Ecological Impact Assessment

Fieldhead, Luppit

Client: Mrs J. Lott

Date: November 2023

Version	Date	Prepared by	Checked and approved by
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Survey dates: 13/01/2023, 02/05/2023 and 07/06/2023

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BS 42020:2013 Biodiversity - Code of practice for planning and development states, '*ecological information should be sufficiently up to date (e.g., not normally more than two/three years old, or as stipulated in good practice guidance)*'.

Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edt.) states, '*Ideally,* (bat) *survey data should be from the last survey season before a planning or licence application is submitted, although often data older than this can have considerable value*'.

Therefore, this report may not be considered valid more than three years after survey was undertaken, and advice should be taken on validity after one year.

This report has been produced using all reasonable skill and care. Opinions are provided in good faith.

Contents

Executive summary

It is proposed to demolish the bungalow and garage and build a new two-storey dwelling and single-storey garage at Fieldhead, Luppitt, Devon, EX14 4RT, NGR ST 17065 06698.

A preliminary ecological appraisal, consisting of a daytime visual inspection for bats and nesting birds, was undertaken on 13 January 2023 by Richard Green Ecology Ltd. Bat emergence surveys of the building was undertaken in May and June 2023.

The garage had windows along the eastern elevation that allowed light ingress, and the PVC soffits and fascias on the garage and porch were tightly fitting. The garage and porch were therefore considered to be of negligible suitability for roosting bats.

Approximately 20-30 bat droppings were found within the loft of the bungalow, accumulated under the ridge at the gable end along the western elevation. There was missing mortar beneath tiles on the verge of the roof along the western elevation and the south-eastern elevation, and there were gaps under tiles. Bat droppings sent off for DNA analysis were confirmed as from common pipistrelle bats.

No bats were seen to emerge during the May emergence survey. One common pipistrelle bat was seen to emerge during the June emergence survey. It is considered that the bungalow is used as a day roost by a low number of common pipistrelle bats.

Proposed mitigation and enhancement measures for bats include undertaking the work under a watching brief to translocate any bats found; installation of a suitable crevice dwelling bat box on a mature tree on site before works begin; and installation of an integrated bat box along the eastern elevation of the new dwelling.

The site lies within 500 m of Hence Moor SSSI, with a stream along the eastern site boundary flowing into the SSSI approximately 180 m downstream. Measures should be taken during construction to avoid pollution getting into the stream and polluting Hence Moor SSSI further downstream.

With the mitigation and enhancement measures recommended, potential impacts would be minimised to acceptable levels and the favourable conservation status of bats at the site would be maintained.

Bat and bird checklist

1. Impact assessment / survey effort	
Has the impact assessment / survey been done within the last 12 months and does it meet national guidance requirements? If there have been any deviations from national guidance, please select No in the right-hand column.	Yes
2. Ecological impacts	
2a. Proposal impacts on bats / birds and mitigation measures are specified.	Yes
2b. Proposal has other ecological impacts which the LPA needs to consider.	Yes
2c. Is the proposal likely to result in an offence under the Conservation of Habitats and Species Regulations?	Yes Yes (go to 2.d) / No (go to 2.e)
2d. If YES (an offence IS likely) Could the works be undertaken, under a Low Impact Class Licence i.e.: • Three or fewer roosts are impacted by the proposals, and • The proposal will have a low or temporary impact, and • The proposal only effects: - Low conservation status roosts for low numbers of: common pipistrelle, soprano pipistrelle, brown long-eared, whiskered, Brandt's, Daubenton's Natterer's and/or - Feeding, day, night and/or transitional roosts for low numbers of serotine and/or - Day and/or transitional roosts for low numbers of lesser horseshoe.	Yes
2e. If NO (an offence is NOT likely) Does the roost meet any of the following criteria: • Maternity or hibernation roost • Greater horseshoe bat roost • Grey long-eared bat roost • More than three species of bat found in small numbers	N/A
2f. Does the proposal potentially impact on barn owls?	No
3. Expertise	
Are you, the ecological consultant, registered under either the Level 1 or the Level 2 Bat Survey Class Licence?	Yes
Are you a member of CIEEM or a Registered Consultant under Annex B of the Low Impact Class Licence for bats (or under Annex C or D for a serotine or lesser horseshoe roost where relevant)?	Yes

1 Introduction

1.1 Introduction

It is proposed to demolish the bungalow and garage and build a new two-storey dwelling and single-storey garage at Fieldhead, Luppitt, Devon, EX14 4RT, NGR ST 17065 06698.

A preliminary ecological appraisal, consisting of a daytime visual inspection for bats and nesting birds, was undertaken on 13 January 2023 by Richard Green Ecology Ltd. Bat emergence surveys of the building was undertaken in May and June 2023.

This report includes the findings of the surveys and makes recommendations for ecological mitigation and enhancement, in accordance with national and local planning policy and BS 42020:2013 Biodiversity - Code of practice for planning and development.

1.2 Planning considerations

1.2.1 National Planning Policy Framework (NPPF), July 2021

The National Planning Policy Framework outlines the Government's commitment to protect and enhance sites of biodiversity value, and minimise impacts on and provide net gains for biodiversity, including the principle of refusing planning permission if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.

1.2.2 East Devon District Local Plan

The East Devon District Local Plan 2013 to 2031 (adopted in 2016) contains the following relevant strategy and policies:

Strategy 47 – Nature Conservation and Geology

All development proposals will need to:

1. Conserve the biodiversity and geodiversity value of land and buildings and minimise fragmentation of habitats.
2. Maximise opportunities for restoration, enhancement and connection of natural habitats.
3. Incorporate beneficial biodiversity conservation features.

Development proposals that would cause a direct or indirect adverse effect upon internationally and nationally designated sites will not be permitted unless:

a) They cannot be located on alternative sites that would cause less or no harm.
b) The public benefits of the development clearly outweigh the impacts on the features of the site and the wider network of natural habitats.
c) Prevention, mitigation and compensation measures are provided.
d) In respect of Internationally designated sites, the integrity of the site will be maintained.

EN4 - Protection of Local Nature Reserves, County Wildlife Sites and County Geological Sites
Development or land-use changes likely to have an adverse effect, either directly or indirectly, on:

1. Local Nature Reserves.
2. County Wildlife Sites.
3. County Geological Sites.

either as identified on the Proposals Map in the Local Plan or otherwise existing in the plan area will only be permitted if the justification for the proposals clearly outweighs any harm to the intrinsic nature conservation and/or scientific value of the site.

Where development is permitted on such sites mitigation will be required to reduce the negative impacts and where this is not possible adequate compensatory habitat enhancement or creation schemes will be required and/or measures required to be taken to ensure that the impacts of the development on valued natural features and wildlife have been mitigated to their fullest practical extent.

EN5 - Wildlife Habitats and Features:
Wherever possible sites supporting important wildlife habitats or features not otherwise protected by policies will be protected from development proposals which would result in the loss of or damage to their nature conservation value, particularly where these form a link between or buffer to designated wildlife sites. Where potential arises positive opportunities for habitat creation will be encouraged through the development process.

Where development is permitted on such sites mitigation will be required to reduce the negative impacts and where this is not possible adequate compensatory habitat enhancement or creation schemes will be required and/or measures required to be taken to ensure that the impacts of the development on valued natural features and wildlife have been mitigated to their fullest practical extent.

EN14 - Control of Pollution

Permission will not be granted for development which would result in unacceptable levels, either to residents or the wider environment of:

1. Pollution of the atmosphere by gas or particulates, including. smell, fumes, dust, grit, smoke and soot.
2. Pollution of surface or underground waters including:
a) Rivers, other watercourses, water bodies and wetlands.
b) Water gathering grounds including water catchment areas, aquifers and groundwater protection areas.
c) Harbours, estuaries or the sea.
3. Noise and/or vibration.

4. Light intrusion, where light overspill from street lights or floodlights on to areas not intended to be lit, particularly in areas of open countryside and areas of nature conservation value.
5. Fly nuisance.
6. Pollution of sites of wildlife value, especially European designated sites or species.
7. Odour

2 Methods

2.1 Desk study

2.1.1 Sites of importance for nature conservation

A search for sites designated for nature conservation and any notable habitats was undertaken on the DEFRA Magic website (http://magic.defra.gov.uk). This resource includes statutory designated sites (e.g. Sites of Special Scientific Interest, SSSIs) and Biodiversity Action Plan (BAP) habitats. As impacts outside of the site are limited, only sites within 500 m of the site are noted.

2.1.2 Protected species

A search for European Protected Species Licences within 2 km of the site was undertaken on the DEFRA Magic website (http://magic.defra.gov.uk).

Given the small extent and limited effects of the proposal, it is considered that any protected species outside the site would be unaffected. As a detailed survey has been undertaken and any protected species present or potentially present on the site would have been identified, it was not considered necessary to obtain any species records from a local records centre.

2.2 Field survey

2.2.1 Bat and bird survey - visual inspection

The survey involved a thorough visual inspection of the buildings for any signs of protected species. A search for characteristic signs of bats was made, such as droppings, feeding remains, staining, and any bats present. A search was also made for any signs of bird nesting activity.

Equipment used and at hand included: Nikon 10x close-focusing binoculars, Lightway BMFL1265 720 lumen torch, Lightway 160 lumen torch, Ridgid Micro CA-300 inspection camera and a 3.8 m extendable ladder.

2.2.2 Timings and weather conditions

The survey was undertaken by Sophie Duncan on 13 January 2023, during the daytime. The weather was dry, with cloud and light wind. The temperature was approximately 7^{o}C.

2.2.3 *Bat emergence surveys*

Bat emergence surveys were undertaken from 15 minutes before sunset and continued for 90 minutes after sunset. Two surveyors and two night vision aids were used to provide adequate coverage of the building.

Refer to Appendix B for survey dates, details of weather conditions, equipment used, surveyors and surveyor locations.

2.2.4 *Personnel*

Sophie Duncan has over six years' experience in ecological surveys and holds Natural England scientific licences to disturb bats bat licence level 3 (CL19) and 4 (CL20) [2021-52085-CLS-CLS 2021-52086-CLS-CLS] and great crested newts (CL09) level 2 [2018-33607-CLS-CLS].

Other surveyors are experienced in undertaking bat emergence surveys.

3 Survey results

3.1 Desk study

3.1.1 *Designated sites*

The site lies within the Blackdown Hills Area of Outstanding Natural Beauty (AONB).

The site lies approximately 100 m west of Hense Moor SSSI designated for its lowland mixed valley bog.

The site is located within a Great Crested Newt (GCN) *Triturus cristatus* Consultation Zone. These are 5 km buffer zones around existing and historical (post 1970) GCN records. GCN require ponds for breeding in the spring, and woodland, hedgerows, marshes, and tussocky grassland the rest of the year. They hibernate underground, amongst tree roots and in stone walls.

3.1.2 *Protected and notable species*

Two bat licences were granted within 1 km of the site to allow for the destruction of a common pipistrelle bat *Pipistrellus pipistrellus*, brown long-eared bat *Plecotus auritus*, and lesser horseshoe bat *Rhinolophus hipposideros* resting place.

3.2 Field survey

3.2.1 *Habitats*

The site consisted of a bungalow within a residential garden. The site was bounded by woodland and a stream to the north-east and agricultural fields to the north and south, which were bounded by hedgerows interspersed with mature trees. The wider landscape consisted of small streams, woodland, agricultural fields boarded by native hedgerows interspersed with mature trees, pockets of woodland, residential dwellings and farmsteads.

Figure 3-1 – Aerial photograph showing the site and the surrounding landscape

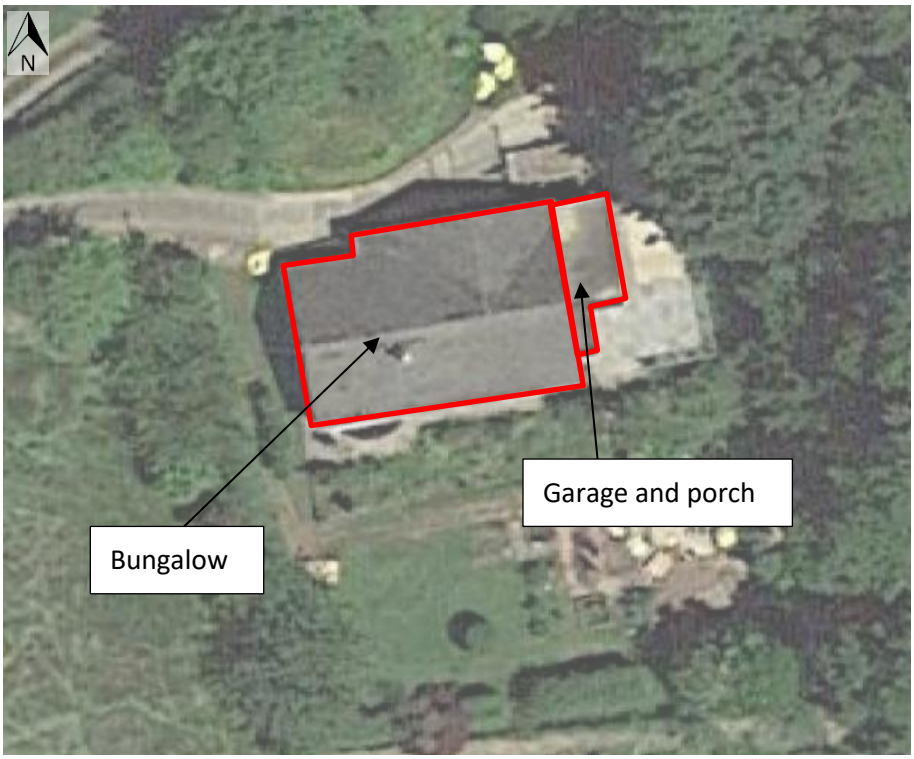


Figure 3-2 – Close-up aerial photograph showing the site and the buildings surveyed

3.2.2 Buildings

(a) Bungalow

The building was of breeze block and rendered construction, with a clay tile pitched roof lined with Type 1f felt and repaired in places with breathable membrane. A brick chimney was located along the southern elevation of the ridge and there were PVC soffits and fascias.

(b) Garage and porch

The garage was of rendered breeze block construction with a flat bitumen roof and sarking. The porch had a flat bitumen roof. There were PVC soffits and fascias around the porch and garage.

3.3 Protected species

3.3.1 Bats

(a) Visual inspection

(i) Bungalow

Approximately 20 -30 bat droppings were found on the internal western gable-end wall under the ridge.

There was missing mortar beneath tiles on the verge of the roof along the western elevation and the south-eastern elevation, and there were gaps under tiles.

(ii) Garage and porch

The windows along the eastern elevation allowed light ingress and the PVC soffits and fascias were tightly fitting. The garage and porch were therefore considered to be of negligible suitability for roosting bats.

(b) Emergence survey

No bats were seen to emerge from the bungalow during the May emergence survey.

One common pipistrelle bat was seen to emerge from the northern elevation of the bungalow during the July emergence survey.

(c) DNA analysis

Bat droppings were confirmed as from common pipistrelle bats (refer to Appendix C). Figure 2 shows the locations of bat droppings collected.

Figure 2: Location of bat droppings collected

(d) Evaluation

The bungalow is used a common pipistrelle bat day roost by a low number of bats.

3.3.2 Nesting birds

No birds' nests were found in or on the garage or bungalow.

4 Assessment, recommendations and mitigation

4.1 Designated sites

4.1.1 Direct impacts

The demolition of the bungalow and garage and construction of a new dwelling and garage would have no direct impacts on Hense Moor SSSI, as any impacts e.g., from building works, would be limited to the immediate site area.

4.1.2 Indirect impacts

Dust and waste products produced from the building works could pollute the stream along the east of the site which connects to Hence Moor SSSI approximately 180 m downstream.

4.1.3 Mitigation

Measures should be taken during construction to avoid pollution getting into the stream and polluting Hence Moor SSSI further downstream.

4.2 Bats

4.2.1 Overview of legislation protecting bats

British bat species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This makes it an offence to kill or injure bats or damage or destroy a place of shelter or protection (see Appendix D for more details).

4.2.2 Impact

The demolition of the bungalow would result in the destruction of a common pipistrelle bat day roost. The works could also potentially result in bats being disturbed, injured or killed during works. The proposed works would therefore require a European protected species licence (EPSL) from Natural England. An EPSL can only be applied for once planning permission has been granted.

The demolition of the garage and porch would not result in the loss of bat roost or result in bats being disturbed, injured, or killed during the works, and would therefore not require an EPSL.

4.2.3 Mitigation

It is considered that mitigation measures could be employed to provide alternative roosting provision for bats, minimise any potential disturbance to acceptable levels and maintain the favourable conservation status of any species that may be present. Recommended mitigation measures include:

- Carrying out works (e.g., roof removal) under an ecological watching brief to ensure no bats are killed or injured.

- Prior to works commencing, one timber bat box, such as a Devon wedge bat box or similar, should be installed on a mature tree on site so that any bats found during the works can be safely relocated.
- One integrated bat box such as a Vivaro Pro Build-in WoodStone Bat Box or similar should be installed at the apex of the eastern elevation of the new dwelling away from any windows and facing towards retained habitat avoiding excess light spill.

External lighting should comply with specification in bats and artificial lighting guidance (BCT & ILP, 2023) to ensure minimal impact to light sensitive bats. No additional external lighting should be installed on site, unless strictly necessary e.g., security lighting. Light spill should be minimised for example, through recessed ceiling lights. There should be no increase in light levels around the replacement bat roosts.

4.2.4 Ecological enhancement

It is recommended that the bat box installed prior to the works commencing, be retained after completion of the works to provide additional long-term roosting provision for bats.

4.3 Nesting birds

4.3.1 Overview of legislation regarding birds

The Wildlife and Countryside Act 1981 (as amended) states that it is illegal to take, damage or destroy the nests of wild birds whilst being built or in use. However, it is not an offence to carry out work in areas that they use, outside of the nesting period (see Appendix D for more details).

4.3.2 Impacts

The proposal would have no impact on nesting birds.

4.3.3 Ecological enhancement

It is recommended that one sparrow terrace be installed along the eastern elevation of the new garage facing towards retained habitat to provide additional nesting opportunities for birds.

5 Conclusion

The proposal will result in the destruction of a common pipistrelle bat day roost and could also result in bats being disturbed, injured, or killed during works. Therefore, an EPSL must be obtained before works commence.

It is considered that with the mitigation and enhancement measures recommended, potential impacts would be minimised to acceptable levels and would maintain the favourable conservation status of common pipistrelle bats.

6 References and bibliography

Bat Conservation Trust and Institute of Lighting Professionals (2023). Guidance Note 08/23 Bats and artificial lighting at night.

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

Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature.

Mitchell-Jones, A.J. & McLeish, A.P. (2004). Bat Workers' Manual – Third Edition. Joint Nature Conservation Committee.

7 Appendices

A Photographs

Plate 1 - Bat droppings within the loft space of the house along the western elevation

Plate 2 - Crevices under the mortar along the western elevation of the house

Plate 3 - Crevice under the mortar along the eastern elevation of the house

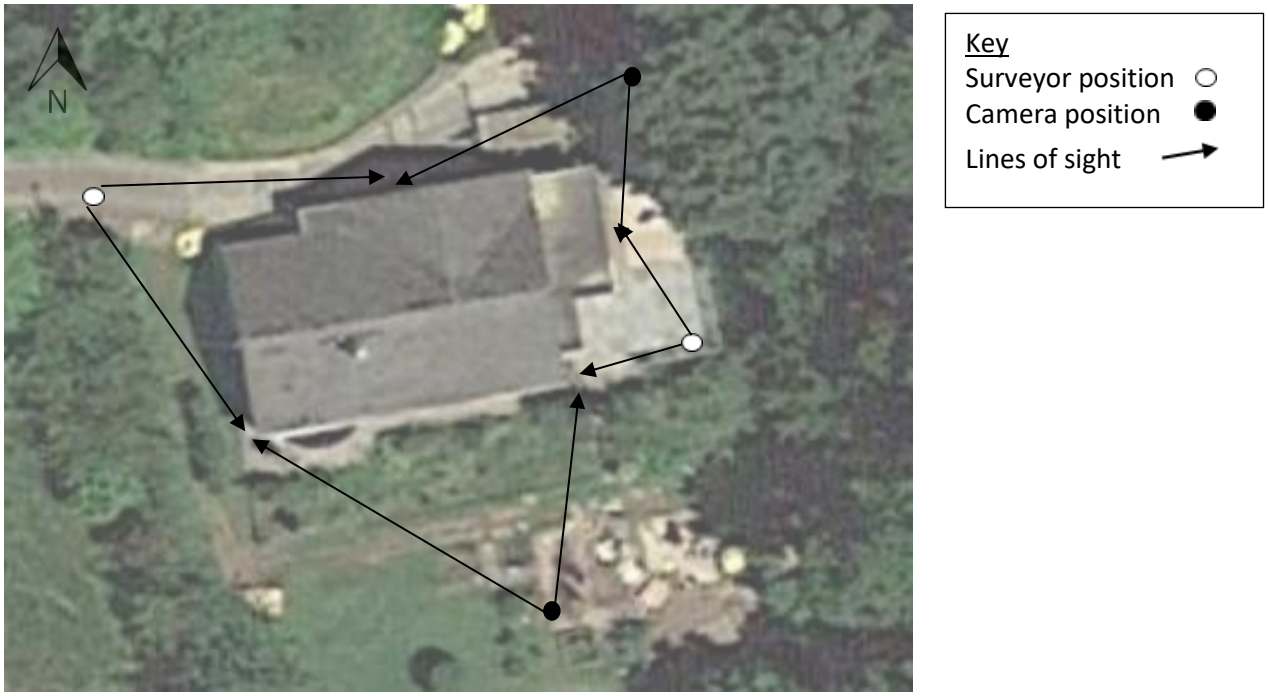
Plate 4 – Southern elevation of the bungalow

Plate 5 – Garage interior

B Emergence survey results

Survey 1

Date	Survey timings	Structure reference	Equipment used	Weather (start and end)
05/02/2023	Start: 20:20 End: 22:05 Sunset: 20:35	Fieldhead	PeerSonic x2 Bat recorder andCanon XA11 X2	Cloud cover: 1/8 – 1/8 oktas Temp: 10°C - 9°C Wind start: Light Wind end: Calm Precipitation start: Dry Precipitation end: Dry
Surveyors *(including Class Licence registration number if applicable)* Kelsey Marratt (accredited agent under bat survey licence (CL20) [2020-47531-CLS-CLS]) and Carly Benson.				
Results:				
No bats were seen to emerge from the building.				



Key	
	Flight line
	Emergence location of Common pipistrelle *Pipistrellus pipistrellus*

Survey 2

Date	Survey timings	Structure reference	Equipment used	Weather (start and end)
06/07/2023	Start: 21:08h End: 22:55h Sunset: 21:23h	Fieldhead	PeerSonic Bat Recorder x1, Anabat Walkabout x1 and Canon XA10 X2	Cloud cover: 1/8 – 1/8 oktas Temp: 15°C - 15°C Wind start: Calm Wind end: Calm Precipitation start: Dry Precipitation end: Dry
Surveyors *(including Class Licence registration number if applicable)* Kelsey Marratt (accredited agent under bat survey licence (CL20) [2020-47531-CLS-CLS]) and James Storey .				
Results:				
One common pipistrelle bat was seen to emerge from under a tile at the apex of the roof along the northern elevation of the house at 21:47h.				

Photographs

Location and flight line of emerging common pipistrelle bat

Summary of peak counts for each roost present

Building ref	Roost location	Species	Peak count	Roost type
Fieldhead	Loft/wall-top	Common pipistrelle	1	Day roost

Still shots from night vision aids (NVAs) taken at the darkest point of the surveys

Survey 1

North-eastern elevation of the building

Southern elevation of the building

Survey 2

North-western elevation of the building

Southern elevation of the building

C DNA analysis results

Ecotype Genetics

Sample Results Form

Date
21/2/23

Order Number
EG-RG-0099

Sample No.	Analysis Type	Sample Type	Suspected species	Site location (Postcode/Grid reference)	DNA extraction code	Species Identified	ID method	Ct value/ % match
2	Mixed	Faecal	LE, Myo, Ppip	Lott, Fieldhead (ST 17065 06698)	EG-2023-0104	Pipistrellus pipistrellus (Common pipistrelle bat) **Note: All UK bat species tested for - only a single species detected in this sample**	qPCR	25

What do my results mean?

DNA extraction code - this identifies the DNA extraction sample within our laboratory so that it can be revisited if necessary. We keep these extractions for a minimum of 3 months.

ID method: *qPCR* - These results are obtained using species specific qPCR (aka real-time PCR) tests. A positive result indicates the presence of DNA from the species reported.

ID method: *DNA sequencing* - where qPCR fails or is not possible, standard DNA sequencing will be performed. Sequences are then matched against the BLAST database.

Ct value - This is a relative measurement of the amount of species DNA in the sample, derived from the qPCR data. The lower the value the more DNA present in the reaction. This is for laboratory reference only.

% match - this value is the percentage match of sequences derived from DNA sequencing compared to the database. Due to differences in DNA sequence between individuals within a species this match may not always be exactly 100%.

D Legislation

This is a summary of relevant legislation, however it is recommended that proper legal advice be sought as necessary.

D.1 Bats

All bat species and their roosts are protected in the UK under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which implement the EC Directive 92/43/EEC, also known as the Habitats Regulations.

They are also protected under the Wildlife and Countryside Act 1981 (as amended), through inclusion in Schedule 5, and under the Countryside and Rights of Way Act 2000.

Taken together, these acts and regulations make it illegal to:

- intentionally or deliberately kill, injure or capture bats;
- deliberately or recklessly disturb bats *;
- damage, destroy or obstruct access to places of shelter, breeding sites or resting places used by bats;
- have in one's possession or control, any live or dead bat; and
- sell, barter or exchange bats, or parts of bats.

*Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 it is illegal to deliberately disturb bats. In particular, any disturbance which is likely (a) to impair their ability to survive, to breed or reproduce, to rear or nurture their young, or to hibernate or migrate, or (b) to affect significantly the local distribution or abundance of the species to which they belong.

*Under the Wildlife and Countryside Act 1981 (as amended) (Section 9(4)(b)) it is illegal to intentionally or recklessly disturb bats whilst in a place of shelter, although there is a defence under Sections 10(2), 10(3)(c) and 10(5) that allows this otherwise prohibited act. In summary, there is a defence if the disturbance was an incidental result of a lawful operation and could not have reasonably been avoided. The defence applies provided that the appropriate Statutory Nature Conservation Organisation (Natural England) has been notified and allowed a reasonable time to advise on whether the proposed action should be carried out and, if so, the method to be used.

Developments that compromise the protection afforded to bats under the provisions of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 will almost invariably require a licence to do so lawfully from Natural England. Three tests must be satisfied before Natural England can issue a licence to permit otherwise prohibited acts:

1. Regulation 55(2)(e) states that licences may be granted to "preserve 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."

2. Regulation 55(9)(a) states that a licence may not be granted unless "there is no satisfactory alternative".

3. Regulation 55(9)(b) states that a licence cannot be issued unless the action proposed "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

D.2 Nesting birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and it is thus an offence, with certain exceptions, intentionally to:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird (dead or alive) or any part of a wild bird which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention to the Act. This includes items taken or killed before the passing of the Act.
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered (and in some cases ringed) in accordance with the Secretary of State's regulations.
- Disturb any wild bird listed on Schedule 1, which includes the barn owl, while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.