sunset time | CFJV personnel | Sunset/ Sunrise Time | Start time | Finish time | Weather |
|-----------------------|--------------------------------|----------------|----------------------|------------|-------------|----------------------------------------------------------|
| | 26th June 2018 | | Sunrise 04:23 | 02:32 | 04:37 | Temp 9 °C Cloud cover 0/0 oktas No rain No wind |

2.4.9 Bat roosts recorded within the study area have been classified in accordance with relevant guidance (Collins, 2016), and is shown in **Table 12.8.5**.

Table 12.8.5: Bat roost types (Collins, 2016)

| Roost Type | Description |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Day roost | A place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer |
| Night roost | A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony |
| Feeding Perch | A place where individual bats or a few individuals feed during the night but are rarely present by day |
| Transitional / occasional roost | Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation |
| Swarming site | Where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites |
| Mating site | Where mating takes place from late summer and can continue throughout winter |
| Maternity roost | Where female bats give birth and raise their young to independence |
| Hibernation roost | Where bats may be found individually or together during winter. They have a constant cool temperate and high humidity |
| Satellite roost | An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females throughout the breeding season |

2.5 Great Crested Newt

2.5.1 In line with current guidance (Oldham *et al.* 2000), a habitat suitability index (HSI) assessment was carried out to identify the likely presence of GCN in waterbodies within 250m east and west of the existing A9. Waterbodies were primarily identified from the Phase 1 habitat survey (2014) (see **Appendix 12.2 in Volume 2**) and ordnance survey (OS) maps, as well as waterbodies encountered during fieldwork. Waterbodies located beyond major barriers, such as the River Spey and Highland Mainline (HML) railway, were not assessed as these features present barriers to GCN dispersal.

2.6 Badger

2.6.1 Survey methods are detailed in **Appendix 12.7 in Volume 2**. Update surveys were carried out in areas of potential badger habitat (e.g. woodland and hedgerows) within, and up to 50m from, the Proposed Scheme boundary.

2.7 Otter

2.7.1 Survey methods are detailed in **Appendix 12.7 in Volume 2**. Update surveys were carried out 250m upstream and downstream of watercourses which the existing A9 crosses.

2.8 Red Squirrel

- 2.8.1 Survey methods are detailed in **Appendix 12.7 in Volume 2**. Update surveys were carried out in areas of potential red squirrel habitat (e.g. woodland) within, and up to 50m from, the Proposed Scheme boundary.

2.9 Other Notable Species

- 2.9.1 Whilst not all protected and notable species included within the scope of the wider ecological assessment were included as target species for ecology update surveys, incidental sightings of these species during surveys was recorded.

2.10 Limitations

- 2.10.1 Given the transient nature of wildlife, absence of field signs does not always mean absence of a species. Therefore, surveys have been carried out in line with current professional guidance using suitably qualified ecologists to determine the presence or likely presence of species.
- 2.10.2 Although every effort was taken to plan surveys during favourable conditions, as prescribed in relevant survey guidance, it must be noted that weather in high altitude/ latitude environments (e.g. the Scottish Highlands) can change rapidly. Therefore, whilst surveys avoided adverse weather (e.g. high winds and persistent rain), cooler air temperatures and occasional light rain are representative of local climatic conditions and are not considered to be a constraint to the validity of survey findings.
- 2.10.3 Given that the suitability of water vole habitat can change throughout the season, water vole survey guidance has been updated (Dean *et al.* 2016), and advocates one early visit (between mid-April to June inclusive) and one late visit (between July and September inclusive). Given that the initial water vole survey was completed prior to the publication of this guidance, and that high-altitude habitats are likely to change significantly throughout the season, a single visit was carried out for consistency and following the methods outlined in **Appendix 12.7 in Volume 2**.
- 2.10.4 Bat activity surveys were undertaken in line with current guidance (Collins, 2016). However, at the occupant's request, no dawn re-entry surveys could be carried out on BA8 – Ruthven Cottage. Therefore, two dusk emergence surveys were carried out on this building instead of one dawn and one dusk. This constraint is not considered significant as bat activity was recorded, including the presence of a roost, giving robust baseline data.
- 2.10.5 The size and extent of the buildings at BA13 – Balavil meant that it was not possible to cover all aspects of the structures at any one time. Therefore, the high-risk outbuildings were targeted for the activity surveys, and the low risk residential buildings passively surveyed from the courtyard while surveying the high-risk areas. While this meant that the southern aspect of the low risk residential building was not covered, and not all areas were covered on two of the three visits, the three surveys undertaken are deemed sufficient to cover the buildings high roost suitability. Good bat activity and a range of bat species were recorded at this location, suitable for the baseline impact assessment.

3 Results

3.1 Water Vole

- 3.1.1 Water vole activity levels within the survey area were low, similar to findings of the 2015 survey. Two areas previously identified as having signs of water vole or potential habitat during the 2015 survey (see **Appendix 12.7** in **Volume 2**) were thoroughly searched, however no evidence of the species was recorded. An area of water vole activity, not identified in 2015, was recorded along a ditch adjacent to the existing A9 during the 2017 survey. Evidence of the species included latrines, burrows, feeding signs and runs. Details of the record are provided in **Table 12.8.6** and shown in **Photograph 12.8.1** and **Photograph 12.8.2**.

Table 12.8.6: Water vole survey results

| Chainage and Location | Latrines | Burrows | Runs | Feeding Remains |
|-----------------------|----------------------------------------|--------------------|--------------|-----------------------|
| Ch. 51,250 East of A9 | One latrine present with six droppings | One burrow present | Runs present | Feeding signs present |



Photograph 12.8.1: Water vole latrine



Photograph 12.8.2: Water vole habitat

3.2 Wood Ant

- 3.2.1 Whilst suitable wood ant habitat (e.g. Scots pine and birch woodland) is present within the survey area, no wood ant nests were recorded. ‘

3.3 Bats

- 3.3.1 Bat activity throughout the study area was high, with four species recorded; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pymaeus*, brown long-eared *Plecotus auritus* and *Myotis* sp. Bats have been recorded utilising gardens, woodland and scattered trees throughout the length of the study area surrounding the surveyed building locations. Activity recorded included foraging, commuting and social calling. Bats have been recorded commuting and foraging along woodland surrounding the existing A9.

- 3.3.2 In total, 18 separate confirmed roosts and four potential roosts were recorded within the structures surveyed. A summary of the bat activity survey results can be found within **Annex A – Summary of Bat Activity Survey Results** of this report.

Bat Activity

Preliminary BRP Assessment: Livestock Tunnel (BA1)

- 3.3.3 The livestock tunnel comprises a single span masonry arch tunnel made of stone, which provides cattle access underneath the HML railway; see **Photograph 12.8.3**. The assessment highlighted a number of crevices within the tunnel between the stonework where the mortar has deteriorated. However, these crevices were noticeably damp and unlikely to support suitable roosting conditions. Upon inspection using torchlight, the crevices were documented as superficial with no evidence of bats roosting inside. As a result, BA1 was considered to be of negligible potential to support roosting bats and was not subject to further survey.



Photograph 12.8.3: Livestock tunnel BA1

Bat Roost Activity Survey (Emergence/ Re-entry): Livestock Tunnel (BA1)

- 3.3.4 Due to the structure being of negligible suitability for roosting bats, no emergence/ re-entry surveys were required.

Preliminary BRP Assessment: Knappach Cottage (BA7)

- 3.3.1 Knappach Cottage comprises an occupied two-storey stone dwelling with a pitched roof clad in traditional slate, see **Photograph 12.8.4**. A timber lean-to is present on the north-eastern aspect of the structure. The cottage features a number of dormers with timber framed windows and a lead lined traditional slate roof. Timber barge boards are present across the structure. Habitats surrounding the cottage comprise of plantation woodland, pasture and semi-improved grassland. No evidence of roosting bats (e.g. droppings or staining) was observed during the assessment.

- 3.3.2 Whilst the structure was generally considered to be in good condition, a number of BRP features were noted during the assessment, which included lifted and missing slates, gaps beneath the lead lined ridge and a gap between the guttering and the stonework; though this was considered to be somewhat exposed. As a result, BA7 was considered to be of moderate potential to support small summer day roosts.



Photograph 12.8.4: Knappach Cottage BA7

Bat Roost Activity Survey (Emergence/ Re-entry): Knappach Cottage (BA7)

- 3.3.3 A dusk emergence survey was undertaken on the structure on 12/07/17, in good weather conditions. Moderate levels of bat activity were recorded throughout the survey featuring both common pipistrelle and soprano pipistrelle. The first bat was observed approximately 25 minutes after sunset and flew south, away from the existing A9. Bats were observed foraging and commuting around the structure, with high levels of foraging noted around the vegetation on the south-eastern aspect and at the rear of the structure, adjacent to the north-western aspect. During this survey, a common pipistrelle was recorded emerging from the building, see **Table 12.8.7** and **Photograph 12.8.16** for details.
- 3.3.4 A dawn re-entry survey was undertaken on the structure on 25/07/17, in good weather conditions. Moderate levels of bat activity were recorded throughout the survey featuring common pipistrelle, soprano pipistrelle and *Myotis* sp. bats. Bat activity was concentrated on the south-east aspect, with high levels of foraging observed surrounding the vegetation, whilst much lower levels of activity were observed from the north-western aspect. A common pipistrelle was observed returning to roost in a similar location to the previous survey; it was recorded returning to lead flashing beneath a dormer window, and is considered to be the same roost as was recorded previously during the dusk emergence survey.

Preliminary BRP Assessment: Ruthven Cottage (BA8)

- 3.3.5 Ruthven Cottage is a single storey occupied residential building. It comprises a stone built and painted structure with a pitched slate roof and lead flashing ridge, see **Photograph 12.8.5**. On the northern and southern sides of the building there are single storey extensions with flat felt roofs.

- 3.3.6 Some tiles and lead flashing were noted to be lifted which may provide opportunities for roosting bats. On the northern side, there is roosting opportunity under the guttering pipes on the extension. The mortar is in good condition throughout.
- 3.3.7 Surrounding the building is a stand of semi-mature trees, gardens and agricultural pasture fields.
- 3.3.8 No bats or signs of bats were recorded. Overall, the building was classified as being of moderate potential for supporting roosting bats.



Photograph 12.8.5: Ruthven Cottage BA8

Bat Roost Activity Survey (Emergence/ Re-entry): Ruthven Cottage (BA8)

- 3.3.9 A dusk emergence survey was undertaken on the structure on 24/07/17, in good weather conditions. Common pipistrelle was recorded commuting east to west over the cottage, as well as foraging around the cottage. The most frequent species recorded was soprano pipistrelle, particularly on the northern side of the cottage around the garden and line of trees to the west of the building. A maximum of two bats were observed at any one time. Two separate *Myotis* sp. passes were recorded during the survey, commuting north to south on the west side of the building and foraging over the garden to the north of the building. A single common pipistrelle was recorded emerging from the tiles on the northern side of the building near the ridge tiles, see **Table 12.8.7** for details and **Photograph 12.8.17**.
- 3.3.10 A second dusk emergence survey was undertaken on the structure on 15/08/17, in good weather conditions. Increased presence of common pipistrelle was recorded when compared to the previous visit, with bats commuting and foraging around the cottage. Reduced activity of soprano pipistrelle was recorded, with two individuals observed at any one time. As per the previous survey *Myotis* sp. passes were recorded at the same time as *Pipistrelleus* spp. bat passes. No bats were seen emerging from the tiles on the northern side of the building which were recorded during the previous survey.

Preliminary BRP Assessment: Balavil (BA13)

- 3.3.11 Balavil comprises a large square farm steading with numerous linked buildings of stone construction, with pitched roofs clad in traditional slates, see **Photograph 12.8.6** and **Photograph 12.8.7**. Timber doors and timber framed windows are present with large timber lintels. The structures surround a central courtyard and comprise various stables, kennels and storage

outbuildings. A large two-storey farmhouse with a pitched roof is also present. Habitats surrounding Balavil comprises deciduous and plantation woodland, pasture and semi-improved grassland.

- 3.3.12 The residential farmhouse was considered to be in good condition with limited opportunities for roosting bats; the only exception being small gaps within the slate roof. As a result of this, the structure is considered to be of low potential to support roosting bats.
- 3.3.13 A high number of BRP features were documented across the single large outbuilding that surrounds the courtyard and smaller separate standalone outbuilding to the east of this location. These features included gaps around the windows; gaps in the mortar, particularly where the stonework abuts the roof; numerous gaps and cracks within the stonework; gaps above the doorframes and within the timber lintels; numerous slipped and missing slates; and lifted lead lined ridges. In addition to the BRP features documented, a small number of *Pipistrelle* sp. sized bat droppings were observed on the window ledge of the northern most structure within the courtyard.
- 3.3.14 As a result of the high number of BRP features, the outbuildings are considered to be of high potential to support roosting bats, including roosts of maternity value, which are likely to support locally common species.



Photograph 12.8.6: Balavil BA13 courtyard



Photograph 12.8.7: Balavil BA13 north side

Bat Roost Activity Survey (Emergence/ Re-entry): Balavil (BA13)

- 3.3.15 A dawn re-entry survey was undertaken on 13/07/17, in good weather conditions. Surveyors were positioned to document bat activity from the bat roost potential features in the internal courtyard. Low to moderate levels of bat activity were recorded throughout the survey, with the majority of bats observed commuting across the courtyard towards the plantation woodland to the north-west of the site. Species observed during this survey included common and soprano pipistrelle, brown long-eared and *Myotis* sp. Three confirmed roosts and one potential roost were recorded on this survey, comprising of common pipistrelles and soprano pipistrelles; see **Photograph 12.8.18** to **Photograph 12.8.23** and **Table 12.8.7** for details.
- 3.3.16 A dusk emergence survey was undertaken on 25/07/17, in good weather conditions. Surveyors were positioned to document bat activity from BRP features on the northern and north eastern external aspects of the courtyard. Moderate levels of bat activity were recorded during this survey with bats observed commuting and foraging along the access track to the north of the site, commuting towards the woodland to the north west of the site and foraging around the structures. Species documented during this survey comprised of common and soprano

pipistrelle, brown long-eared and *Myotis* sp. Five confirmed roosts and three potential roosts were recorded on this survey, comprising of common pipistrelles and soprano pipistrelles, see **Table 12.8.7** for details and **Photograph 12.8.18** to **Photograph 12.8.23**.

- 3.3.17 A final dawn re-entry survey was undertaken on 16/08/17, in good weather conditions. Surveyors were positioned around internal and external aspects of the courtyard structures. Low to high levels of bat activity were recorded throughout this survey, with low levels documented around the north east of the site, and high levels of activity documented within the courtyard and to the west of the site. Bats were observed commuting from the woodland in the north west towards the courtyard within the last hour of the survey. A high proportion of the bats then foraged and swarmed within the courtyard. Species documented within this survey include common and soprano pipistrelle. Seven confirmed roosts and one potential roost were recorded on this survey, comprising of common pipistrelles and soprano pipistrelles; see **Table 12.8.7** for details and **Photograph 12.8.18** to **Photograph 12.8.23**.

Preliminary BRP Assessment: Chapelpark (BT23)

- 3.3.18 Chapelpark comprises a simple single length structure. The building is stone built with a pitched metal corrugated roof with timber doors, see **Photograph 12.8.8**.
- 3.3.19 The stonework is in good condition with limited opportunity for bats. There are gaps between timber panels around the roof structure with potential to support roosting bats, but are sub-optimal due to the metal corrugated roof which will exhibit temperature fluctuations that are considered unsuitable for bats.
- 3.3.20 On the southern wall, there are gaps between the fascia and the stone wall with some potential for bats. Overall, the structure is considered to be of moderate suitability for roosting bats.



Photograph 12.8.8: Chapelpark BT23

Bat Roost Activity Survey (Emergence/ Re-entry): Chapelpark (BT23)

- 3.3.21 A dusk emergence survey was undertaken on 01/08/17, in good weather conditions. This survey recorded high levels of activity of both common pipistrelle and soprano pipistrelle, common pipistrelle being the most frequent with many passes recorded around the farm as they foraged; a maximum of two bats were recorded at any one time. A soprano pipistrelle was recorded

commuting early in the survey from the north, over farm buildings and potentially from the existing A9. Unidentified pipistrelle sp. bats were also recorded at relatively low numbers. No roosts were recorded during this survey.

- 3.3.22 A dawn activity survey was undertaken on 31/08/17, in good, albeit colder (6°C), conditions. Activity was significantly lower on this survey with only common pipistrelle and soprano pipistrelle commuting around the site, and were only heard and not seen. No roosts were recorded during this survey.

Preliminary BRP Assessment: Chapelark (BT24)

- 3.3.23 This building comprises two connected barn buildings, both stone built. The western facade of these buildings connects to an open metal-framed, asbestos roof barn structure of negligible potential for bats. One stone section has a hipped roof with traditional slate tiles and lead flashing ridge, the other building comprises a pitched metal corrugated roof structure. Timber doors are present as well as glass skylights in the slate roof.
- 3.3.24 Where slates are present, some are damaged and provide potential opportunities for roosting bats. On the all elevations of the building, gaps are present behind the wooden facias and stone work that provide potential features for roosting bats.
- 3.3.25 Although no bats or signs of bats were recorded, the building is of high suitability for roosting bats.



Photograph 12.8.9: Chapelark BT24 south side



Photograph 12.8.10: Chapelark BT24 north side

Bat Roost Activity Survey (Emergence/ Re-entry): Chapelark (BT24)

- 3.3.26 A dawn activity survey was undertaken on 02/08/17, in good weather conditions. A high level of bat activity was recorded throughout the site with the following species recorded; common pipistrelle, soprano pipistrelle, unidentified Pipistrelle sp. (where calls were too brief or distant to discern species), *Myotis* sp. and brown long-eared bat. Soprano pipistrelle was the most frequent however, common pipistrelle were also often recorded. Activity from these species was frequent between the buildings and the plantation woodland abutting the A9 north of this location, flights over the buildings from the A9 were also observed. A single record of a potential brown long-eared bat flying through open doors of the buildings was made, as well as a single record of a *Myotis* sp. bat observed. During this survey, a bat species (no echolocation) was recorded disappearing between the roof valleys and was classified as a potential roost, in addition three confirmed roosts comprising of common pipistrelle and unidentified pipistrelle

species were recorded. See **Table 12.8.7** for details as well as **Photograph 12.8.24** and **Photograph 12.8.25**.

- 3.3.27 A dusk activity survey carried out on 29/08/2017 in good weather conditions, recorded similar levels of activity to the previous dawn survey. Common and soprano pipistrelle bats were most frequent, with high amounts of foraging and commuting activity recorded around the trees to the north of the buildings along the A9. Multiple passes of *Myotis* sp. were recorded along the northern tree line, foraging under branches between the trees and the buildings. This survey recorded three roosts, comprising of common pipistrelle, soprano pipistrelle and a *Myotis* sp. or brown-long eared species (see **Table 12.8.7** for details along with **Photograph 12.8.24** and **Photograph 12.8.26**).
- 3.3.28 A final dusk survey carried out on 11/09/17, in good weather conditions recorded high levels of common and soprano pipistrelle bat activity, along the woodland to the north of the building with social calls heard. Bats were recorded foraging in and out of the building through open doors, including the large building to the west of BT24. Two passes of brown long-eared bats were recorded along the woodland to the north of the site. Two *Myotis* Sp. bat passes were also recorded on this survey. During this survey, a single roost was recorded that was considered to be a brown-long eared bat, see **Table 12.8.7** for details as well as **Photograph 12.8.26**.

Preliminary BRP Assessment: Barn Opposite Kerrow Cottage

- 3.3.1 This building is a blockwork barn currently used as a stable for livestock. The blockwork is rendered with pebbledash on the exterior with exposed blockwork in the interior, see **Photograph 12.8.11**. It connects to a metal corrugated barn to the east of the building considered to be of negligible potential for supporting roosting bats. The roof is comprised of metal and asbestos corrugated sheeting on a slight incline towards the connected barn.
- 3.3.2 There are limited opportunities for bats in this structure, and although some cracks in the blockwork and render are present on the western side, these were inspected with an endoscope with no bats or signs of bats recorded. There are some lifted and layered asbestos roof sheeting that would provide some, but limited, roosting opportunities for crevice dwelling species.
- 3.3.3 No bats or signs of bats were recorded and overall, the building is of low suitability for roosting bats.



Photograph 12.8.11: Barn opposite Kerrow Cottage

Bat Roost Activity Survey (Emergence/ Re-entry): Barn Opposite Kerrow Cottage

- 3.3.4 A dawn survey was undertaken on 26/07/17 in good weather conditions. Limited activity was recorded however, common pipistrelle were recorded frequently foraging around the buildings as well as flying north east along the tree line of the A9 network. Soprano pipistrelle was also recorded, mainly as quick foraging passes and commuting north to south across the barn. No roosts were recorded during this survey.

Preliminary BRP Assessment: Glentruim Railway Bridge

- 3.3.5 The Glentruim railway bridge is a stone structure which provides local access to the Invernahavon caravan site. The bridge was inspected from out with the Network Rail boundary and as a result, underneath the bridge could not be assessed. The stonework on the north and south side of the bridge was in good condition with no gaps in the mortar; therefore, visible areas of the bridge offered no roosting opportunities for bats (see **Photograph 12.8.12** and **Photograph 12.8.13**). Based on the visible aspects of the bridge, it offers low suitability for roosting bats; however, as the bridge could not be fully assessed a precautionary approach has been applied, and the bridge was concluded to provide moderate suitability for roosting bats.



Photograph 12.8.12: South side of railway bridge



Photograph 12.8.13: North side of railway bridge

Bat Roost Activity Survey (Emergence/ Re-entry): Glentriem Railway Bridge

- 3.3.6 A dawn survey was undertaken on the 05/06/18. Limited activity was recorded during the survey however, a few soprano pipistrelles were recorded flying over the bridge around 03:00. At 03:54 a single soprano pipistrelle was noted flying towards and then away from the southside of the bridge multiple times. This behaviour, known as dawn swarming, is observed before bats enter their roost. The surveyor suspected the bat eventually entered a roost underneath the bridge however, it was difficult to confirm the exact location due to the access restrictions.
- 3.3.7 A dusk survey was undertaken on the 25/06/18. Similar to the dawn survey, bat activity was limited. A single soprano pipistrelle commuted over the bridge at 22:45 and faint calls from bats foraging in the surrounding woodland were noted around 23:00. No roosts were recorded during the survey.

Preliminary BRP Assessment: Coulintyre Cottage

- 3.3.8 Coulintyre Cottage is a single storey modern property. The roughcast walls, windows, doors, stone chimneys and roof tiles are in good condition and offer no roosting potential for bats (see **Photograph 12.8.14**). However, evidence of bats (i.e. droppings) was recorded on the east side of the property underneath approximately 1.5m of guttering (see **Photograph 12.8.15**). The space between the guttering and fascia board where bats had been roosting was not considered to provide access to any other areas of the cottage (e.g. loft space). The space between the guttering and fascia board is present along the east and west side of the property and, whilst no evidence of bats was recorded elsewhere, it does provide suitable roosting habitat. On this basis, the building offers moderate suitability for roosting bats.



Photograph 12.8.14: Roof tiles, chimney, roughcast walls in good condition



Photograph 12.8.15: Bat droppings between the guttering and fascia board

Bat Roost Activity Survey (Emergence/ Re-entry): Coulintyre Cottage

- 3.3.9 A dusk survey was undertaken on the 04/06/18. A number of bats commuted over the cottage roof during the survey. The majority of bats recorded flew west to east over the building. At 22:00 seven soprano pipistrelle bats were seen emerging from the roof slates underneath the chimney.
- 3.3.10 A dawn survey was undertaken on 26/06/18. No bats were seen entering the previously identified roosts, with limited foraging heard in the surrounding area.

Summary of Bat Roosts

- 3.3.11 In total, 20 confirmed roosts comprising of common pipistrelle, soprano pipistrelle, brown long-eared and *Myotis* sp. have been recorded. Four potential roosts comprising of common pipistrelle, soprano pipistrelle and an unidentified bat have been recorded within the study area in multiple locations. **Table 12.8.7** details all roost locations, species and maximum counts within the study area.

Table 12.8.7: Bat roosts recorded within study area

| Bat Roost ID | Roost Reference | Species | Maximum Count | Roost Description | Roost Classification | Date Recorded | Photograph Number |
|----------------------|--------------------|----------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------|-------------------|
| Knappach Cottage BA7 | BA7 R1 | Common pipistrelle | 1 | Bat returned to southern elevation of the building, recorded returning to lead flashing of dormer window | Day roost | 12/07/17 25/07/17 | 12.8.4 |
| Ruthven Cottage BA8 | BA8 R1 | Common pipistrelle | 1 | Single common pipistrelle emerged from the northern elevation of the building and flew west. Roost is located under slate tiles near chimney on eastern side of the building | Day roost | 24/07/17 | 12.8.5 |
| Balavil BA13 | BA13 PR1 | Soprano pipistrelle | 1 | Bat swarming around tiles at this location and disappeared, potentially connected to BA13 R2 | Day roost | 13/07/17 | 12.8.20 |
| | BA13 PR2 | Common pipistrelle | 1 | Bat appeared from ridge of small outbuilding to the east of the main outbuilding, likely in ridge tile if present | Day roost | 25/07/17 | 12.8.23 |
| | BA13 PR3 | Common pipistrelle | 1 | Around the wall and lower tiles in courtyard of building | Day roost | 25/07/17 16/08/17 | 12.8.18 |
| | BA13 PR4 | <i>Myotis</i> sp. / brown long-eared (no echolocation but large bat) | 1 | Under the tiles near the apex of building within courtyard | Day roost | 25/07/17 | 12.8.19 |
| | BA13 R1 | Common pipistrelle and soprano pipistrelle | 11 C. Pips 1 S. Pips | Under the tiles near the apex of building within courtyard, swarming behaviour noted around this location. The presence of a large number of bats in July suggests the roost may also support a maternity colony | Swarming/ maternity roost | 13/07/17 25/07/17 16/08/17 | 12.8.18 |
| | BA13 R2 | Common pipistrelle | 4 | Under the tiles near the apex of building within courtyard, swarming behaviour noted around this location | Swarming roost | 13/07/17 25/07/17 16/08/17 | 12.8.20 |
| | BA13 R3 | Common pipistrelle | 1 | Under the tiles near the wall at the corner of the courtyard | Day roost | 13/07/17 16/08/17 | 12.8.21 |
| | BA13 R4 | Common pipistrelle | 1 | Bat emerged from the window on the northern gable, roost present within the building and likely in crevice within walls or underside of the roof | Day roost | 25/07/17 | 12.8.22 |
| | BA13 R5 | Common pipistrelle | 1 | Under the tiles near the apex of building within courtyard | Day roost | 25/07/17 | 12.8.18 |
| | BA13 R6 | Common pipistrelle | 2 | Under tiles within the courtyard | Day roost | 25/07/17 16/08/17 | 12.8.20 |
| | BA13 R7 | Common pipistrelle | 1 | In cracked mortar of the coping stones below the decorative stone structure | Day roost | 16/08/17 | 12.8.21 |
| BA13 R8 | Common pipistrelle | 2 | Under tiles within the courtyard | Day roost | 16/08/17 | 12.8.20 | |

| Bat Roost ID | Roost Reference | Species | Maximum Count | Roost Description | Roost Classification | Date Recorded | Photograph Number |
|---------------------------------|-----------------|---------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|-------------------|
| | BA 13 R9 | Common pipistrelle | 3 | Under tiles in the northern gable end | Day roost | 16/08/17 | 12.8.22 |
| Chapelark Farm Steading BT24 | BT24 PR1 | Bat (No echolocation) | 1 | In roof valley where the two sections of the building meet | Day roost | 01/08/17 | 12.8.25 |
| | BT24 R1 | <i>Pipistrelleus</i> sp. | 1 | Between wall and roof on southern gable | Day roost | 01/08/17 | 12.8.24 |
| | BT24 R2 | <i>Pipistrelleus</i> sp. | 1 | Into the wall between the roof and wall at the apex above light on southern gable | Day roost | 01/08/17 | 12.8.24 |
| | BT24 R3 | Common pipistrelle | 1 | Between wall and roof on southern gable, located higher than BA24 R1 | Day roost | 01/08/17 29/08/17 | 12.8.24 |
| | BT24 R4 | Soprano pipistrelle | 1 | From window on northern gable | Day roost | 29/08/17 | 12.8.26 |
| | BT24 R5 | <i>Myotis</i> sp./ brown long-eared (No Echolocation) | 1 | From the wall and roof on the northern gable, bat flew down in between woodland and buildings | Day roost | 29/08/17 | 12.8.10 |
| | BT24 R6 | Brown long-eared (No Echolocation, brown long-eared recorded in woodland just after emergence) | 1 | From the wall and roof on the northern gable, bat flew down in between woodland and buildings, further east than BT24 R6. Use of woodland suggests the woodland acts as a light sampling location for roost | Day roost | 11/09/17 | 12.8.26 |
| Glentriem Railway Bridge | GRB R1 | Soprano pipistrelle | 1 | Single bat demonstrating dawn swarming behaviour on the south side of the railway bridge, suspected to enter roost located underneath the bridge | Day roost | 05/06/18 | 12.8.27 |
| Coulintyre Cottage | CC R1 | Soprano pipistrelle | 7 | Seven bats emerged from two separate roosts located underneath the slate roof tiles at the base of the chimney | Maternity roost | 04/06/18 | 12.8.28 |
| | CC R2 | | | | | | |

- 3.3.12 Photographs of each roost are shown in **Photograph 12.8.16** to **Photograph 12.8.26** confirmed roost locations are shown in red, potential roosts shown in purple.



Photograph 12.8.16: Knappach Cottage roost BA7 R1



Photograph 12.8.17: Ruthven Cottage roost BA8 R1



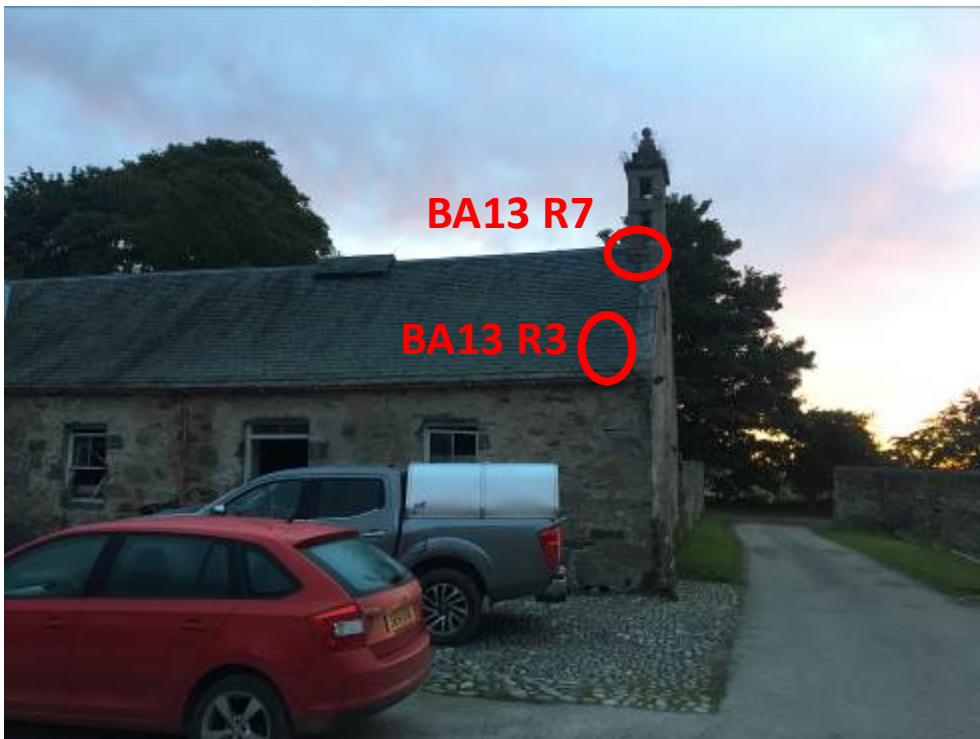
Photograph 12.8.18: Balavil BA13 roosts western courtyard



Photograph 12.8.19: Balavil BA13 roosts northern courtyard



Photograph 12.8.20: Balavil BA13 roosts north eastern courtyard



Photograph 12.8.21: Balavil BA13 roosts eastern courtyard



Photograph 12.8.22: Balavil BA13 roosts northern side of building



Photograph 12.8.23: Balavil BA13 roosts separate eastern structure



Photograph 12.8.24: Chapelpark BT24 roosts southern side



Photograph 12.8.25: Chapelpark BT24 roost PR1



Photograph 12.8.26: Chapelark BT24 roosts northern side including sketch of remaining gable (no image available)



Photograph 12.8.27: Roost with single bat likely underneath the bridge where access was limited.



Photograph 12.8.28: Roosts underneath slate roof tiles of Coulintyre Cottage

3.4 Great Crested Newt

- 3.4.1 The habitat suitability index (HSI) concluded that waterbodies are ‘poor’ or ‘below average’ in terms of the likely presence of breeding GCN (see **Annex B**– Great Crested Newt HSI Survey Results to this report and **Drawings 12.61 to 12.64, Volume 3**, for the location of the ponds). On this basis, breeding GCN are assumed to be absent from habitats within the study area.

3.5 Badger

- 3.5.1 Similar to the findings of the 2015 survey, no evidence of badger was recorded within the survey area despite the presence of suitable habitat. Any large burrows encountered during the survey were thoroughly checked for evidence of badger, however no signs were recorded. It was suspected the burrows were large rabbit warrens given the abundance of smaller burrows and rabbit droppings in the surrounding area.

3.6 Otter

- 3.6.1 Evidence of otter was typically recorded on the same watercourses as the 2015 survey. This included the Burn of Inverton, River Spey and Raitts Burn, three of the major watercourses within the survey area. Signs of otter was limited to spraints, with no resting sites identified. Details of each otter record are provided **Table 12.8.8**.

Table 12.8.8: Otter survey results

| Grid Reference | Watercourse | Location | Description of otter evidence |
|----------------|------------------|-------------|---------------------------------------------------------------------------------------|
| NN 72271 98151 | River Spey | West of A9 | Old otter spraint on rock |
| NN 74385 98880 | Burn of Inverton | West of A9 | Fresh otter spraint on rocks downstream A9 crossing, old spraint upstream of crossing |
| NN 74406 98943 | Burn of Inverton | West of A9 | Old otter spraint at base of culvert where Burn of Inverton passes under access track |
| NH 76469 00531 | River Spey | A9 crossing | Fresh and old spraint under A9 bridge crossing |
| NH 78965 02179 | Raitts Burn | A9 crossing | Otter spraint under A9 bridge crossing |
| NH 78948 02327 | Raitts Burn | West of A9 | Fresh otter spraint underneath bridge where access track crosses Raitts Burn |

3.7 Red Squirrel

3.7.1 Evidence of squirrel was recorded throughout the study area. Feeding signs were recorded in areas of coniferous plantation woodland, including shelterbelt along the existing A9. Areas include Invernahavon, Kerrow Cottage, the existing Kingussie Junction, Chapelpark and Balavil. Details of each record are shown in **Table 12.8.9**. Due to the presence of red squirrel sightings, a precautionary approach was implemented, and these signs are considered to be from red squirrel, and not the invasive non-native grey squirrel.

Table 12.8.9: Red squirrel survey results

| Grid Reference | Location | Habitat Type | Evidence of red squirrel |
|----------------------------------------------------|-------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------|
| NN 69222 95900 | West of A9, Invernahavon | Edge of conifer plantation along fence line | Squirrel feeding signs |
| NN 69243 95938 | West of A9, Invernahavon | Conifer plantation | Squirrel feeding signs throughout block of woodland |
| NN 70744 97281 NN 70813 97415 NN 71123 97509 | West of A9 | Three blocks of conifer plantation | Squirrel feeding signs |
| NN 71202 97398 | East of A9 | Conifer shelterbelt | Squirrel feeding signs |
| NN 75314 99037 | West of A9 | Conifer plantation | Squirrel feeding signs |
| NH 76634 01115 | West of A9 near Kerrow Cottage | Conifer plantation | Old squirrel feeding signs |
| NH 76713 01141 | Small block on woodland, centre of Kingussie Junction | Conifer plantation | Squirrel feeding signs |
| NH 76872 01177 | Small block of woodland alongside B9152 | Conifer plantation | Squirrel feeding signs |
| NH 78327 02048 | West of A9 | Conifer plantation | Squirrel feeding signs present |
| NH 78638 02023 | East of A9, Chapelpark | Conifer plantation | Squirrel feedings signs |
| NH 79019 02250 | West of A9, Balavil | Conifer plantation | Squirrel feeding signs |
| NN 70913 97273 | East of A9 | Conifer plantation | Squirrel drey |
| NN 71047 97498 | West of A9 | Conifer plantation | Red squirrel sighting |
| NH 77932 01896 | West of A9 | Conifer plantation | Drey present with numerous feeding signs underneath. Feeding signs present throughout strip of woodland |

| | | | |
|----------------|---------------------------|---------------------|--------------------------------------------------------------------------------|
| NH 78105 01959 | West of A9 | Conifer plantation | Two dreys, possibly three nearby Lynvoan Cottage |
| NH 78836 02068 | East of A9, West Lodge | Conifer plantation | Two - three squirrel dreys, extensive feeding signs throughout woodland |
| NH 79965 03486 | West of A9, Craighui Wood | Plantation woodland | Red squirrel sighting |
| NH 79949 03552 | West of A9, Craighui Wood | Plantation woodland | Potential drey with no feeding signs below |
| NH 79970 03566 | West of A9, Craighui Wood | Plantation woodland | Dreys noted |
| NH 80001 03600 | West of A9, Craighui Wood | Plantation woodland | Single drey with feeding signs below (feeding signs noted throughout woodland) |
| NH 79756 03390 | West of A9, Craighui Wood | Plantation woodland | Squirrel drey with feeding signs below near track |
| NH 79820 03407 | West of A9, Craighui Wood | Plantation woodland | Five dreys noted with numerous feeding signs throughout woodland |

3.8 Other Notable Species

3.8.1 Incidental sightings of other notable species are presented in **Annex C** – Incidental Observations to this report.

4 References

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Annex A – Summary of Bat Activity Survey Results

Table 12.8.A-1: Bat activity survey results

| Structure name and ID | Date | Number of Passes, Species, Activity |
|-------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Knappach Cottage BA7 | 12/07/17 | Common pipistrelle – 11 passes of common pipistrelle were recorded across the site, mostly relating to quick foraging passes Soprano pipistrelle – Six passes of soprano pipistrelle were recorded, including two individuals foraging around the rear of the building for approximately ten minutes Brown long-eared bat – One suspected brown long-eared bat was observed making short pass, with faint echolocation |
| | 25/07/17 | Common pipistrelle – Most frequent species observed, 24 passes observed, often with two individuals at one time Soprano pipistrelle – Four quick passes by soprano pipistrelle <i>Myotis</i> sp. – One suspected <i>Myotis</i> sp. pass with faint echolocation |
| Ruthven Cottage BA8 | 24/07/17 | Common pipistrelle – Some passes of common pipistrelle commuting east to west over site, also recorded foraging over site with some limited passes Soprano pipistrelle – Most frequent species observed, multiple passes recorded throughout the site, particularly on the northern elevation of the residential garden and the woodland / trees to the west of the site. A maximum of two individuals observed at any one time <i>Myotis</i> sp. – Two <i>Myotis</i> sp. passes were recorded on site, commuting from the north to the south on the west elevation of the building and separately foraging over the garden to the north of the building |
| | 15/08/17 | Common pipistrelle – 17 passes of common pipistrelle commuting and foraging across the site Soprano pipistrelle – Seven passes of soprano pipistrelle recorded, with two individuals observed at any one time <i>Myotis</i> sp. – Two <i>Myotis</i> sp. passes recorded at the same time as passes made up pipistrelle bats |
| Balavil BA13 | 13/07/17 | Common pipistrelle – 14 foraging and commuting passes observed Soprano pipistrelle – Five foraging and commuting passes observed <i>Myotis</i> sp. – Two quick passes across the site Brown long-eared bat – Two suspected passes, both with faint echolocation |
| | 25/07/17 | Common pipistrelle – 35 common pipistrelle passes noted across the full site, commuting and foraging Soprano pipistrelle – One quick pass recorded from soprano pipistrelle <i>Myotis</i> sp. – Three quick passes across the site Brown long-eared bat – Three suspected passes, all with faint echolocation |
| | 16/08/17 | Common pipistrelle – 38 common pipistrelle passes noted across the full site, commuting and foraging Soprano pipistrelle – Five soprano pipistrelle passes, mainly relating to quick foraging passes |

| Structure name and ID | Date | Number of Passes, Species, Activity |
|------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chapelark Farm Steading BT23 | 01/08/17 | Common pipistrelle – 15 common pipistrelle passes noted across the full site, commuting and foraging Soprano pipistrelle – Seven soprano pipistrelle passes noted, commuting and foraging <i>Pipistrellus</i> sp. – Four passes across the site Unidentified bat species – One faint call noted |
| | 31/08/17 | Common pipistrelle – Two common pipistrelle passes, commuting across the site Soprano pipistrelle – Two soprano pipistrelles passes, commuting across the site Unidentified bat – One pass of an unidentified bat, commuting across the site (no identification possible) |
| Chapelark Farm Steading BT24 | 02/08/17 | Common pipistrelle – 14 common pipistrelle passes, commuting and foraging across the site. Soprano pipistrelle – Three soprano pipistrelle foraging and commuting passes noted <i>Pipistrellus</i> sp. – Three passes across the site <i>Myotis</i> sp. – One <i>Myotis</i> sp. pass was recorded, commuting north to south Brown long-eared bat – One suspected brown long-eared bat was recorded flying through the building, with faint echolocation Unidentified bat species – One bat of unidentified species was seen flying up to and around the building, but was not echolocating |
| | 29/08/17 | Common pipistrelle – Nine common pipistrelle passes were noted, mostly foraging across the site Soprano pipistrelle – 20 soprano pipistrelle passes were noted, foraging and commuting across the site <i>Pipistrellus</i> sp. – Six passes across the site <i>Myotis</i> sp. – Eight passes were noted, mostly foraging near the barn Unidentified bat species – One unidentified bat was noted flying across the apex of the barn |
| | 11/09/17 | Common pipistrelle – 13 common pipistrelle passes were noted, commuting and foraging across the site Soprano pipistrelle – Eight soprano pipistrelle passes were recorded, commuting and foraging across the site <i>Pipistrellus</i> sp. – Eight passes across the site, commuting and foraging <i>Myotis</i> sp. – Two <i>Myotis</i> sp. passes recorded, commuting across the site Unidentified bat species – Four passes from unidentified bat species recorded; three observed near the barn not echolocating, and 1 distant call |
| Barn Opposite Kerrow Cottage | 26/07/17 | Common pipistrelle – Five common pipistrelle passes noted foraging around the barn Soprano pipistrelle – Nine soprano pipistrelle passes, mainly relating to quick foraging passes and commuting north-south across the barn |

Annex B – Great Crested Newt HSI Survey Results


Table 12.8.B-1: Great crested newt HSI survey results



| Factor | Pond 1 ch. 44,900 West of A9 | Pond 2 ch. 45,900 West of A9 | Pond 3 ch. 45,950 East of A9 | Pond 4 ch. 46,000 East of A9 | Pond 5 ch. 46,300 West of A9 | Pond 6 ch. 47,900 West of A9 | Pond 7 ch. 49,500 West of A9 | Pond 8 ch. 49,550 West of A9 | Pond 9 ch. 49,850 West of A9 |
|----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| S1 – Location | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C |
| S2 – Pond Area (m ²) | 80 | 400 | 800 | >2000 | 1000 | >2000 | 150 | 35 | 30 |
| S3 – Pond Drying | Never | Rarely | Never | Never | Sometimes | Never | Rarely | Never | Never |
| S4 – Water Quality | Poor | Moderate | Moderate | Good | Good | Good | Poor | Poor | Moderate |
| S5 – Shading | 80% | 5% | 5% | 5% | 0% | 30% | 0% | 10% | 0% |
| S6 – Fowl presence | None | Minor | None | Major | Major | Major | Major | Major | Major |
| S7 – Fish presence | Absent | Absent | Possible | Possible | Possible | Absent | Absent | Absent | Absent |
| S8 – Ponds within 1km | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 2 | 2 |
| S9 – Terrestrial Habitat | Good | Good | Moderate | Good | Good | Good | Moderate | Moderate | Moderate |
| S10 – Macrophyte coverage | 85% | 75% | 50% | 30% | 70% | 30% | 20% | 10% | 20% |
| Habitat Suitability Index | Below Average | Below Average | Below Average | Poor | Poor | Poor | Poor | Poor | Poor |




| Factor | Pond 10 ch. 50,500 West of A9 | Pond 11 ch. 52,000 East of A9 | Pond 12 ch. 52,050 East of A9 | Pond 13 ch. 52,400 West of A9 | Pond 14 ch. 52,500 West of A9 | Pond 15 ch. 52,500 East of A9 | Pond 16 ch. 54,150 East of A9 | Pond 17 ch. 54,900 West of A9 | Pond 18 ch. 55,050 East of A9 | Pond 19 ch. 55,150 East of A9 |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| S1 – Location | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C | Zone C |
| S2 – Pond Area (m ²) | >2000 | 50 | 60 | 20 | 6 | 900 | 30 | 20 | 500 | 100 |
| S3 – Pond Drying | Never | Sometimes | Annually | Annually | Annually | Never | Sometimes | Annually | Never | Never |
| S4 – Water Quality | Poor | Moderate | Moderate | Moderate | Moderate | Moderate | Poor | Moderate | Good | Good |
| S5 – Shading | 50% | 0% | 0% | 100% | 100% | 0% | 100% | 60% | 0% | 0% |
| S6 – Fowl presence | Major | Minor | None | None | None | Minor | None | None | Minor | Minor |
| S7 – Fish presence | Possible | Absent | Absent | Absent | Absent | Possible | Absent | Absent | Possible | Absent |
| S8 – Ponds within 1km | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| S9 – Terrestrial Habitat | Moderate | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| S10 – Macrophyte coverage | 10% | 30% | 60% | 60% | 100% | 20% | 0% | 50% | 20% | 40% |
| Habitat Suitability Index | Poor | Poor | Poor | Poor | Poor | Poor | Poor | Poor | Below Average | Poor |




Annex C – Incidental Observations



Table 12.8.C-1: Incidental observations

| Species | Grid Reference | Location | Observation | Details | Image |
|-----------------|----------------|---------------------------------------|-------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Reptile | NN 75676 98834 | Burn of Inverton, east of A9 | Possible slow worm or common lizard | Possible slow worm/ common lizard sighting in heathland | No image available |
| Common lizard | NN 73137 98375 | East of A9 | Common lizard sightings | Three separate sightings of common lizard in small block of conifer woodland | No image available |
| Common frog | NN 73359 98511 | East of A9 | Common frog sighting | Common frog sighting in heath/ birch scrub at edge of pond | No image available |
| Pine Marten | NN 75366 99244 | East of A9 | Possible pine marten scat | Possible scat on steep slope of River Spey bank |  |
| Bird - Owl | NH 75159 99812 | Insh Marshes, east of A9 (embankment) | Short eared owl sighting | Perched 2m above ground in broadleaved plantation woodland | No image available |
| Bird - Owl | NH 76115 99713 | Insh Marshes, east of A9 | Owl box | Owl box noted in broadleaved plantation woodland | No image available |
| Bird - Wildfowl | NH 76236 00092 | Insh Marshes west of A9 | Six greylag geese sighting | Six foraging greylag geese on grazed grassland | No image available |
| Bird - Waders | NH 76490 00419 | River Spey crossing east of A9 | Three curlews | Three curlews calling on banks of River Spey/ marshy grassland | No image available |

| Species | Grid Reference | Location | Observation | Details | Image |
|-----------------|----------------|-------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Hare Spp. | NH 76490 00419 | River Spey crossing east of A9 | Brown hare sighting | Brown hare on banks of River Spey/ marshy grassland | No image available |
| Bird - Waders | NH 76403 00304 | Insh Marshes east of A9 | Flying curlew | Curlew flying around and over A9 - approx. 20m high over grazed grassland | No image available |
| Bird - Wildfowl | NN 76302 99863 | Insh Marshes east of A9 | Approximately 100 greylag geese | Approx. 100 greylag geese nearby Ruthven Barracks in marshy grassland | No image available |
| Bird - Owl | NH 76713 01141 | Small block on woodland, centre of Kingussie Junction | Owl pellet | Owl pellet recorded in coniferous plantation |  |
| Deer | NH 77047 01642 | West of A9 | Dead roe deer | Deer vehicle collision (DVC) on road verge |  |

| Species | Grid Reference | Location | Observation | Details | Image |
|-----------------------------|----------------|---------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Fox or buzzard | NH 78955 02119 | Raitts Burn downstream of A9 crossing | Scat or pellet deposit – fox or buzzard | Four separate piles of degraded hairy 'mass' on downstream stretch of Raitts Burn, considered to be fox scat or buzzard pellet. Due to the degraded nature, it was not possible to identify further. |  |
| Hedgehog | NH 80782 03371 | East of A9 | Dead hedgehog | Hedgehog road kill on verge |  |
| Invasive Non-native Species | NN 69851 96757 | Ralia café | Rhododendron stand | Rhododendron stand |  |

| Species | Grid Reference | Location | Observation | Details | Image |
|-----------------------------|----------------|------------|--------------------|-------------------------------------------------|--------------------------------------------------------------------------------------|
| Invasive Non-native Species | NH 79591 02741 | East of A9 | Rhododendron stand | Rhododendron stand |  |
| Invasive Non-native Species | NH 79660 02854 | West of A9 | Rhododendron stand | Numerous stands of rhododendron alongside track |  |
| Notable plant species | NH 77960 01903 | West of A9 | Juniper stand | In broadleaved woodland |  |

| Species | Grid Reference | Location | Observation | Details | Image |
|-----------------------|----------------|------------|-------------|--------------------------------------------|-------------------------------------------------------------------------------------|
| Notable plant species | NH 80288 03253 | West of A9 | Juniper | In plantation w oodland on road embankment |  |
| Notable plant species | NH 8050 0328 | East of A9 | Juniper | In broadleaved w oodland |  |