

Ecological Impact Assessment - Bats and Birds

Cockshot Farm, Brinkburn, NE65 8AP



Client: Leila Green

Date: 11th April 2022

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VERSIONING AND QUALITY CONTROL

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The evidence which we have prepared and provided is true, and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

LONGEVITY

Survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factor (Collins, 2016).

If development works do not begin within eighteen months to two years of the date of the final survey (30/07/2021), an update survey may be required in accordance with guidance in BS 42020:2013¹ and CIEEM (2019), to determine if conditions and evidence of bat use has changed since described in the current report.

¹ As set out in Section 6.2.1, Point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance.

SUMMARY

Brief and Site Location	This report presents the findings of an Ecological Impact Assessment (EclA) for bats and birds of a proposed development at Cockshot Farm, Brinkburn, NE65 8AP (Ordnance Survey Grid Reference centred at: NZ 1187 9986). Two structures were surveyed; a granary building and a garage, referred to in this this report as B1 and B2 respectively.
Proposed Works	Plans are to convert two buildings, a granary (B1) and a garage (B2), into residential units. A planning application is being prepared for submission to Northumberland County Council.
Work undertaken	<p>A preliminary roost assessment (PRA) for bats and birds was undertaken by Tyne Ecology in May 2021. The PRA determined that the building B1 required two bat emergence/re-entry surveys and B2 required one bat emergence survey.</p> <p>Two surveys were undertaken of B1:</p> <ul style="list-style-type: none"> • 09/07/2021 Dusk emergence • 30/07/2021 Dawn re-entry <p>One survey was undertaken of B2:</p> <ul style="list-style-type: none"> • 09/07/2021 Dusk emergence
Survey Results	<p>The bat emergence/re-entry surveys of B1 found soprano pipistrelle bats (max 6) entering to roost on the dawn survey (30/07/2021). This roost is considered to be a day roost (see Appendix VIII: Bat Roost Definitions).</p> <p>The bat emergence survey of B2 found no roosting bats.</p> <p>Roof works to the Granary (B1) appear to have resulted in the destruction of a day roost (count of 1 bat) of Natterer’s bat.</p>
Roost Destroyed	<p>A Natterer’s day roost (count 1) was found to have been destroyed by re-roofing of B1. The matter was reported to the local wildlife crime officer who responded, ‘From the details provided it would appear an offence has been committed contrary to The Conservation of Habitats & Species Regulations 2017, however given that loss was not of a large scale and seemingly historic in nature, with the owner happy to cooperate with remedial action, reinstating and enhancing roost provision, it is not proportionate to pursue any prosecution.</p> <p>Providing any works done/proposed are to satisfaction of NE, NCC and yourselves I am proposing No Further Action be taken.’</p>
Mitigation, Licensing and Enhancement Recommendations	A Bat Mitigation Licence must be obtained in order for works to be legally undertaken. (Such a licence allows for derogation from the legal protection afforded to bats and their roosts and is required to allow the roost site to be legally destroyed and bats to be disturbed). At the time of writing a Bat Mitigation Class Licence (BMCL) would be appropriate for this development proposal and can be used by a Registered Consultant (RC) after registering the site with Natural England.

	<p>In order to rely on the BMCL, a detailed method statement must be prepared by a RC to ensure that bats are not killed or injured and the site must be registered with Natural England before works commence.</p> <p>No works can proceed until the BMCL has been granted.</p> <p>To mitigate for the loss of a day roost of a Natterer’s bat (count 1) from the gable end of B1, the non-bitumen roof liner, also known as breathable roof membrane (BRM) or modern roof membrane (MRM), must be replaced with a traditional type F1 felt with a hessian matrix is to be used, and 2 x bat access slates (Habibat bat access slate or similar) must be installed in the roof, 1 on the north elevation and 1 on the south (as shown in Appendix III). BRMs can result in entanglement and death of bats and would have not been permitted to be installed had roof works been undertaken under licence (https://www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-coated-roofing-membranes).</p> <p>The soprano pipistrelle roost in B1 will be re-instated with roost access points created at the eaves.</p> <p>To provide enhancements two additional bat access slates must be installed in the granary roof and a bat box (Beaumaris Woodstone Bat Box or similar) installed on the east elevation of B2.</p> <p>Mitigation has been marked on plans to be submitted with the planning application – see Appendix III: Proposed Development/Mitigation Plan.</p> <p>Artificial lighting must be avoided where possible but if required it must follow ILP guidelines: https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?1542109349</p> <p>Works of B2 must avoid the swallow nesting season March-September (inclusive).</p> <p>Mitigation for loss of swallow nest sites must be undertaken with the provision of a log store on the north gable of B2. The log store must have doors to prevent access by predators (but allow swallow access), and be a minimum of 2m high, 1.5 wide and a min 0.8 m deep, with a roof pitched from back to front. A length of timber such as a roof batten (19mm x 38mm) should be fixed horizontally along the back of the store approx. 75mm from the apex, to create a small ledge to allow nest building. See Appendix III.</p> <p>Mitigation provision for swallows must be checked by a suitably experienced ecologist, once it has been installed, and confirmation of provision made to the local planning authority in writing by the ecologist.</p>
<p>Conclusions</p>	<p>Providing the recommendations given within this report are followed, the proposed development can proceed without detriment to the maintenance of the population of bats at a favourable conservation status, or negative impacts on other protected and priority species and habitats.</p>

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1 INTRODUCTION

- 1.1 Tyne Ecology was commissioned by Leila Green(the client) to undertake an Ecological Impact Assessment (EclA) for bats and birds of a proposed development at Cockshot Farm, Brinkburn, NE65 8AP (the site) centred at grid reference NZ 1187 9986.
- 1.2 Two structures were surveyed; a granary building and a garage, referred to in this this report as B1 and B2 respectively.
- 1.3 Plans are to convert two buildings, a granary (B1) and a garage (B2), into residential units. A planning application is being prepared for submission to Northumberland County Council.
- 1.4 The principal author of this report is Tim Sexton, who holds a BSc Honours degree in Environmental Studies, Natural England Bat Licence Level 2 no: 2020-44753-CLS-CLS, and qualifying membership of the Chartered Institute of Ecology and Environmental Management (CIEEM), membership no: 17054.

Site description

- 1.5 The site consists of a farm house and outbuildings in rural Northumberland. The site surrounded by open farmland with hedgerows. There is ancient woodland nearby to the south and wood pasture and parkland to the north.



Figure 1: Aerial image of the site (red dot denotes the site). Image used under licence (Google 2021). Imagery date 28/05/2021.

Purpose of this report

- 1.6 This report aims where possible to provide sufficient information for the local planning authority to fully assess the potential ecological impacts of the proposed development on bats and birds, or alternatively, to identify what further information is required to fully inform the scheme.
- 1.7 Surveys have been used to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed development.

2 METHODOLOGY

Desk study

- 2.1 A biodiversity desk study was undertaken in relation to the site in May 2021. The sources consulted and the type of information obtained are summarised in Table 1.

Table 1: Sources of biodiversity and ecological records.

Source	Information requested (search buffer from site centre/boundary)
Multi-Agency Geographic Information for the Countryside (https://magic.defra.gov.uk/)	<ul style="list-style-type: none"> • Designated Sites (1km) • Priority Habitats (1km) • EPSLs (1km)
Northumberland Bat Group	<ul style="list-style-type: none"> • Bat Records (2km)

- 2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (Zoi) of the proposed development (<https://www.biodiversityinplanning.org/wp-content/uploads/2019/12/BDS-Guidance-final.pdf>).
- 2.3 The impact of the proposed development on the biological integrity of any nearby designated protected sites has been fully considered.
- 2.4 The impact of the proposed development on protected species has been fully considered.
- 2.5 Maps related to the desk study are shown in Appendix IV.
- 2.6 A search was undertaken for previous ecological survey information for the site via the Northumberland County Council Planning Portal (<https://publicaccess.northumberland.gov.uk/online-applications>).

Preliminary Roost Assessment/Field Survey

- 2.7 A field survey was undertaken on the 28/05/2021
- 2.8 An assessment of the structures/trees to be impacted by the development was undertaken in accordance with the latest published best practice guidance (Collins, 2016).
- 2.9 Structures/trees were externally and internally inspected for bats and their signs with the aid of a Ledlenser P7 torch, Leica 8x32 BN close focussing binoculars, and a Ridgid CA-350 endoscope.
- 2.10 The suitability of structures/trees on site for bats to roost in was assessed, along with a systematic search for signs of bats (e.g. droppings, moth/butterfly wings, scratch marks, staining) or actual bats that were present. Particular attention was paid to the roof areas, with searches for gaps in walls, gaps between beams and joists, droppings stuck to the walls, floors or other surfaces, or feeding remains below beams.
- 2.11 In addition, structures/trees were classified according to suitability for bats, based on the presence of features within them and / or landscape (see Table 2).
- 2.12 The site habitats were assessed for suitability for bats (see Table 3)
- 2.13 Evidence of barn owls and other breeding birds was recorded.
- 2.14 A note was made of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of protected/priority species.

Table 2: Summary of guidelines for assessing the potential suitability of proposed development sites for bats (from Collins 2016).

Suitability	Description of roosting habitats	Number of activity survey visits required (for a negative survey result to support a conclusion that bats are not present)
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).	One
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status	Two
High	A structure or tree with one or more potential roost sites obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.	Three
Confirmed roost	Evidence of bats or use by bats found	Minimum of two to characterise the roost

Table 3: Summary of guidelines for assessing bat habitat suitability (from Collins 2016).

Suitability	Description of commuting and foraging habitats
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<p><u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p><u>Foraging Habitat</u> Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	<p><u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p><u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	<p><u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p><u>Foraging Habitat</u> High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p><u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.</p>

- 2.15 The PRA was undertaken on the 28/05/2021 by Tim Sexton who holds an Honours degree in Environmental Studies and a Natural England Bat Licence Level 2 no: 2020-44753-CLS-CLS. He has 17 years' experience of surveying for bats.

Limitations and assumptions

- 2.16 Many species of bat in the UK are crevice dwelling, and bats or signs of bats can be difficult to find within a building.
- 2.17 No bat records have been received from Northumberland Bat Group.

Bat emergence/re-entry surveys

- 2.18 Bat emergence/re-entry surveys were undertaken of B1 and B2 by two surveyors observing each building, positioned to observe all potential roost features.
- 2.19 During the dawn survey of B1 a third surveyor was in attendance to control two thermal cameras (Guide Track IR Pro 19), to gather additional evidence of roosts.
- 2.20 Surveyors were equipped with full spectrum bat detectors (Anabat Scout) and survey sheets to record observations.
- 2.21 A note was made of all bat activity recorded including (where appropriate) roost access points, species, time of emergence/re-entry, direction of flight, behaviour (foraging or commuting) and use of landscape features.
- 2.22 A note was made of each surveyor's position and which detector they used (numbered).
- 2.23 Analysis of bat recordings were made using Anabat insight Version 2.0.0-1-gf814e16

Surveyor information

- 2.24 Details of surveyors present on surveys is shown in table 4 below.

Table 4: Surveyor information.

Surveyor	Licences & Experience	Survey / position /detector (see survey map Appendix I)
Marcus Cram	1 years' experience surveying for bats.	09/07/2021 Dusk B2 2/4 30/07/2021 Dawn B1 1/4
Rachel Galler	3 years' experience surveying for bats.	09/07/2021 Dusk B2 1/ 1 30/07/2021 Dawn B1 2/5
Ken Wright	3 years' experience surveying for bats.	09/07/2021 Dusk B1 1/2
Jeanette Bryden	16 years' experience surveying for bats.	09/07/2021 Dusk B1 2/7
Tim Sexton	17 years' experience surveying for bats. NE Bat Licence Level 2 no: 2020-44753-CLS-CLS	30/07/2021 Dawn – thermal camera operator

Limitations and assumptions

- 2.25 No limitations were encountered, or assumptions made, and it is considered that, with the access gained and recording undertaken, an accurate assessment of the site's ecological value in relation to bats has been made.

3 RESULTS

Desk study

Designated sites - Statutory

3.1 There is one statutory sites within 1km (see Table 5).

Designated sites - Non-statutory

3.2 There are no non-statutory sites within 1km of the site (see Table 5).

Table 5: Summary of designated sites within 1km of the site

Site name	Designation	Description/ reason for designation	Distance & direction (approx.)
River Coquet and Coquet Valley Woodlands SSSI	SSSI	As a relatively unmodified fast-flowing upland river supporting characteristic fauna and flora the Coquet is of key significance in the national resource for nature conservation.	970m S

3.3 There were no protected areas (SSSIs or SACs) designated for their bat populations within 1km of the site.

Protected species

3.4 A search of the magic.gov.uk database for granted European Protected Species Mitigation Licences (EPSMLs) for bats within a 1km radius of the site, found no bat roosts have been destroyed. (See Table 6).

Table 6: Granted EPSMLs (bats) within 1km of the site

Case reference of granted application	Approx. distance from site (m)	Bat Species Effected	Licence Start Date:	Licence End Date:	Impacts allowed by licence
-	-	-	-	-	-

Priority habitats

3.5 A search of the magic.gov.uk database for priority habitats was made within a 1km radius of the site. (See Table 7).

Table 7: Priority habitats within 1km of the site.

Habitat	Distance & direction (approx.)
Ancient woodland	80m W
Deciduous Woodland	200m SW

Historical records

3.6 No records received from Northumberland Bat Group.

Previous ecology surveys

- 3.7 Bat surveys undertaken by Ruth Hadden on 08/10/2006 and 10/06/2012 recorded a single Natterer's bat emerging from the gable end of B1.

Preliminary Roost Assessment

Field Survey

- 3.8 Prevailing weather conditions during the field survey are summarised within Table 8.

Table 8: Summary of weather conditions during the field survey

Date	Weather conditions			
	Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Precipitation
28/05/2021	16	5	0	None

- 3.9 A description of the structures/trees inspected during the PRA can be seen in Table 9.

Table 9: Description of building/trees.

Building/Tree Reference	Building/Tree type/section	Description	Development plans
B1	Two storey granary building.	A stone-built building with a pitched roof with natural slate and stone ridge tiles. The roof is timber framed with a modern roof membrane.	Conversion to residential unit.
B2	Garage	A lean-to garage of timber construction with pitched corrugated metal roof.	Conversion to residential unit.

- 3.10 The results of the Preliminary Roost Assessment (PRA) can be seen in Table 10.

Table 10: PRA Results.

Building/Tree Reference	Evidence of use by bats	Bat signs and internal and external Potential Roost features (PRFs) & access points	Evidence of birds
B1	Yes	<ul style="list-style-type: none"> Large number of droppings (hundreds) found on wall plate of the first floor. Butterfly wings found in ground floor workshop Gaps at eaves Gap under lintel of door on west elevation. Gaps around door leading to stairs from adjacent barn. 	None.
B2	None	A number of gaps and crevices found: <ul style="list-style-type: none"> Crack in rear wall Gaps under rear timber fascia. Gaps between timber rafter and stonewall of the adjacent house. 	One swallow nest found.

Links to surrounding habitat

- 3.11 The site has good connectivity with the wider landscape.

3.12 The habitat immediately surrounding the site is of high suitability for foraging bats.

Protected/Priority Species/Habitats

3.13 A walkover of the site found no other ecological constraints regarding protected species and habitats.

Bat Emergence/Re-entry Surveys

Timing and conditions

3.14 The survey timings and weather conditions during the surveys are shown in Table 11 below.

Table 11: Survey timings and weather conditions.

Date	Type	Survey Timing			Conditions Start/Finish			
		Start	End	Sunrise/ Sunset	Temp [°C]	Cloud Cover [Oktas]	Wind Speed [Beaufort]	Rain
09/07/2021	Dusk emergence	21:27	23:425	21:42	15/15	8/8	1/1	Nil
30/07/2021	Dawn re-entry	03:41	05:26	05:11	12/12	6/6	1/1	Nil

3.15 The results of the bat emergence/re-entry surveys are summarised in Table 12 below.

Table 12: Bat emergence/re-entry survey results. SS±xx refers to the time in minutes before/after sunset and SR±xx refers to the time in minutes before/after sunrise.

Survey type and date	Roosts / points of interest	General observations
Dusk emergence 09/07/2021	No emerging bats were seen from B1 and B2. A single soprano pipistrelle emerged from wall top of the building adjacent to B1 to the north at 21:44 (SS+2), see fig 5.	The first recording was of a soprano pipistrelle at 21:38 (SS-4). The first common pipistrelle was recorded at 22:00 (SS+18). At 20:16 (SS+34) noctule was recorded and at 22:41 (SS+59) Myotis sp. Bats were observed foraging around buildings in small numbers throughout the survey. Four surveyors with detectors surveying B1 and B2 made 506 recordings of soprano pipistrelle, 360 of common pipistrelle, 18 of noctule and 2 of Myotis.

<p>Dawn re-entry 30/07/2021</p>	<p>Six soprano pipistrelle were seen entering under the gutter at either end of the wall top of B1. Three entered each of the roost entry points, see fig 2. First re-entry was at 04:33 (SR-38) and the last at 04:55 (SR-16).</p> <p>One soprano pipistrelle was seen emerging from the northerly roost point at 04:25 (SR-46).</p> <p>It was noted that there were soprano pipistrelles entering the eaves of the main house, to the east, under the eaves of the south elevation. 'Chatter' from this roost was audible to the ear at the end of the survey with a single soprano pipistrelle flying up to the eaves then away.</p>	<p>A small numbers of bats were observed foraging during the survey. In total two surveyors made 157 recordings pf soprano pipistrelle, 49 of common pipistrelle, 5 of myotis and of 2 noctule.</p> <p>The last soprano pipistrelle was recorded at 04:55 (SR-16) seen entering B1 to roost.</p> <p>The last common pipistrelle was recorded at 04:42 (SR-29), Myotis at 03:56 (SR-75) and noctule at 04:40 (SR-31).</p>
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3.16 Bat roost areas are shown on bat roost location map in Appendix II.

3.17 The bat roost exit/entry points are shown in fig 2 below. Figures 3 and 4 show screen grabs from thermal camera video. Fig 5 shows emergence point from adjacent building on dusk survey.



Figure 2: Roost entry points in B1 on 30/07/2021.



Figure 3: Bat re-entering roost on dawn survey 30/07/2021.



Figure 4: Bat re-entering roost on dawn survey 30/07/2021.



Figure 5: Emergence point on dusk survey.

4 INTERPRETATION AND ASSESSMENT

- 4.1 Plans are to convert two buildings, a granary (B1) and a garage (B2), into residential units. A planning application is being prepared for submission to Northumberland County Council.
- 4.2 The following interpretation and assessment is provided to ensure full compliance with both UK and European legislation and both local and national planning policy (see Appendix XI).

Designated sites

- 4.3 There is one designated site within 1km of the site (see Table 5).
- 4.4 There were no protected areas (SSSIs or SACs) designated for their bat populations within 1km of the site.
- 4.5 Given the scale of the proposed development, there will be no impacts on designated sites as a result of the development.

Preliminary roost assessment (PRA) for bats (and nesting birds)

- 4.6 Based on the results of the PRA, an assessment of the potential suitability of the on-site buildings for bats and nesting birds could be made (see Table 13).

Table 13: Suitability of surveyed structures/trees for bats and nesting birds.

Structure/Tree Reference	Suitability / confirmed use	
	Bats	Nesting birds
B1	Confirmed roost	Low
B2	Low	Confirmed

Bats

- 4.7 Bat droppings were found upstairs in B1 on the wall plate, evidence that the building is used by roosting bats.
- 4.8 The building B2 had a small number of crevices that could be used by a small number of roosting bats as a day roost and is deemed to have low suitability for roosting bats.
- 4.9 The habitat around the site is of high suitability for bats.

Nesting Birds

- 4.10 Swallows were found nesting in B2.

Roost destruction

- 4.11 Previous surveys (Ruth Hadden 2006, 2012) found a day roost of Natterer's bat in the apex of roof of the south gable of B1.
- 4.12 Re-roofing of the building has been undertaken and the roost has been destroyed.
- 4.13 The local wildlife crime officer was informed via email on 19/10/2021 and has since responded, 'From the details provided it would appear an offence has been committed contrary to The Conservation of Habitats & Species Regulations 2017, however given that loss was not of a large scale and seemingly historic in nature, with the owner happy to cooperate with remedial action, reinstating and enhancing roost provision, it is not proportionate to pursue any prosecution providing any works done/proposed are to satisfaction of NE, NCC and yourselves I am proposing No Further Action be taken.'

Bat Emergence/Re-entry Surveys

- 4.14 Six soprano pipistrelle bats were seen entering to roost under the eaves of B1 during the dawn survey on the 30/07/21. This is considered a day roost.
- 4.15 In consideration of works to be undertaken (see Appendix IV: Schedule of works) the development of B1 will result in the destruction of bat roosts and could result in disturbance, killing or injury of bats if present during works.

Other Protected/Priority Species

- 4.16 No protected/priority species were noted onsite or in close proximity.

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 Tyne Ecology was commissioned by Leila Green (the client) to undertake an Ecological Impact Assessment (EclA) for bats and birds at Cockshot Farm, Brinkburn, NE65 8AP.
- 5.2 Plans are to convert two buildings, a granary (B1) and a garage (B2), into residential units. A planning application is being prepared for submission to Northumberland County Council.
- 5.3 The scale of the development and distance from designated sites (see Table 5) should ensure that no impacts on their designated features should result from the proposed development.

Bats

- 5.4 A Bat Mitigation Licence must be obtained in order for works to be legally undertaken. (Such a licence allows for derogation from the legal protection afforded to bats and their roosts and is required to allow the roost site to be legally destroyed and bats to be disturbed). At the time of writing a Bat Mitigation Class Licence (BMCL) would be appropriate for this development proposal and can be used by a Registered Consultant (RC) after registering the site with Natural England.
- 5.5 In order to rely on the BMCL, a detailed method statement must be prepared by a RC to ensure that bats are not killed or injured and the site must be registered with Natural England before works commence.
- 5.6 No works can proceed until the BMCL has been granted.
- 5.7 The soprano pipistrelle roost in B1 will be re-instated with roost access points created at the eaves.
- 5.8 To mitigate for the loss of a day roost of a Natterer's bat (count 1) from the gable end of B1, the non-bitumen roof liner, also known as breathable roof membrane (BRM) or modern roof membrane (MRM), must be replaced with a traditional type F1 felt with a hessian matrix to be used, and 2 x bat access slates (Habibat bat access slate or similar) must be installed in the roof, 1 on the north elevation and 1 on the south (as shown in Appendix III). BRMs can result in entanglement and death of bats and would have not been permitted to be installed had roof works been undertaken under licence (<https://www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-coated-roofing-membranes/>).
- 5.9 To provide enhancements two additional bat access slates must be installed in the granary roof and a bat box (Beaumaris Woodstone Bat Box or similar) installed on the east elevation of B2.
- 5.10 Artificial lighting must be avoided where possible but if required it must follow ILP guidelines: <https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf>

Birds

- 5.11 Mitigation for loss of swallow nest sites must be undertaken with the provision of a log store on the north gable of B2. The log store must have doors to prevent access by predators (but allow swallow access), and be a minimum of 2m high, 1.5 wide and a min 0.8 m deep, with a roof pitched from back to front. A length of timber such as a roof batten (19mm x 38mm) should be fixed horizontally along the back of the store approx. 75mm from the apex, to create a small ledge to allow nest building. See Appendix III.

- 5.12 Mitigation provision for swallows must be checked by a suitably experienced ecologist, once it has been installed, and confirmation of provision made to the local planning authority in writing by the ecologist.

Overall conclusion

- 5.13 Providing the recommendations given within this report are followed, the proposed development can proceed without detriment to the maintenance of the population of bats at a favourable conservation status, and without negative impacts on other protected and priority species and habitats.

6 REFERENCES

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

BSI (2013) BS 42020:2013 Biodiversity - Code of practice for planning and development. British Standards Institution, London.

CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

CIEEM (2020) Guidelines for Accessing, Using and Sharing Biodiversity data in the UK. <https://cieem.net/wp-content/uploads/2016/03/Guidelines-for-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

Mitchell-Jones, A.J. & McLeish, A.P. Ed., (2004) *Bat Workers' Manual* (3rd Edition). Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. Natural England, Peterborough.

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, July 2021).

APPENDIX I: PRA/ SURVEY PLAN



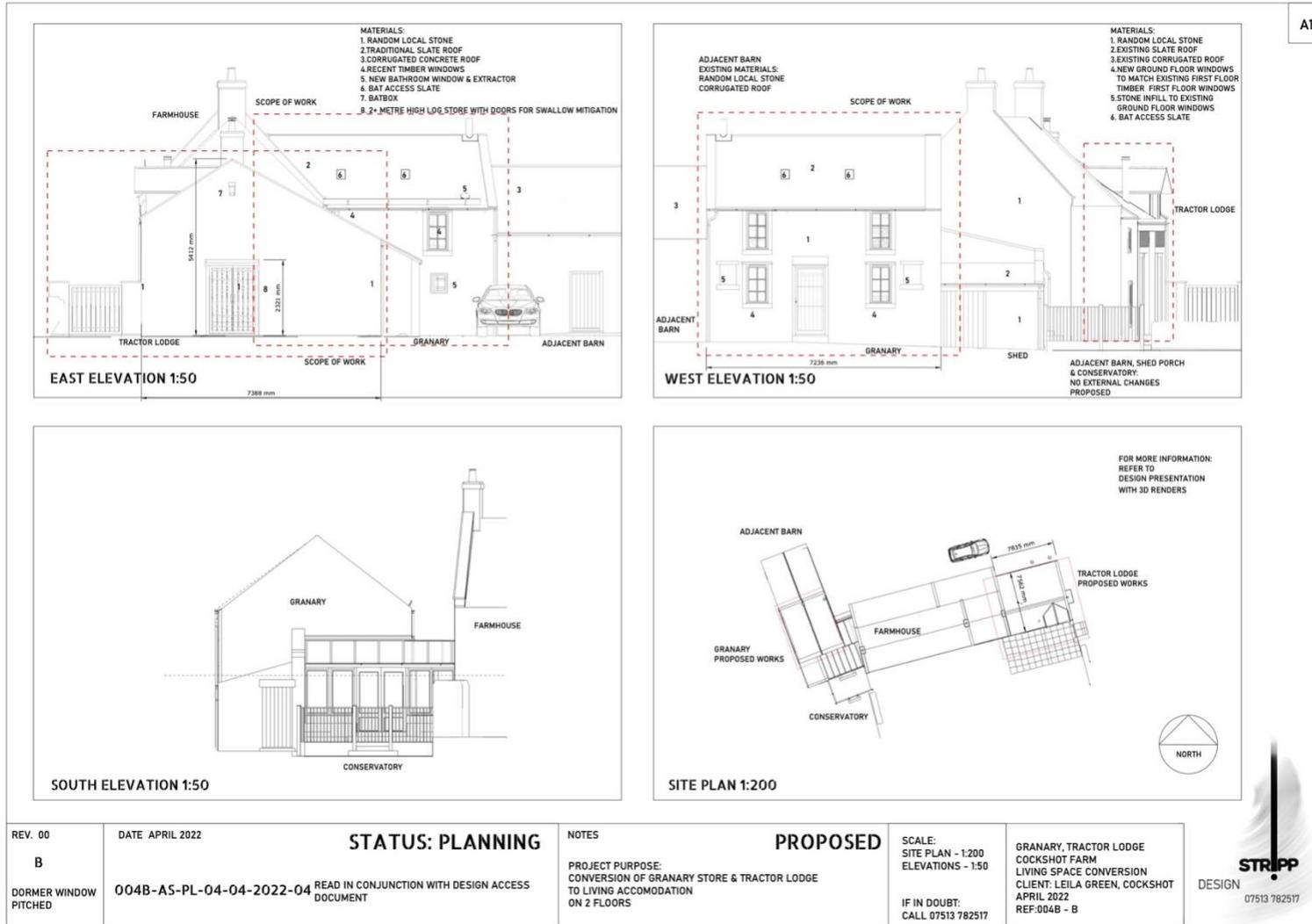
Figure 6: PRA/Field survey plan.

APPENDIX II: BAT ROOST LOCATION MAP



Figure 7: Bat survey plan - roosts and flight lines

APPENDIX III: PROPOSED DEVELOPMENT/MITIGATION PLAN



A1

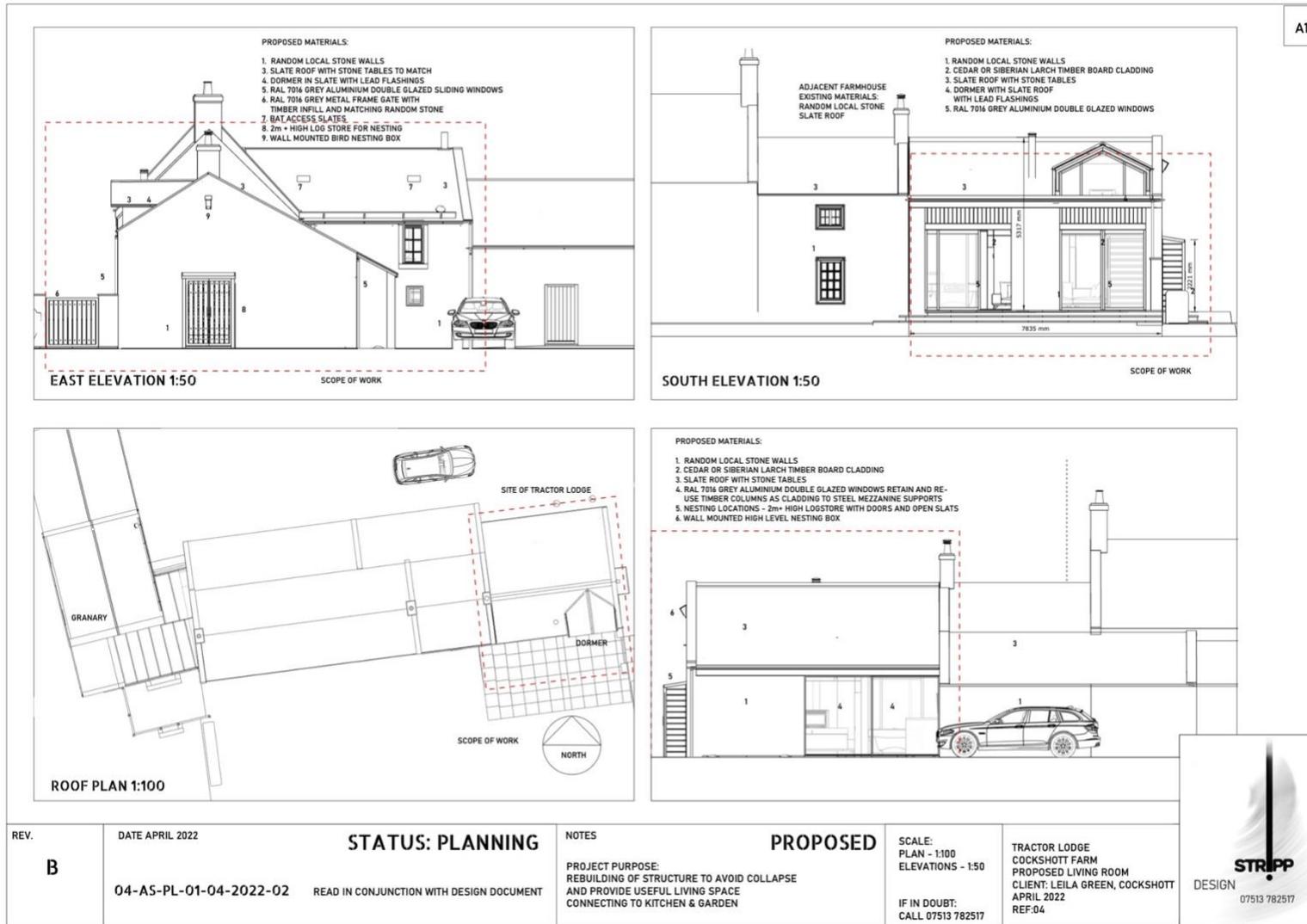


Figure 8: Proposed development/mitigation plans.

APPENDIX IV: SCHEDULE OF WORKS

Exterior demolitions

- 3 no. new ground floor window openings
- support with ACROW props and HSE safe working methods no single staff working during demolition
- dispose of recyclable waste separately

Interior demolitions

- removing brick piers ground floor for stair near east door
- acrow prop as necessary and build new support as per structural engineer instruction
- cut out new stair opening with temporary support
- removal & disposal of internal partitions, workbenches, electrics, door & frame to west and first floor (north), windows at ground floor
- remove & dispose existing stair access in adjacent building

Damp roofing

- ground floor damp proofing - silicone treatment / corrugated plastic system
e.g. baseline 20 cavity drain membrane behind skimmed plaster boarding.

Roof & chimney

build twin wall flue at roof using safe working platform

general making good at flashings and junction with adjacent barn (to avoid water ingress)

roof flashings

replace guttering with aluminium powder coated system to new dug and gravel back filled soak away drainage

high level working from secure high level access

External elevations

- add 3 new cut stone lintels for 3 new ground floor openings with stone cills
- infill previous openings, re-use matching stone repointing as necessary
- heavy lifting by mechanical means
- install double glazed hardwood custom windows as per existing first floor at ground floor.
frosted interlayer to bathroom window.
- all windows as opening units with first floor window ironmongery designed to allow means of fire escape.

Interior construction

- replacing first floor timbers *if required - structural engineer to check strength of existing support - *propose new steel / timber floor joists for low headroom ground floor
- infilling perimeter structural openings - door first floor, redundant windows - stone infilling and create new openings plaster skim internal openings and decorate with new stone cills internally and externally
- all heavy lifting by genie or mechanical means

Groundworks

- dig and install drainage, services, removing concrete block at proposed kitchen and making good with damp proofing dpm & concrete

Structure

- wood worm treatment and structural survey tbc to roof timbers and first floor joists structural engineer/ building control to confirm truss and floor joist condition adequate
- creating new chimney breast with twin wall flue installation made weatherproof at roof with supported stone hearth at floor (all to first floor)
- building new staircase - frame out new landing and first floor joists maintaining 2000mm min. headroom throughout
- open stair to meet building control based upon kitchen and bedroom as fire compartments.
- mineral insulation added behind wall, ceiling, floor finishes at all opportunities
- metalwork - either powder coated, or raw finish lacquered, bespoke tempered 12mm thick glass, fixed to 300mm steel edge for 1.5kn load balustrade 1100mm high
install oak handrails on bespoke brackets with no visible glass or metalwork fixings - no dome nuts - use hex head barrel fixings at base of glass

First fix electrics

- first fix electrics by qualified electrician with certified completion

Primary joinery

- building internal stud walls (fire compartments to building regs - double layers of plasterboard at kitchen) meeting building regs requirement for sound insulated mineral fibre to stud walls
- joinery - kitchen, bathroom installation by specialist kitchen bathroom fitter

Heating, services

- dependent on strategy: link to farmhouse or new system below stair boiler install, water cylinder cold water tank, rads and central heating system installed and certified by qualified corgi heating installer
- hot & cold running water supply at kitchen and bathroom water feed for shower, wc, hand wash basin, dishwasher, kitchen sink shower pump installed with hot water immersion heater cylinder consider adjacent south elevation shed for water tank

Linings

- plaster boarding, skim plastering to all walls and ceilings, decorating - 2 coats polar white as minimum - all ceilings to expose timber beams
- waterproof finishes eg marine ply used as substrate in bathroom wetroom behind wall tiling insulation mineral fibre to roof above plasterboard

Second fix electrics

- second fix electrics by qualified electrician with certified completion - all sockets and switches as brush finish stainless steel back plates. all lighting (iguzzini warm led angled beam 'ref blade' led to be flush recessed in ceilings to highlight timber beams

- metal conduit / cover plates over chased first fix wiring prior to skimming
- install extraction to bathroom and kitchen
- hard wired smoke and carbon monoxide detectors installed - ground and first floor

Secondary joinery

- doors architraves & skirtings - fit & make good doors on stainless steel heavy duty hinges with intumescent seal at fd30 fire doors at kitchen & bedroom, fit ironmongery including thresh hold trims, bathroom lock, locks to new external doors
- flat panel oak veneer doors with solid oak edges
- external new door to west as glass panel in aluminium powder coated frame with manifestation lock and matching ironmongery eg fsb 1020 install fire extinguisher to kitchen

Finishes

- tiling - throughout bathroom as wet room with waterproof dark grey grout to fall across floor towards drainage. r10 spec anti slip floor tiles circulation space tiled with integrated door mats in metal frame and r10 anti slip rated kitchen floor.
- kitchen splashbacks 600mm high
- stairwell, first floor, and bedroom floor finishes - install engineered oak floor (eg. parador) to first floor & ground floor bedroom with insulation below if headroom allows

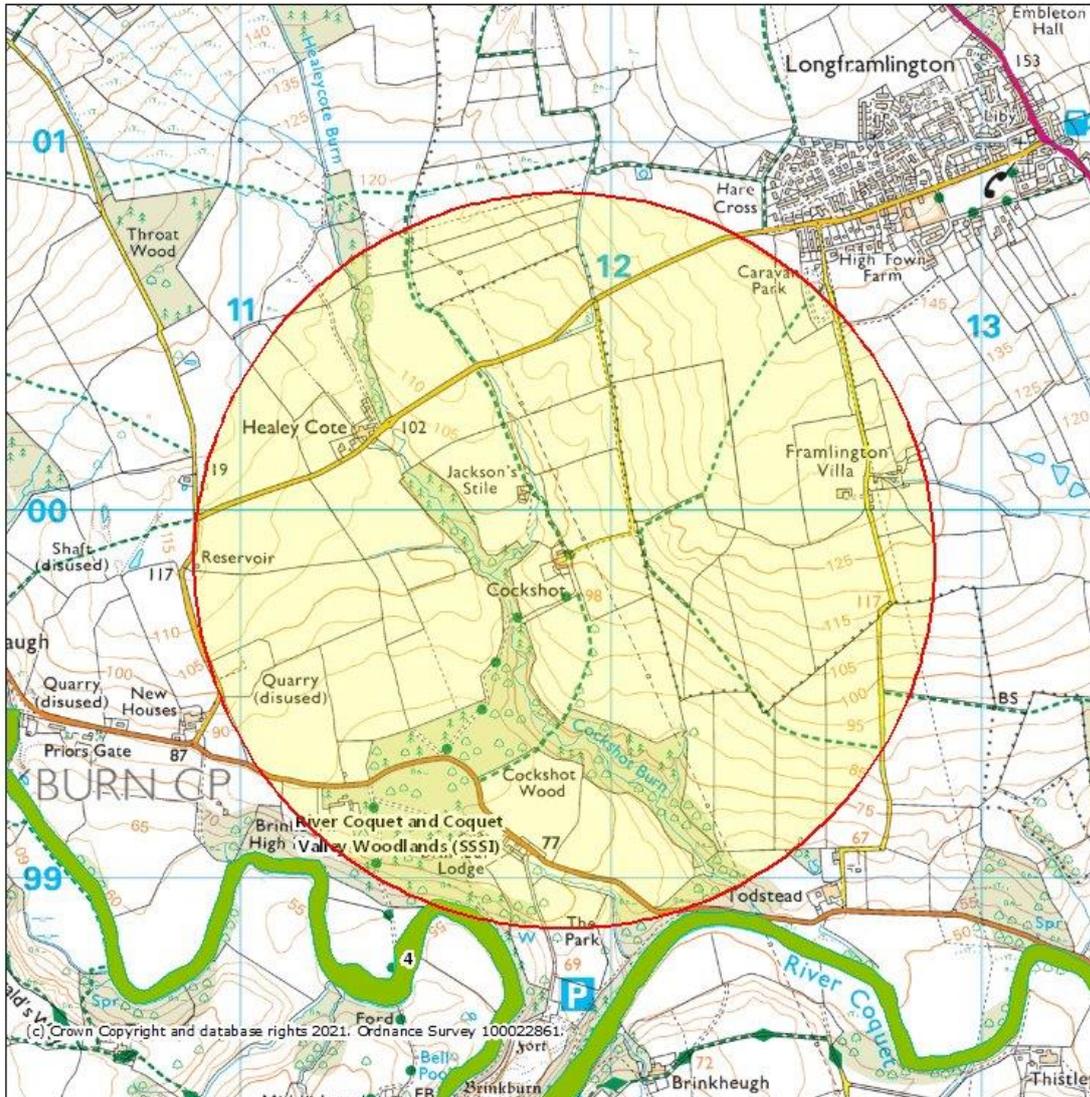
External landscaping works

- dig and backfill gravel trench to west perimeter with soakaway drainage to garden.
- new drainage to either: existing property or new septic tank accessible from farmyard install post & 5 rail timber fencing, stone flag paving, lawn prep & seeding

APPENDIX V: DESKTOP SURVEY

MAGIC

Statutory Sites



Legend

- National Nature Reserves (England)
- Ramsar Sites (England)

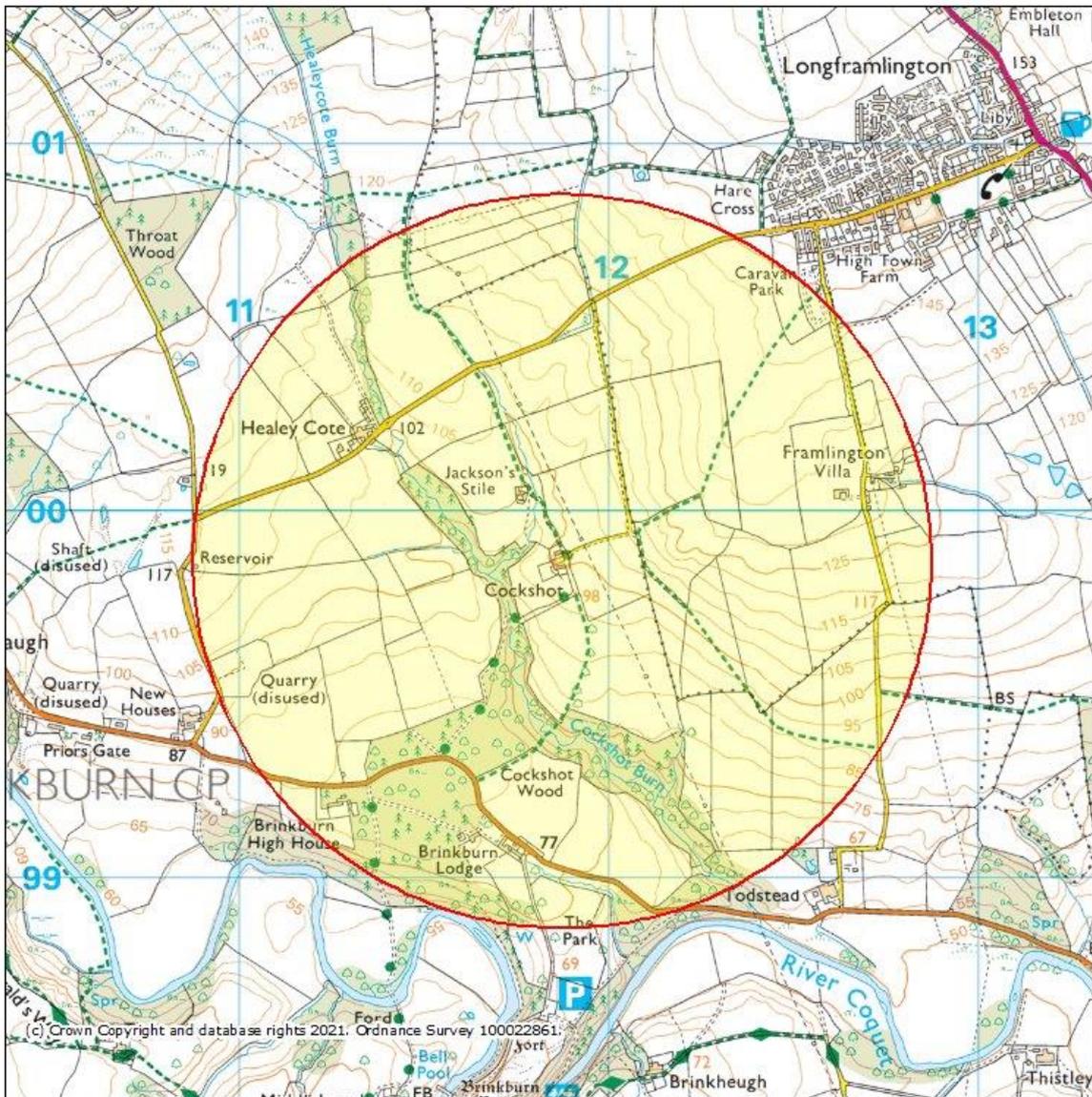
0 0.45 0.9
km

Projection = OSGB36
xmin = 407500
ymin = 597600
xmax = 416200
ymax = 602200

Map produced by MAGIC on 30 May, 2021.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Figure 9: Designated statutory sites.

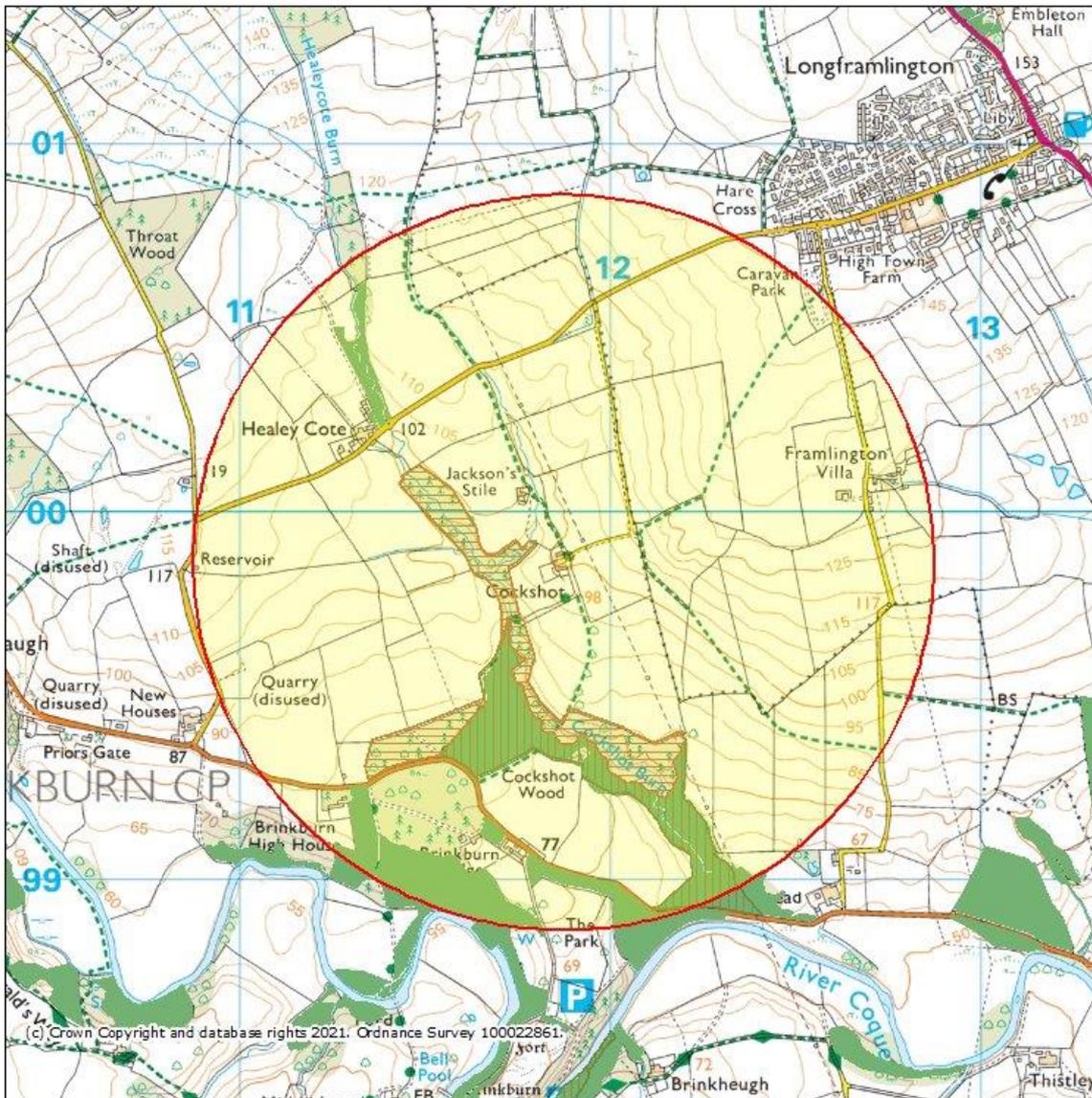
MAGiC Non-statutory Sites



<p>Legend</p> <ul style="list-style-type: none"> Community Forests (England) Land Management Initiatives (England) National Forest (England) RSPB Reserves (GB) Upland Experiment Areas (England) 	
	<p>Projection = OSGB36 xmin = 407500 ymin = 597600 xmax = 416200 ymax = 602200</p>
	<p>Map produced by MAGiC on 30 May, 2021. Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.</p>

Figure 10: Designated non-statutory sites.

MAGiC Habitats

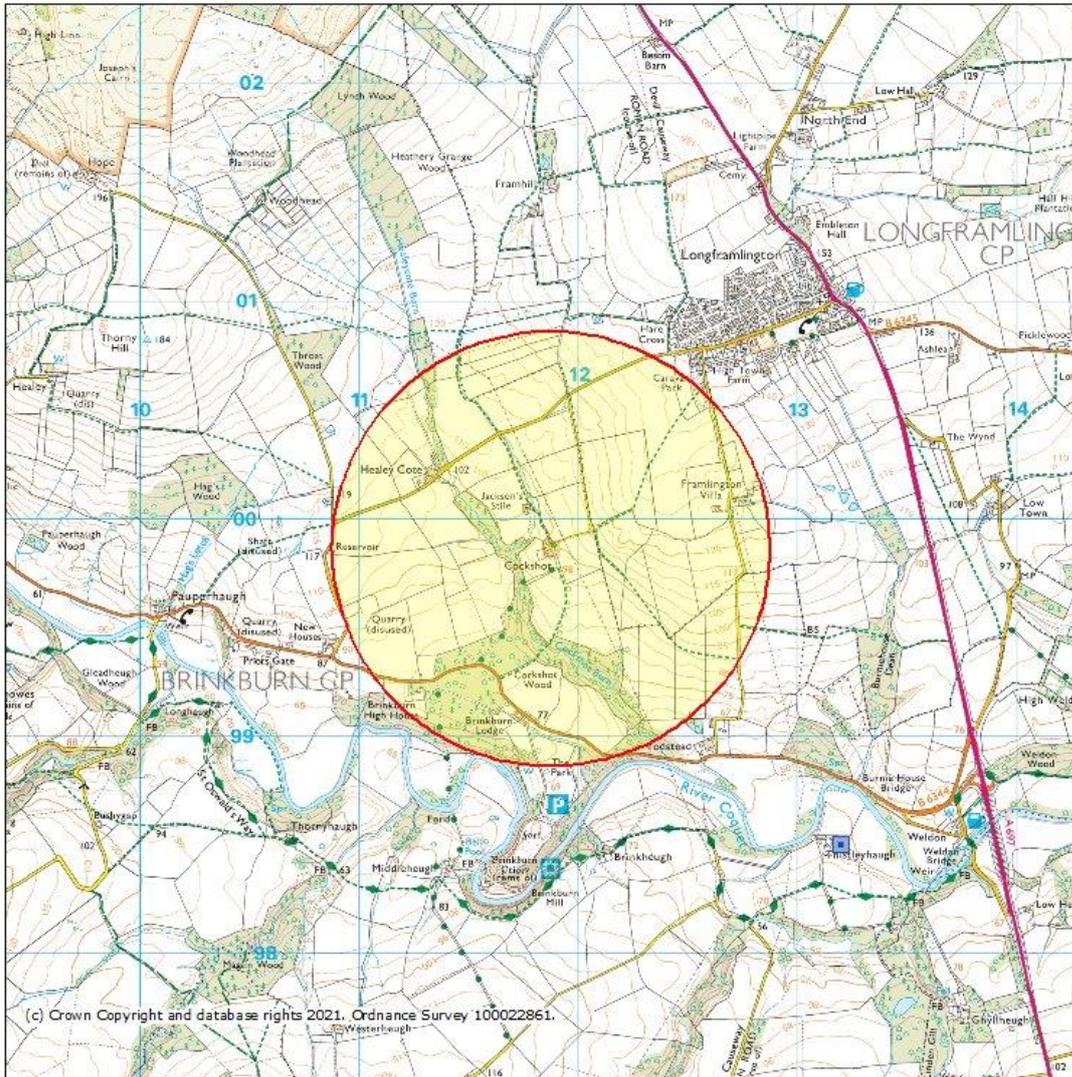


<p>Legend</p> <p>Ancient Woodland (England)</p> <ul style="list-style-type: none"> Ancient and Semi-Natural Woodland Ancient Replanted Woodland Priority Habitat Inventory - Deciduous Woodland (England) 	<p>0 0.45 0.9</p> <p style="text-align: center;">km</p> <p>Projection = OSGB36 xmin = 407500 ymin = 597600 xmax = 416200 ymax = 602200</p> <p>Map produced by MAGIC on 30 May, 2021. Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.</p>
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Figure 11: Priority habitats.

MAGIC

EPSLs



(c) Crown Copyright and database rights 2021. Ordnance Survey 100022861.

<p>Legend Granted European Protected Species Applications (England)</p> <ul style="list-style-type: none"> Amphibian Bat Cetacean Invertebrate Other Mammal Plant Reptile 	<p>0 0.75 1.5 km</p> <p>Projection = OSGB36 xmin = 404600 ymin = 596000 xmax = 419000 ymax = 603800</p> <p>Map produced by MAGIC on 30 May, 2021. Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.</p>
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Figure 12: Granted EPSLs.

APPENDIX VI: FIELD SURVEY PHOTOGRAPHS



Figure 13: B1 - east elevation.



Figure 14: B1 - west elevation.



Figure 15: B1 - north elevation.



Figure 16: B1 - gap below door lintel.



Figure 17: B1 - ground floor workshop.



Figure 18: B1 - butterfly wings.



Figure 19: B1 - upstairs. Bat droppings on wall plate.



Figure 20: B1 - bat droppings.



Figure 21: B1 - door to adjacent barn.



Figure 22: B2 - north elevation



Figure 23: B2 - south elevation.



Figure 24: B2 - gaps under timber fascia.



Figure 25: B2 - internal.



Figure 26: B2 - crack in wall.



Figure 27: B2 - gaps between timber and wall.

APPENDIX VII: SPECIES LIST

To be submitted to the Local Environmental Records Centre.

Site Name: Cockshot Farm, NE65 8AP **Submitted by:** Tyne Ecology
Grid Ref: NZ 1187 9986 **Verified by:** Tim Sexton
Date: August 2021

Common name	Scientific Name (if known)	Comment
Common pipistrelle	Pipistrellus pipistrellus	
Soprano pipistrelle	Pipistrellus pygmaeus	Roost (6 bats)

APPENDIX VIII: SAMPLE SPECTROGRAMS

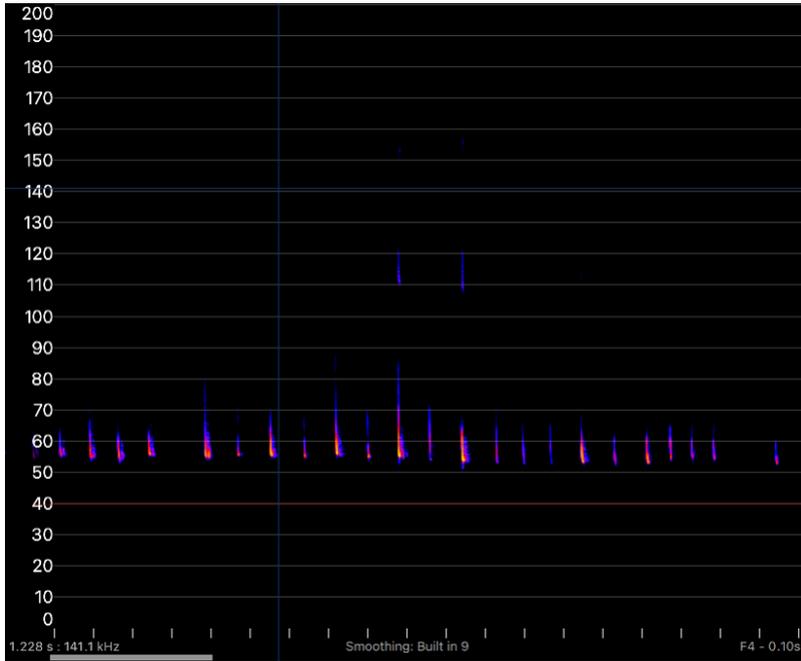


Figure 28: Spectrogram of soprano pipistrelle recorded during dawn survey 30/07/2021 04:33, just before entering roost in B1.

APPENDIX IX: DNA ANALYSIS RESULTS



8 July 21

Re: Identification Results for Tim Sexton, Tyne Ecology

Job number 16796, received 30 June 2021

Sample labelled: 2. C FOOT

PCR amplification successful. DNA sequence:

ATGACCAACATTTCGAAAGTCCCATCCCCTAATCAAAATTATTAACAGCTCATTTCATTG
ACCTACCAGCTCCATCAAACATCTCAGCATGATGGAATTTGGATCCCTATAGGCA

Phylogenetic analysis identification: *Pipistrellus pygmaeus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

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Gibbet Hill Campus,
University of Warwick,
Coventry CV4 7AL
Tel: 02476575059
Fax: 02476574500
Email: r.g.allaby@warwick.ac.uk

Figure 29: DNA Analysis results

APPENDIX X: BAT ROOST DEFINITIONS

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

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 roost: a place where individual bats or a few individuals rest or 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 sites: sites where mating takes place from later summer and can continue through 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 temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

APPENDIX XI: PLANNING POLICY AND LEGISLATION

The following local and national planning policy and both primary and European legislation relating to nature conservation and biodiversity status are considered of relevance to the current proposal.

Planning and biodiversity

Local Authorities have a requirement to consider biodiversity and geological conservation issues when determining planning applications under the following planning policies.

National Planning Policy Framework July 2021

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, July 2021) states:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

(c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

(f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Legislation and biodiversity

Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017. These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.

Other relevant legislation and policy documents that have been consulted include - The Countryside and Rights of Way Act 2000; Natural Environment and Rural Communities Act 2006; The Hedgerow Regulations 1997; Biodiversity Action Plans, both UK-wide (UKBAP) and Local plans (LBAPs), and The National Planning Policy Framework (NPPF).

There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g. Japanese Knotweed and *Rhododendron ponticum*) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.

There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.

Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence - e.g. bat surveys.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 came into force on the 01/01/2021 and are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;
- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and
- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function - i.e. when determining a planning application.

There is no defence that an act was the incidental and unavoidable result of a lawful activity.

Licensing: it is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

Species protection

The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Bats

All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017, making it an offence *inter alia* to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place of a bat.

In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural England, which would be subject to appropriate measures to safeguard bats.

Birds

In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017. All wild birds, their nests and eggs are protected it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any such bird whilst it is in use or being built; or
- take or destroying an egg of any such wild bird.

The law covers all species of wild birds including common, pest or opportunistic species.

Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.