



BAT SURVEY REPORT
Cottage and Cart Shed
Buildings at Titlington Hall,
Powburn, NE66 2EB



July 2021

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Ecology surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings or trees are in relation to the use of the building/tree by bats and birds, and should not be considered as a building survey or arboricultural opinion on the condition of those features.

The client should be aware that the mitigation recommendations in ecology reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

It is the client's responsibility to commission, in writing, any additional survey effort/licence requirements detailed within this report with RH Ecological Services.

Mitigation recommendations should be clearly marked on the Architect's Plans or included in any Method Statements submitted with any planning or other consent.

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IT IS THE CLIENT'S RESPONSIBILITY TO COMMISSION ANY MITIGATION MEASURES OR RECOMMENDATIONS DETAILED WITHIN THIS REPORT.

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BAT SURVEY REPORT PRELIMINARY ROOST ASSESSMENT COTTAGE AND COACH HOUSE, BUILDINGS AT TITLINGTON HALL, POWBURN, NE66 2EB

Summary

A Preliminary Roost Assessment for bats and birds on buildings associated with Titlington Hall, Powburn (NU 09977 15208) was produced in March 2021 to support planning applications for renovation works. Following this, activity surveys took place in June and July 2021.

Development proposals include 'upgrading' works to the cottage, along with works to connect it to an existing outbuilding to provide additional accommodation.

The buildings to be developed are part of a collection of estate buildings associated with Titlington Hall, including stables, outbuildings and the hall itself. The stables and associated buildings were also surveyed, and the report for those will be provided separately. Those buildings are described in brief in this report to aid understanding of bats use of the site.

Bat droppings were found in both the stables and the cartshed. The other buildings also have potential for roosting bats. Such features include:

- Gaps in the features of the dovecote.
- Gaps present around the wall tops and roofing areas.
- Gaps around door lintels and windows surrounds.
- Slipped/misaligned tiles.

Building name	Number	Summary
Cottage	6	High risk but works limited to risk features.
Garage	3	Likely to be retained for use as garage – bat roosting potential in roof.
Cartshed	4	Moderate-high risk of bats with bat droppings noted.
Store building	5	Low risk of bats.
<i>Other buildings on the estate – subject to separate survey and report.</i>		
Dovecote	1	High risk of bats, nesting birds and barn owls.
Stables	2	High risk, evidence of nesting birds and bat droppings present.

Overall the buildings are deemed to have **medium-high potential for roosting bats**. The buildings have several potential roosting features, with bat droppings found in both the stables and the cartshed. **Activity surveys have confirmed roosts of common and soprano pipistrelle bats in the cottage. The works to create a single storey linking extension into the cartshed do not affect the confirmed roosts**, with extension works taking place on the opposite elevation and 2-3 metres from the wall tops. Given the numbers of bats recorded (maximum count of 8 common pipistrelle and 9 soprano pipistrelle in the roof with five entry points) it is possible that the cottage has small maternity roosts of both species and therefore timing restrictions are required to avoid the maternity period May-August inclusive.

Bat records have been received from the Environmental Records and Information Centre (ERIC) North East. There are no records within 1km, however Titlington Hall is in a very rural location with few buildings within 1km.

Birds are known to nest within the buildings. Swallow nests were recorded in the outbuildings and the cartshed.

Integrated features suitable for bats (such as bat access tiles) and birds are recommended to be incorporated into the proposed extension to ensure No Net Loss of roost potential.

There is one Designated [wildlife] Site within 2km, Bewick and Beanley Moors SSSI lies approximately 700 metres east. The site lies however within the SSSI Impact Risk Zone. Negligible impact is expected, as long as the discharge of waste is dealt with appropriately following current guidance.

There are no Priority Habitats within the development area. Woodpasture and Parkland BAP Priority Habitat lies approximately 70 metres east. Root Protection Areas should be marked out with regard to nearby trees during the construction phase.

A single potential snuffle hole, consistent with badger was noted near the stables. No other signs, or evidence of a sett within 50 metres was noted.

Lighting on site should be minimised and directional and follow the BCT/ILP guidance¹. It should be designed to face away from the trees surrounding the buildings and any other roosts found on site. Nearby tree lines should also be kept in darkness.

Any other potential impacts can be suitably dealt with following the Precautionary Working Methods provided within this report (**appendix 1**).

This report is valid for 2 years.

An updated assessment will be required should work not commence by July 2022.

¹ ILP/BCT (2018)

1. Introduction and proposed works

Development proposals include 'upgrading' works to the cottage, along with works to connect it to an existing outbuilding to provide additional accommodation. A later phase of works will see the conversion of the stable block and associated buildings into accommodation (*subject of separate report*).

Building number	Building name
1	Dovecote
2	Stables
3	Garage
4	Cartshed
5	Store building
6	Cottage

Aerial imagery is shown in **figure 1** and a site location plan, with reference to the table above in **figure 2**².



Figure 1. Site location - aerial view³.

² Provided by Hodgson Architectural Services and edited to show buildings proposed for development.

³ Reproduced with permission from Google Earth (2021).

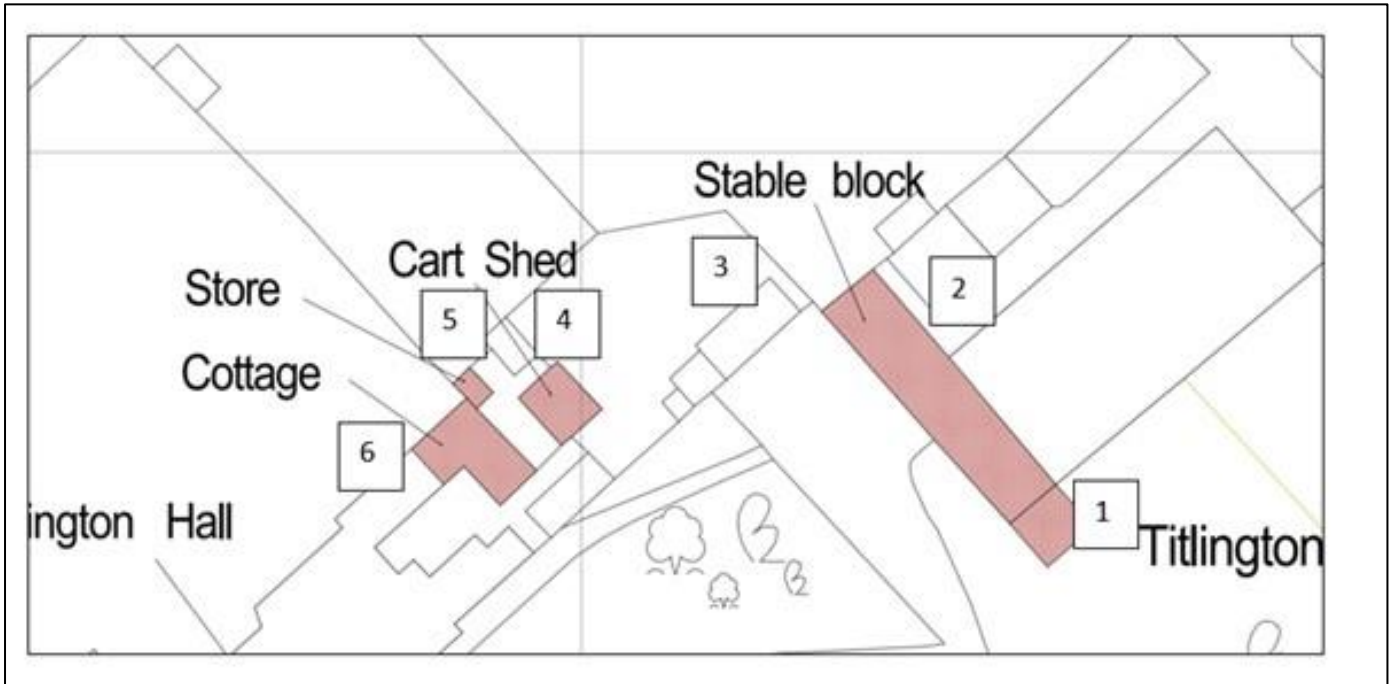


Figure 2. Annotated site layout.

2. Relevant legislation

The applicable legislation and policies with regard to bats and birds are:

- Conservation of Habitats and Species Regulations (2017)
- Countryside and Rights of Way Act (2000)
- Directive 79/409/EEC on the Conservation of Wild Birds – ‘The Birds Directive’
- Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora – ‘The Habitats Directive’
- National Planning Policy Framework (NPPF)
- Natura 2000
- Natural Environment and Rural Communities Act (2006)
- Wildlife and Countryside Act (1981)

Further details can be found in **appendix 2**.

3. Methodology

3.1 Desktop survey

The area was surveyed using Ordnance Survey Explorer maps (1:25,000 scale) and Google Earth Pro with habitat features of value to bats such as watercourses, woodland and hedgerows noted.

Bat data records have been received from ERIC North East⁴.

Natural England's 'Magic on the Map' website was accessed for details of the citations for the designated sites and EPS licensing. The JNCC website⁵ and Natural England websites provided further information on site designations.

3.2 Daylight assessment

The daylight assessment 'Preliminary Roost Assessment' was carried out **27th March 2021**. This was conducted according to the Chartered Institute of Ecology and Environmental Management's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2012) and the Bat Conservation Trust's Bat Surveys Good Practice Guidelines (2016) on Preliminary Roost Assessment.

The weather was 8°C, sunny with clear skies.

The surveyors assessed the buildings for signs of bats and birds. The buildings were thoroughly checked both internally (with the exception of the cottage) and externally for any signs of bats; including live or dead bats, droppings, feeding remains, clawing or scuff/grease/urine marks at roost entrances, and potential roost features such as cavities or gaps in roofing tiles, soffits, loose mortar *etc.* The surveyor used a headtorch, powerful compact torch, binoculars and inspection camera (endoscope).

⁴ www.ericnortheast.org.uk

⁵ <http://jncc.defra.gov.uk>

3.3 Bat surveys

The bat dusk activity surveys started ~20 minutes before sunset and ended up to 2 hours after at a suitable time of year. The dawn bat survey commenced 2 hours before sunrise and ended 15 minutes afterwards.

The surveys were conducted in accordance with the Bat Conservation Trust's *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3rd edition, 2016) except where indicated.

Surveyors are placed around the property to ensure that all sides and features of the building(s) are visible. On site, the time bats were first encountered, the species of bat where possible and information on direction of flight and behaviour are recorded. Where bats are seen entering or exiting the building the exact location is logged onto the site plan. The data is recorded by surveyors in the field on data sheets and plans of the site, or via voice recordings.

The aim is to build a picture of general bat activity whilst focusing on the building(s) in question, and as such every individual bat is not recorded where it does not add to the understanding of bats' use of the building(s) in question. Bat calls are recorded for later analysis on all surveys. All surveyors used Titley Scientific Echo Meter Touch full spectrum bat detectors with Apple or Android devices, except for ADF who used Pettersson U256 microphone (full spectrum recorder) attached to Fusion 5 windows tablet with Batsound Touch. A Professional IR night vision video camera (Canon SA40) was used to assist with roost entrance and exit points on the first activity survey.

Calls were analysed by ADF using Pettersson Batsound 4.4.

3.4 Surveyors

The site visit was undertaken by Ann Deary Francis, an experienced ecologist and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) since 2009 with over 20 years' experience in ecology and environmental planning. She holds Natural England and Scottish Natural Heritage Licences for bat surveys and intrusive survey techniques. She is an experienced birder and site surveyor, and has undertaken advanced badger and otter survey training. She was assisted by James Bradley, a trainee bat worker.

The report was compiled by Rachel Hepburn, an experienced ecologist and an associate member of the CIEEM since 2013 with over 14 years' experience in ecological surveying. She holds Natural England Licences for bat surveys (2015-12969-CLS-CLS) and great crested newt surveys (2016-19907-CLS-CLS).

Surveyors present on the bat activity surveys:

- Ann Deary Francis (licence number 2015-15103-CLS-CLS).
- Sarah Platt, experienced surveyor with 3 seasons bat survey experience.
- James Bradley, experienced trainee bat worker with 4 seasons bat survey experience.
- Thomas Bradley, experienced trainee bat worker with 4 seasons bat survey experience.

4. Site description

The buildings make up a cluster of buildings within the grounds of Titlington Hall. The buildings are within a parkland landscape with mature trees and good commuting routes for a variety of wildlife, including bats. There are other buildings, not included within this report in close proximity to the surveyed buildings.

The wider site of Titlington Hall has several areas of scattered trees, with small copses of woodland present. This includes an area, approximately 70 metres west of the development of Woodpasture and Parkland BAP Priority Habitat (see **section 5.2** below). These woodland copses connect the site up to other areas of woodland.

An unnamed watercourse, possibly a tributary of the Greystone Burn or the Titlington Burn, flows approximately 200 metres north.

The wider area is a mixture of grassland fields and moorland interconnected by woodlands and watercourses. There are very few other buildings.



Figure 3. Surrounding area⁶.

⁶ Reproduced with permission from Google Earth (2021).

5. Desktop survey

5.1 Designated Sites

Designated [wildlife] Sites were checked on 'MAGiC on the Map'⁷. There is one within 2km.

Bewick and Beanley Moors SSSI⁸, lies approximately 700 metres east. It is nationally important for its mosaic of upland habitats, including mires (including blanket bogs), heaths, fens, flushes and wet grassland. The site is also nationally important for its relict juniper (*Juniperus communis*) woodland and scrub, and an outstanding assemblage of amphibians. The site is a group of moorlands on the Fell Sandstone of Northumberland, at elevations of between 70-315 metres. Together they support a range of vegetation which bridges the gap between what are often thought of as either upland or lowland formations.

For completeness within this report, the **River Tweed SAC**⁹ lies approximately 4.1km north west.

⁷ magic.defra.gov.uk

⁸ Site of Special Scientific Interest

⁹ Special Area of Conservation

The site falls within the SSSI Impact Risk Zones. Potential impacts are discussed in the table below:

Category	Impact	Description
Infrastructure	N/A	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind and solar energy	N/A	Wind turbines.
Minerals, oil and gas	N/A	Planning applications for quarries.
Rural non residential	N/A	Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m ² or footprint exceeds 0.2ha.
Residential	N/A	Residential development of 100 units or more.
Rural residential	N/A	Any residential development of 50 or more houses outside existing settlements/urban areas.
Air pollution	N/A	Any industrial/agricultural development that could cause air pollution.
Combustion	N/A	General combustion processes >20MW energy input.
Waste	N/A	Landfill.
Composting	N/A	Any composting proposal with more than 500 tonnes maximum annual operational throughput.
Discharges	See below	Any discharge of water or liquid waste of more than 2m ³ /day to ground (<i>i.e.</i> to seep away) or to surface water, such as a beck or stream.
Water supply	N/A	Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m ² or any development needing its own water supply.

Discharges: How the discharge of waste is to be managed is unknown, foul water is to be *via* mains drainage. Proposals must be agreed with the Local Planning Authority, including details on foul drainage, as discharges are not to mains drainage. The client should ensure that any discharge follows the current guidelines to minimise impact.

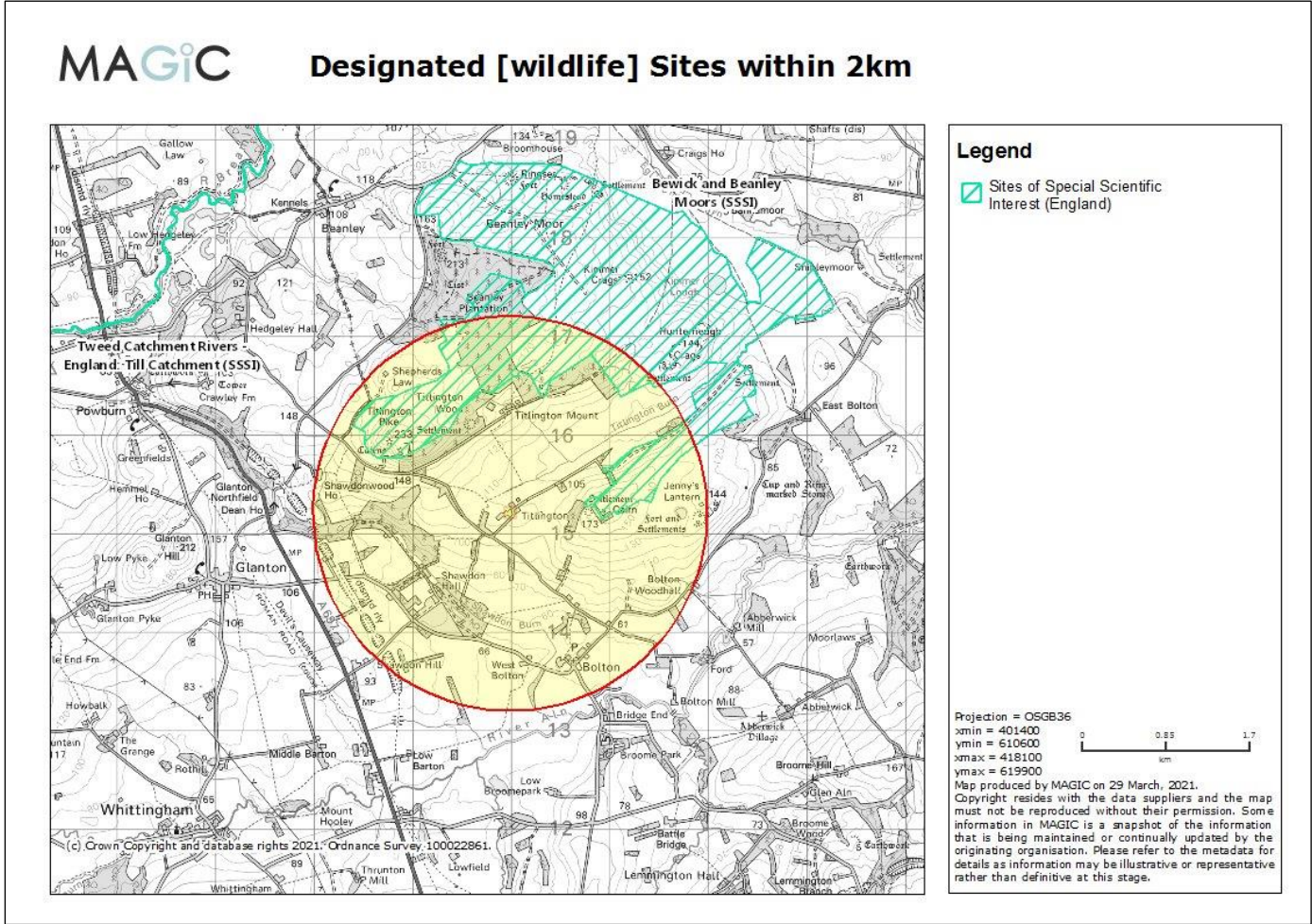


Figure 4. Designated [wildlife] Sites within 2km.

5.2 Priority Habitats

'MAGiC on the Map' was checked for Priority Habitats (Habitats of Principal Importance). These are habitats listed under Section 41 of the Natural Environment and Rural Communities Act 2006.

There are no Priority Habitats within the development area. Woodpasture and Parkland BAP Priority Habitat lies approximately 70 metres east. Root Protection Areas should be marked out with regard to nearby trees during the construction phase.

The following are found within 2km of the site:

Habitat	Proximity
Woodpasture and parkland BAP	~70 metres west
Ancient replanted woodland	~745 metres west (Shawdon Wood)
Upland heathland	~750 metres east
Deciduous woodland	~870 metres west
Ancient and semi-natural woodland	~900 metres north west
Good quality semi-improved grassland	~1km north east
Open Mosaic Habitats on Previously Developed Land ¹⁰	~1.3km south east
Lowland heathland	~1.5km north west
Grass moorland	~1.6km north east

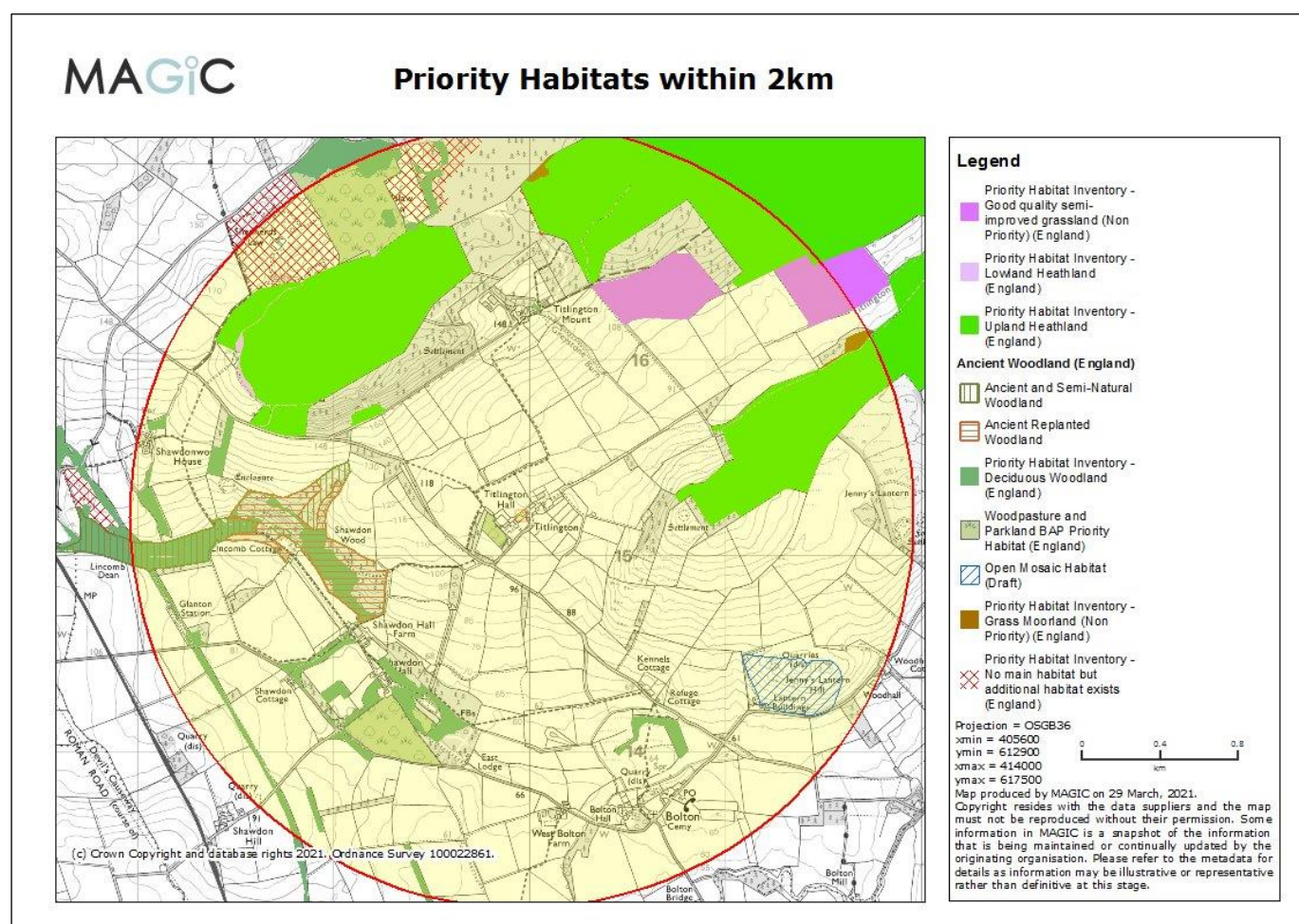


Figure 5. Priority Habitats.

¹⁰ Draft mapping.

5.3 EPSLs and bat records

Bat records have been received from ERIC North East. All records provided are detailed below. Northumberland Bat Group may hold additional records but are currently not undertaking data searches.

The records do not state if roosts are present when a count of bats is provided, but it is assumed to be the roost count.

Some of the location descriptions are vague and a precise location cannot be determined. There are no records within 1km, however Titlington Hall is in a very rural location with few buildings within 1km.

Species	Location	Information	Year	Grid Reference	Proximity
Unknown	Titlington Mount		2004	NU100162	~1km
<i>Myotis</i> bat	Unknown	Roost record	2010	NU092144	~1.1km
Pipistrelle (<i>Pipistrellus</i> sp.)					
Natterer's (<i>Myotis nattereri</i>)	Bolton Chapel	Count of 30 bats.	2005	NU106137	~1.6km
Natterer's	Near Glanton	Count of 26 bats.	2005		
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	Near Glanton	Count of 1 bat.	2003		
Brown long-eared (<i>Plecotus auritus</i>)	Bolton Chapel		2005		
Brown long-eared	Bolton		2006		
Brown long-eared	Near Glanton	Count of maximum 8 bats.	2005		

'MAGiC on the Map' was checked for any granted Endangered and Protected Species Licences (EPSLs) granted within 2km. There were no results within 2km.

Additionally there were also no results for great crested newt Class Licence returns and Natural England Pond Surveys (2017-2019).

5.4 Local planning portal

The wider site of Titlington Hall has the following planning history:

- 1991 – Holiday caravan (reference /91/A/529).
- 2001 - Change of use and extension of agricultural building to training and demonstration centre (reference A/2000/0131).
- 2001 – Retention of outdoor riding ring (reference A/2001/0369).
- 2016 - Listed building consent for the following minor works completed in the 1990s- new internal door opening, removal of walls to butler's pantry to enlarge kitchen, removal of maid's cupboard to give light to back stair and blocking of 20th Century window on main façade (reference 16/01775/LBC).

There is no reference to any ecological assessments for the above planning applications in the Public Domain.

It is unclear from the planning documents if the cottage, cartshed or stable block were included in any of the above.

The local planning portal (Northumberland County Council¹¹) was checked for recent/nearby (within the last 5 years and within ~500 metres) planning applications that have reference to ecological assessment. *References to individual trees away from the development site have been omitted.*

There was nothing to note within the Public Domain.

¹¹ The development site lies adjacent to the Local Authority boundary.

6. Building assessment

See **figure 2** earlier in the report for the location of each building.

6.1 Building 1 - Dovecote

High risk – for bats, nesting birds and barn owls.

This building is constructed of stone walls with an internal brick shell (the dovecotes). Blocked up arches are present on the southern elevation. It is within/adjoined to the stables (building 2).

There are open gaps present to the upper floor, which are features of the dovecotes. Gaps are also present near the water tables, along the walls and around the roof structure.

The roof is constructed of slate tiles, with Bitumen 1F underfelt present in some areas and sits on timber trusses. Evidence of use of the building by jackdaws was noted at the southern gable end by a timber box structure.

A small skylight and old forge fire with chimney above are present.

There is an open arch along the western elevation with gaps present in the lintel above. Several (old) barn owl pellets were noted.

The building has evidence of being used by nesting birds. Evidence of bats (if present) is likely to be missed among the debris.

The building adjoins other single-storey agricultural buildings not within the client's ownership.

See figures 6-9.

6.2 Building 2 - Stables

High risk - several Potential Roost Features and limited evidence of bats/nesting birds.

This building is constructed of stone walls with a slate pitched roof. The front elevation is south west facing. Timber framed glazed windows are present on the upper floor.

Features present that could potentially be used by bats include:

- Gaps around the stonework.
- Slipped/misaligned tiles.
- Gaps along the ridgeline.
- Gaps around the window surrounds on the upper floor.
- Gaps around where the cast iron gutters attach to the wall at the wall tops.
- Gaps around the water table on the rear elevation.
- Gaps around the stone archway.

The gable end (north west facing) has limited visibility due to the nearby hedge. There is an external door present on this elevation on the upper floor.

The lower floor of the building comprises of two sections with a staircase in-between:

- The first section is used for storage with rendered plaster walls, some exposed stonework and two cupboards present. Gaps are present in the ceiling/lower side of the upper floor. No bat droppings were noted, but rat droppings were present. The staircase is of boxed timber construction with some exposed lath/plaster walls with multiple gaps. A large volume of rat and pigeon droppings were present, along with a single deceased pigeon. Scattered butterfly wings (<4 noted) were present. These can simply be the remains of overwintering butterflies or can be the feeding remains of brown long-eared/Natterer's bats.
- A loft hatch is present above the stairs, it was deemed unsafe to access this due to the location, but the loft was inspected from beneath. There is a low headroom void present and no underfelt/material beneath the slate tiles. The loft appears sectioned above with a brick wall present.
- The second section on the lower floor is the stable area with stalls. The walls are part block work, part plastered. An open window is present to the rear. Swallow nests were noted. There is an adjoining tin-sheet roof/breeze block structure blocking off the rear archway.

The upper floor is divided into the three distinct rooms – two small rooms to the southern end and one large room to the northern end. Timber sash windows are present and a range, with an open chimney above. **Bat droppings** of mixed sizes are present (approximately 10) along with more butterflies' wings. There are gaps in the lath and plaster walls and ceilings.

The northernmost room on the upper floor is large and draughty with the windows without glass and boarded up. A door is present to the northern end.

This building also has a small lean-to storage room present. The loft void above this was viewed, but not accessed for reasons of Health and Safety, with the ceiling missing above the northern room to the upper floor. Where the loft void is still present there are bare slates and numerous cobwebs. The void is draughty, and pigeons are present.

Other buildings to the rear of the stables are currently not within the client's ownership and therefore were not viewed internally and were surveyed from the upper floor of the stables. They are mostly modern-framed barns with one single-storey stone walls/slate roofed traditional farm building. The client may request these to be included in the recommended additional survey effort.

See figures 10-27.

6.3 Building 3 – Garage

This building has stone-rendered walls and slate tiled hipped roof. It is draughty and bitumen felt is present beneath the slates for part of the building. The loft void is draughty with several twigs present, forming nesting material for birds. The roof timbers overlap.

There are gaps present around the walls and roof and around access areas, such as doors.

See figures 28-30.

6.4 Building 4 – Cartshed

Bat risk – moderate-high.

The building is constructed of stone walls with a bare slate roof. Inside it is open to the pitched roof with no separate roof void present. The room has several cobwebs present and a swallow nest was noted. The wall tops are sealed, and timbers are present below the ridge. There are gaps along the roof ridgeline and a large crack in the wall and underneath the stone water table. Large gaps are present above the door/gate lintel.

Rat and bird droppings are present, with 2 bat droppings noted near to the arch.

This building will become adjoined to the cottage (building 6), although the roof of the cottage will not be affected.

The building is deemed suitable for roosting bats.

See figures 31-37.

6.5 Building 5 – Store building

Bat risk – low.

The building is a low lean-to structure with stone walls and a lined slate roof (**figure 38**). A swallow nest was noted.

6.6 Building 6 - Cottage

Bat risk - high risk, works limited (no roof work proposed).

This two-storey building has stone walls and a slate pitched roof. The windows are glazed and in timber frames. No internal access was available and limited works are proposed, with only adjoining work to building 4 (cartshed) and no roof/upper floor works are proposed.

The building has several gaps around the roof, walls and ridge.

The building has the potential to be a maternity bat roost and survey timings should account for this.

Constraint: due to Covid-19 rules in place at the time of the PRA no internal survey was conducted as the property is occupied. As the roof is unaffected by the works this is not considered significant with activity survey data.

See figures 39 and 40.

6.7 Nearby habitats

The buildings make up a cluster of buildings within the grounds of Titlington Hall. The buildings at Titlington Hall within a parkland landscape with mature trees (**figure 41**).

6.8 Photos

6.8.1 Building 1 - Dovecote



Figure 6. Internal dovecote, used for storage.



Figure 7. Roof structure of dovecote with crossed timber trusses, boarding to underside of ridge and half felt underlining.



Figure 8. Nesting material and barn owl pellets floor of dovecote.



Figure 9. Dovecote front elevation.

6.8.2 Building 2 - Stables



Figure 10. South west (front) elevation of stables showing dovecote to the right.



Figure 11. Rogue external end gable of dovecote and rear elevation of stables.



Figure 12. Gaps around stone window surround of the upper floor of the stables.

Figure 13. North west gable end of the stables, showing the upper floor door.



Figure 14. Rear (north east) elevation of stables adjoining land not in the ownership of the client.



Figure 15. Potential snuffle hole near stables.



Figure 16. Stables - gap above door lintel lower floor stables.



Figure 17. Archway access to lower floor of the stables.

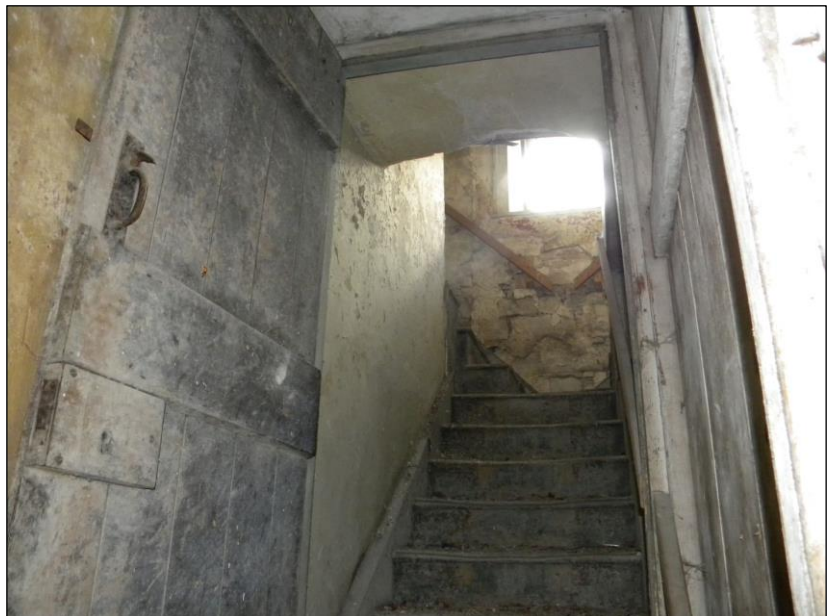


Figure 18. Stairs to upper floor of stables – timber lined.



Figure 19. Moth wings and scattered bat droppings, upper floor stables, southern end.



Figure 20. Chimney above range on upper floor in stables.



Figure 21. Range on upper floor of stables.



Figure 22. Upper floor room above stables.



Figure 23. Large room to middle section upper floor with pigeon evidence above stables.



Figure 24. Internals of loft above stables.



Figure 25. Buildings to rear not in ownership of client but may be looking to buy/survey. Stone building not inspected internally risk assumed moderate.



Figure 26. Internal northern end ground floor stables – pet pens.



Figure 27. Stable bays.

6.8.3 Building 3 - Garage



Figure 28. Rear of the garage.



Figure 29. Garage (southern elevation), open access.



Figure 30. Roof structure within garage loft void – swallows and jackdaw nests.

6.8.4 Building 4 - Cartshed



Figure 31. Western elevation of the cartshed.

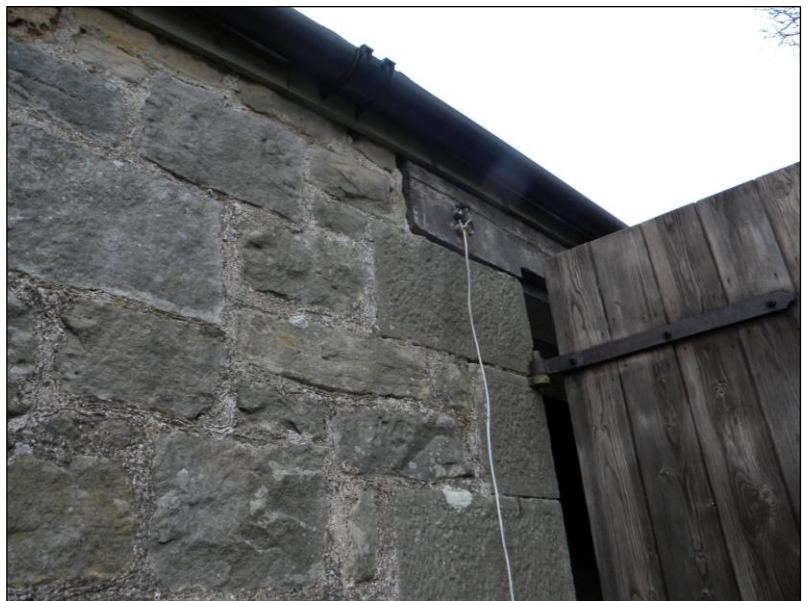


Figure 32. Gaps to the timber lintel above cartshed door.



Figure 33. Gaps in stonework/pointing to the cartshed and underneath water table.

Figure 34. Internal cartshed – gaps around stone lintels.



Figure 35. Cartshed open roof to pitch – lots of cobwebs.

Figure 36. Bat droppings within cartshed.





Figure 37. Cartshed south west elevation adjacent to cottage (area affected by works).

6.8.5 Building 5 - Store



Figure 38. Store.

6.8.6 Building 6 – Cottage



Figure 39. Front (south western) elevation of cottage.



Figure 40. Rear of cottage. North west elevation.

6.8.7 Nearby habitats



Figure 41. Mature trees and surrounding landscape to the north west of buildings.

7. Bat activity surveys

Bat dusk and dawn surveys confirmed that large day roosts/potential small maternity roosts of common and soprano pipistrelle bats are present in the wall tops and ridge tiles of the cottage. Maximum counts on 11th July 2021 dawn survey 9 common pipistrelle and 7 soprano pipistrelle bats.

There was continuous bat activity throughout the surveys with common and soprano pipistrelle bats recorded. *Myotis*, whiskered/Brandt's, brown long eared, Daubenton's and Natterers bats were also recorded in small numbers foraging around the site.

Surveys are discussed below. The full datasets can be made available upon request.

Information on timings and weather conditions are provided in the table below:

Date	4 th June 2021	11 th July 2021
Type	Dusk	Dawn
Sunrise/sunset	21:42	04:42
Start time	21.30	02:40
End time	23:30	04:45
Temperature	13°C (start) – 11°C (end).	14°C (start) – 13°C (end).
Weather	10% cloud cover, still, dry. Sunny Day.	No cloud, calm, no wind.
Surveyors	ADF, SP, TB, JB	ADF, SP, TB, JB

General notes

Myotis bats can be difficult to identify to species level without good clear sound recordings and especially when there are numerous bats of different species also present at the same time.

Anabat detectors only pick up the loudest noise and brown long-eared (BLE) bats are known to have a quiet call, therefore identification cannot be confirmed. This species has a distinctive flight pattern and the records below were noted by a licensed and experienced surveyor.

7.1 4th June 2021

The first bat, a **soprano pipistrelle**, was seen arriving on site from the north at 22.01 (19 minutes after sunset). From this point in the survey low numbers of common pipistrelle bats were recorded foraging around the site for the duration of the survey, with significant activity in the walled garden to the rear of Titlington Hall and the trees to the front of the Hall. A lot of social calling was recorded.

At 22.06 a non-echolocating pipistrelle was seen emerging from near the wall tops/lower tiles above on the front (south west) elevation of the cottage. This is marked in **red** on **figure 72** below. **A further 5 bats (one confirmed common pipistrelle, the rest non-echolocating pipistrelles)** were recorded emerging from three locations on the front elevation of the cottage at the wall tops, and from a single location at the ridge to the same elevation.

Foraging activity was constant, mainly soprano and common pipistrelle bats, with small numbers of foraging brown long-eared, *Myotis* whiskered/Brandt's, Daubenton's and Natterer's also recorded.

No bats emerged from the outbuildings or cartshed.

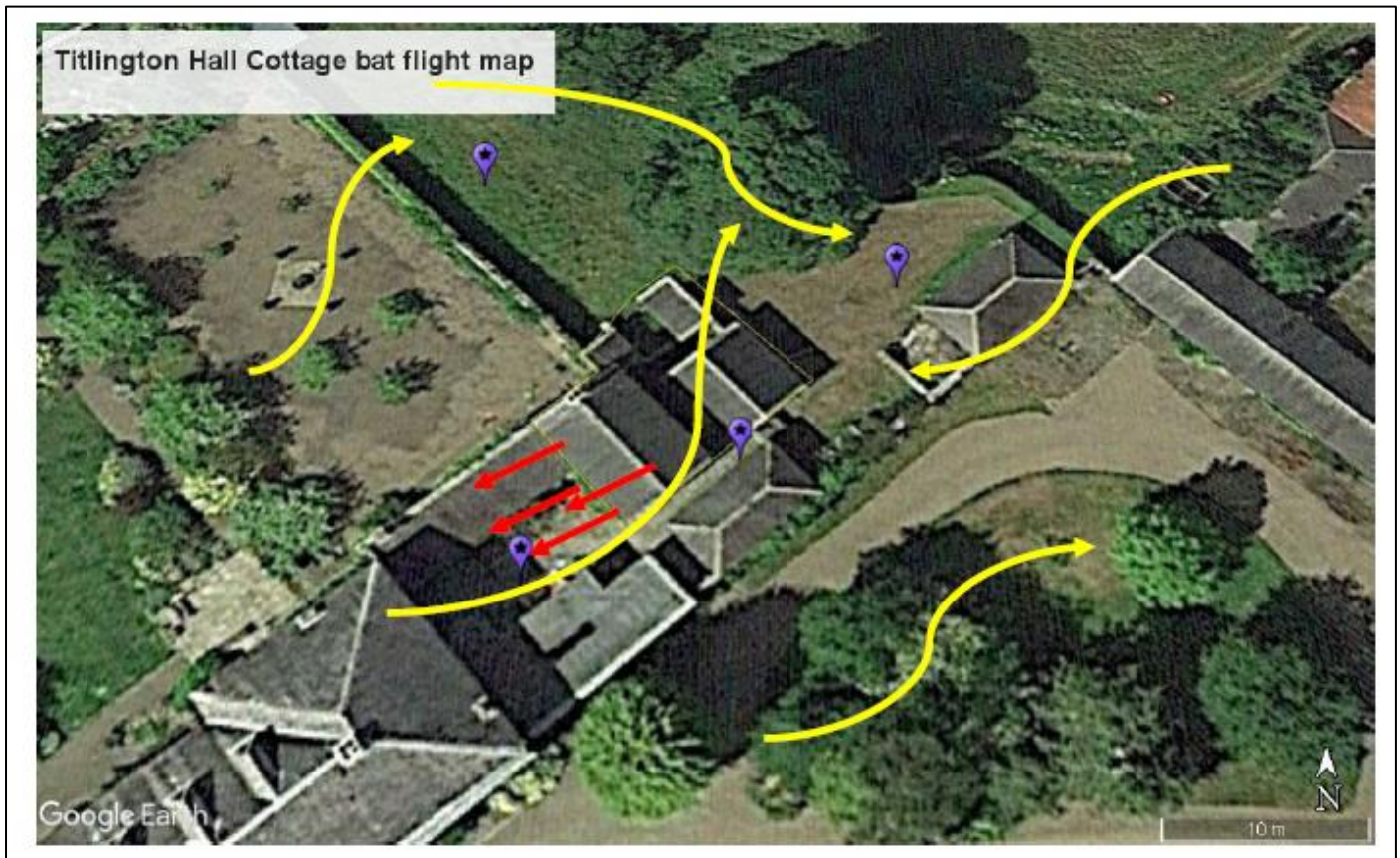
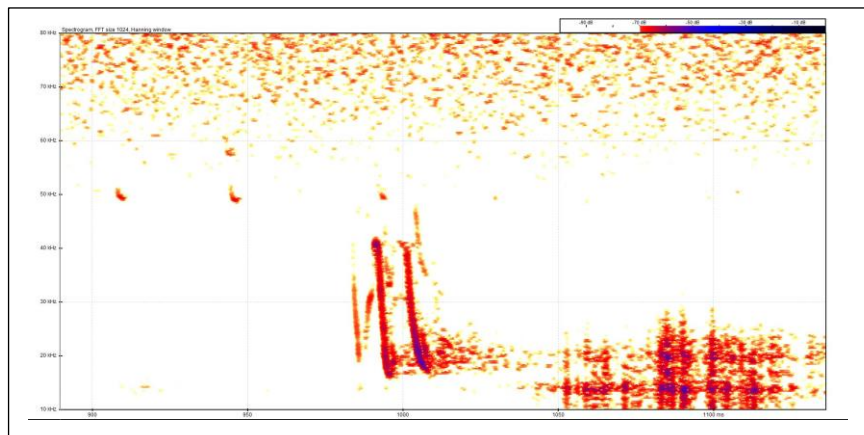


Figure 42. Bat flight map from 4th June dusk survey. Flight lines are in **yellow**, with the roost emergence in **red**



Figure 43. Bat roost locations within cottage.

Figure 44. Bat call (social and short FM) of common pipistrelle emerging at 22:30.



7.2 16th June 2020

The survey commenced at 02:40, two hours before sunset at 04:42, with the first bats heard immediately. These were primarily common and soprano pipistrelles, with the occasional *Myotis* and brown long eared bat, foraging around the buildings and tree lines.

Swarming behaviour, including social calls and 'chasing' was recorded from 03:29 until the last bat entered the roost at 04:20. This was

At 03:51 a common pipistrelle entered the cottage underneath the eaves on the front (south west) elevation. A further seven common pipistrelle entered at the roofline at two locations on the same elevation (see figure 46) at regular intervals until 04:20.

Between 04:00 and 04:19 seven soprano pipistrelle bats entered at a single location to the right of the cottage at the roofline.

At 04:14 and 04:20 two soprano pipistrelles entered a single roost location at the wall tops to the rear of the cottage (see figure 47).

The last bat was recorded at 04:25, 17 minutes before sunrise.

Clear analysis of calls was possible although the sonograms reflect a lot of background noise from the resident's dogs.

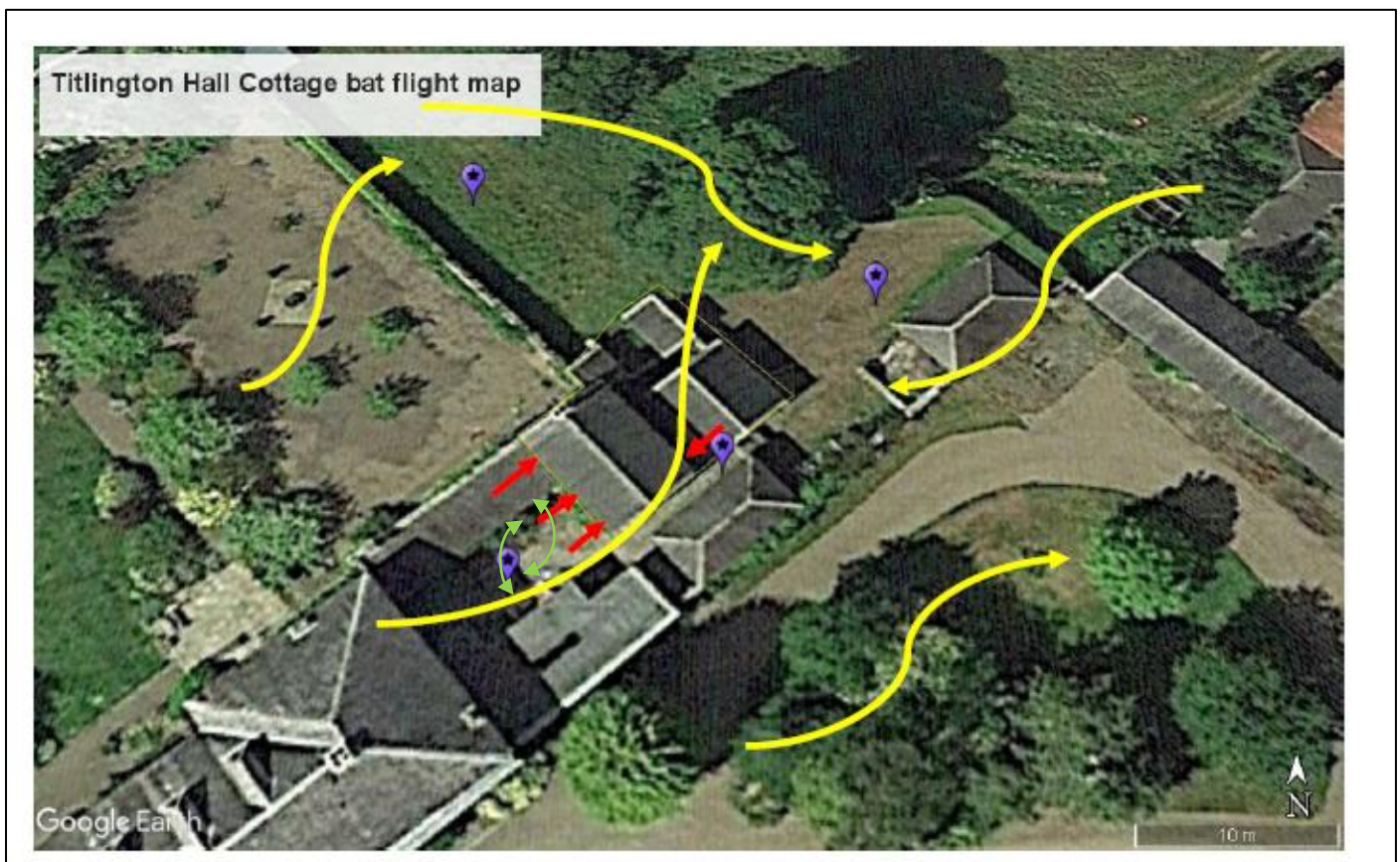


Figure 45. Bat flight map from 11th July dawn survey. Flight lines are in yellow, with the roost emergence in red. Swarming is shown in green.



Figure 46. Bat roost locations within the cottage (front elevation).



Figure 47. Bat roost locations within the cottage (rear elevation).

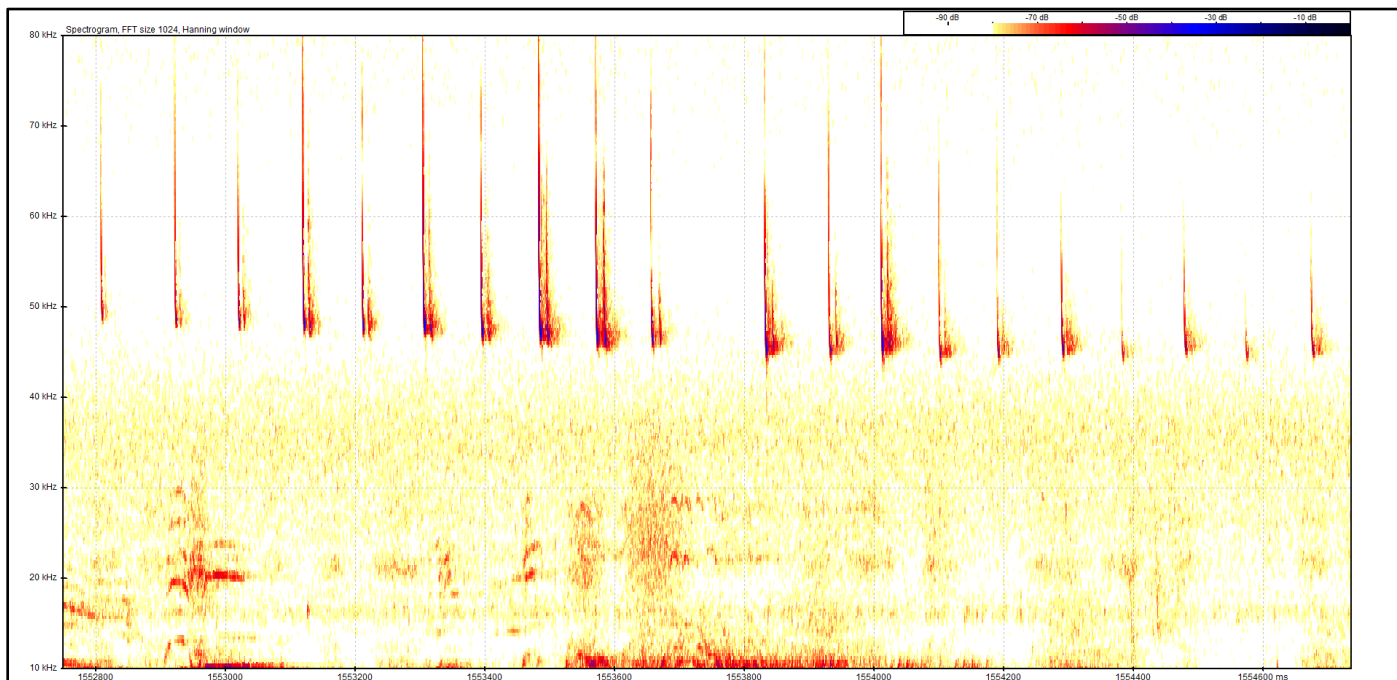


Figure 48. Common pipistrelle re-entry into roost 03:51 (11.07.2021).

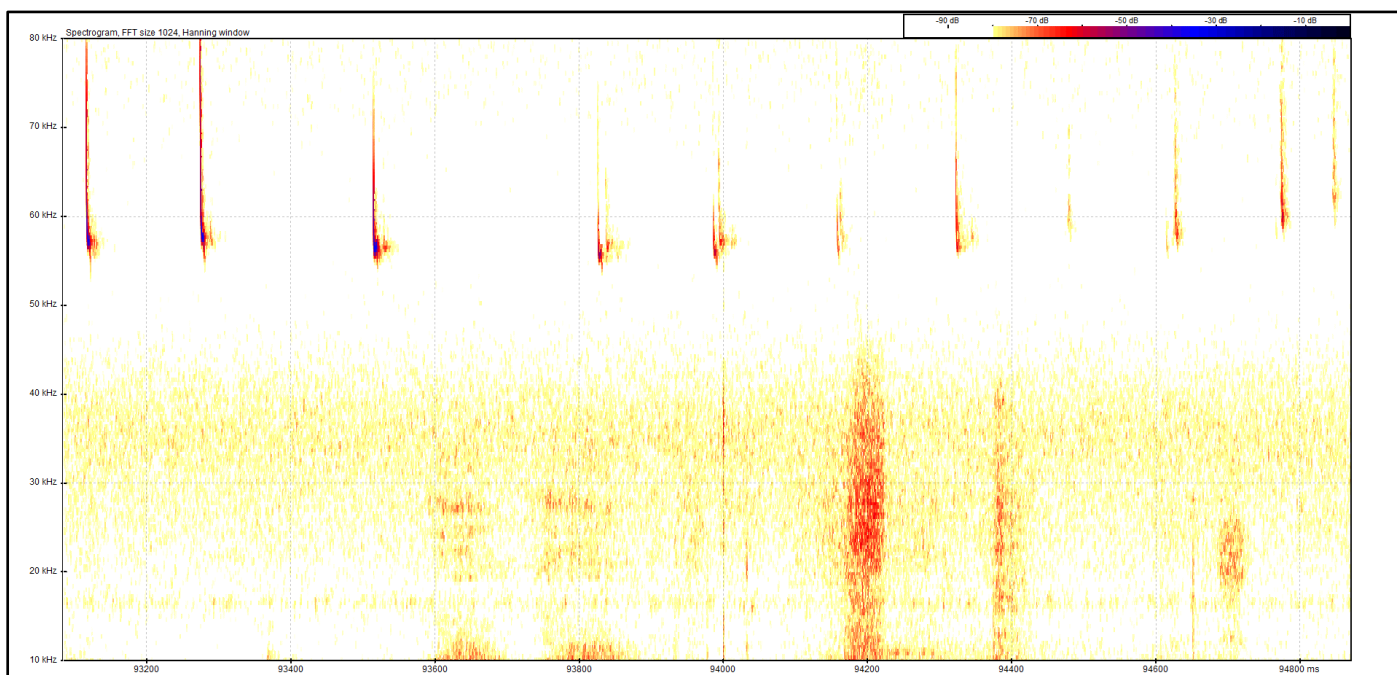


Figure 49. Soprano pipistrelle pip re-entry into roost 04:15, (11.07.2021).

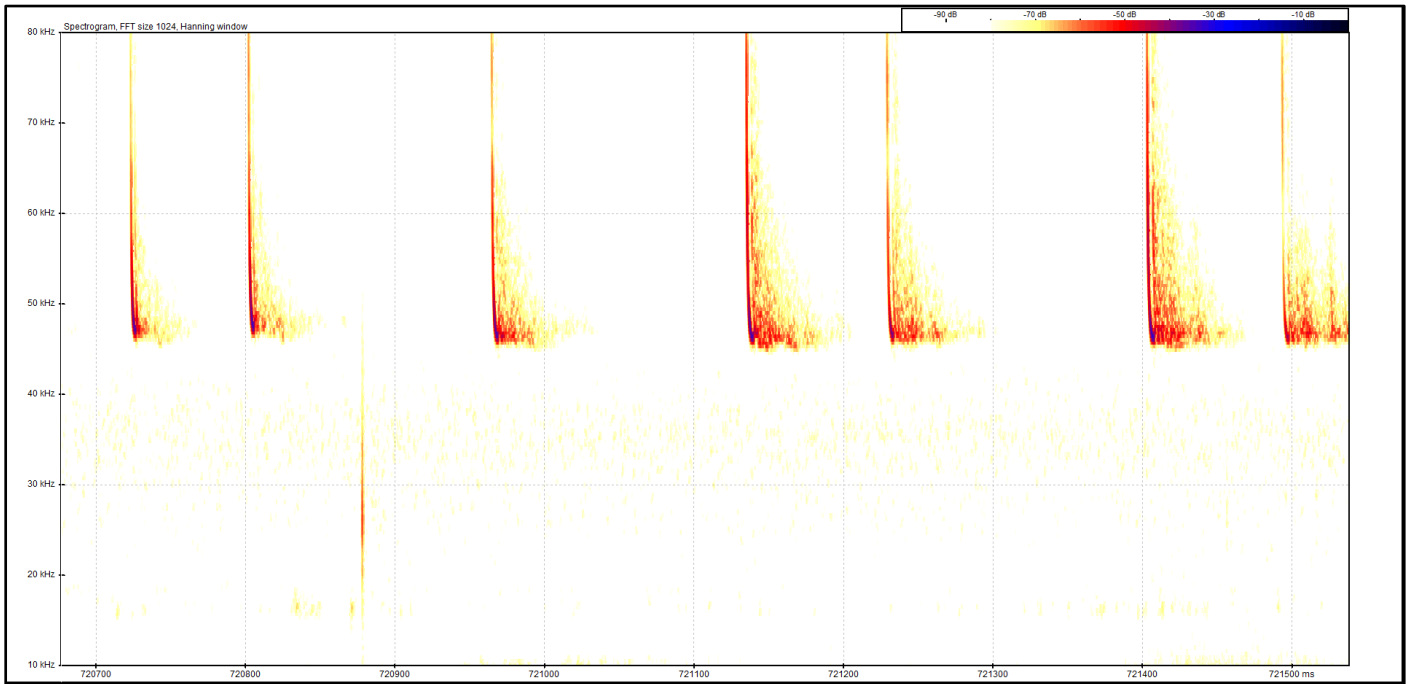


Figure 49. Common pipistrelle swarming around roost 04:10 (11.07.2021).

8. Impact assessment and proposed mitigation

8.1 Summary

- **The buildings are deemed to have medium-high potential for roosting bats. Bat droppings were found in both the stables and the cartshed.**
- Bat surveys showed roosts to the cottage roof/roofline in five separate locations. The maximum number of bats in any one roost was 7 soprano pipistrelle.
- The site has been shown to support day roosts of 9 soprano pipistrelle in two separate roost locations, and 8 common pipistrelle in two separate locations.
- **The roost sites will be unaffected by the proposed works which do not impact the roof.**
- As more than 5 bats are recorded in each roost location it is possible that the building supports a small maternity roost, given the time of year that the surveys were undertaken, and the behaviour noted around the roosts including social calls.
- Birds are known to nest within the buildings. Swallows are present in the outbuildings and cartshed and mitigation must be provided for that species in the form of alternative nest sites.
- Integrated features suitable for bats (such as bat access tiles) and birds are recommended to be incorporated into the proposed extension to ensure No Net Loss of bat roost potential.
- There is one Designated [wildlife] Site within 2km, Bewick and Beanley Moors SSSI lies approximately 700 metres east. The site lies however within the SSSI Impact Risk Zone. Negligible impact is expected, as long as discharge of waste of dealt with appropriately following current guidance.
- There are no Priority Habitats within the development area. Woodpasture and Parkland BAP Priority Habitat lies approximately 70 metres east. Root Protection Areas should be marked out with regard to nearby trees during the construction phase.
- A single snuffle hole, consistent with badger was noted near the stables. No other signs, or evidence of a sett within 50 metres was noted.
- Aside from bats, any other potential impacts can be suitably dealt with following the Precautionary Working Methods are provided within this report (**appendix 1**).

Factors supporting the recommendations are discussed in the sections below:

8.2 Limitations

The Preliminary Roost Assessment survey comprised a single daylight visit, outside of the active bat season. Recent weather conditions mean any external signs are unlikely to be still present.

There was no internal access to the cottage, the property is currently occupied by the client and no works to the roof are proposed. The extension will involve 'gapping up' the narrow alley to the cartshed at first floor height, at least 2 metres away from the recorded roost locations.

There were no limitations to the nocturnal activity surveys.

8.3 Birds

Birds are known to nest within the buildings. Swallows are noted nesting in several of the outbuildings and the cartshed.

Potential impacts

- Disturbance to breeding birds.
- Destruction of active nests, causing death or injury to fledging birds.
- Loss of nesting provision for birds.

Actions and mitigation

- Site contractors must be made aware of the law around the bird nesting season (March-August inclusive).
- Construction works should avoid the bird nesting season unless a suitably qualified ecologist has confirmed that no nesting birds are present 48 hours prior to the works commencing.
- Integrated nesting provision for birds should be include within the renovation to ensure No Net Loss of nesting provision.
- Swallow nest cups with suitable overhand must be provided. The client should work alongside the project ecologist to choose a suitable location.

8.4 Bats

Bat were droppings found in both the stables and the cartshed. The buildings have potential for roosting bats. Such features include:

- Gaps present around the wall tops and roofing areas.
- Gaps around door lintels and windows surrounds.
- Slipped/misaligned tiles.

Overall the buildings are deemed to have **medium-high potential for roosting bats**. The buildings have several potential roosting features, with bat droppings found in both the stables and the cartshed. Activity surveys have identified a number of roosts of small numbers of common and soprano pipistrelle (max. 7no. 55 pipistrelle in one roost) to the roof and roofline of the cottage. No roost were recorded in the cartshed or outbuildings.

Building name	Number	Summary
Dovecote	1	High risk of bats, nesting birds and barn owls.
Stables	2	High risk, evidence of nesting birds and bat droppings were present. Scattered butterfly wings were present. These can simply be the remains of overwintering butterflies or can be the feeding remains of brown long-eared/Natterer's bats.
Garage	3	Likely to be retained for use as garage – bat roosting potential in roof.
Cartshed	4	Moderate-high risk of bats with 2 bat droppings noted. NO BATS RECORDED ON ACTIVITY SURVEYS
Store building	5	Low risk of bats.
Cottage	6	High risk but works limited to risk features. DAY ROOSTS OF MAX. NINE 55 PIPISTRILLE AND EIGHT 45 PIPISTRELLE ARE RECORDED IN THE ROOF AND ROOFLINE AT 5 SEPARATE LOCATIONS. PRECAUTION: AS MORE THAN 5 BATS ARE RECORDED MATERNITY ROOSTS CANNOT BE RULED OUT THEREFORE TIMING RESTRICTIONS ARE REQUIRED.

The [initial] Assessment was made based on the Bat Conservation Trust (2016) 'Bat Surveys Good Practice Guidelines'. The full assessment tables can be found in **appendix 3**.

Overall suitability for bats	Habitat and settings	Moderate-high
	Building	High
	External	Medium-high
Potential suitability of the development site for bats	Commuting and foraging habitats	Moderate
	Roosting habitats	High

Bat records have been received from ERIC North East. There are no records within 1km, however Titlington Hall is in a very rural location with few buildings within 1km.

Potential impacts

- Disturbance to roosting bats.
- Loss of potential roosting areas.
- Disturbance, killing or injury to bats which may use the building as a roost.
- Disturbance, damage or destruction of a bat roost.

Actions and mitigation

- **No works to the cottage roof or roofline are to take place without further consultation with the project ecologist and a Natural England European Protected Species Mitigation Licence (EPSML).**
- **Works will avoid the maternity period May-August inclusive to avoid disturbance to potential maternity roosts.**
- Cartshed and outbuildings: Roofing features such the tiles and flashing to be removed by hand, carefully checking for bats. It is recommended that crevices in walls have one-way flaps added for a period of time prior to any repointing works, installed by the project ecologist. Repointing and masonry work must be undertaken to a method statement and with checks by the project ecologist prior to the commencement of works.
- If bats or signs of bats are found, then work must stop, and the project ecologist contacted for advice.
- Lighting on site should be minimised and directional and follow the BCT/ILP guidance¹². They should be designed to face away from the trees surrounding the buildings and any roosts found on site.
- Non-Bitumen (Breathable) Roofing Membranes¹³ should not be used as these are known to cause death to bats by entanglement. Currently the only 'bat safe' roofing membrane is bitumen 1F felt that is a non-woven short-fibred construction.
- Any external paint used should be checked to ensure it will not cause harm to bats or birds.
- Integrated features suitable for bats (such as bat access tiles/integrated bat box) are recommended to be incorporated into the proposed extension to ensure No Net Loss of bat roost potential.

¹² ILP/BCT (2018)

¹³ www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-roofing-membranes

8.5 Priority Habitats and Designated Sites

There are no Priority Habitats within the development area. Woodpasture and Parkland BAP Priority Habitat lies approximately 70 metres east. Root Protection Areas should be marked out with regard to nearby trees during the construction phase.

There is one Designated [wildlife] Site within 2km, Bewick and Beanley Moors SSSI lies approximately 700 metres east. The site lies however within the SSSI Impact Risk Zone. Negligible impact is expected, as long as the discharge of waste is dealt with appropriately following current guidance.

8.6 Other species and habitats

A single snuffle hole, consistent with badger was noted near the stables. No other signs, or evidence of a sett within 50 metres was noted.

Trees are present close to the buildings. RH Ecological Services have not been informed of any proposed tree works.

Potential impacts

- Site run-off during the construction phase.
- Effect on foraging animals.
- Pollution *via* site run-off and/or materials/chemicals stored/increased traffic on site.
- Disturbance and/or injury to wildlife during the construction phase.
- Activities such as mixing cement, refuelling or storage of materials/equipment may cause significant damage to those features such as compaction or contamination.
- **Pollution *via* site run-off through discharge of water/waste during occupation of the site. Please note as this may impact the River Tweed Special Area of Conservation (SAC) a planning application must be supported by details of any proposed foul water treatment, including where increased capacity on an existing system. Discharge of treated foul water to watercourse is unlikely to be permitted.**
- Increased lighting levels may affect foraging and commuting routes for nocturnal animals using the trees/woodland strip.
- Damage to nearby trees, particularly the root systems.
- Disturbance to the trees as a whole for foraging animals.

Actions and mitigation

- Root Protection Areas should be marked up around trees. Refer to 'British Standard 5837:2012 Trees in relation to design, demolition and construction' and 'BS 3998:2010: Tree work – Recommendations'.
- All materials, fuel and equipment, if left on site, to be stored securely in a position away from the site boundaries and at least 5 metres from the nearby woodland/tree lines.
- The project ecologist should be informed of any tree work proposed and this assessment will be updated.
- A Pollution Prevention Plan should be put in place to prevent site run-off during the construction stage.
- Chemicals must be stored carefully and following their COSHH guidelines. All those working on site to have access to spill kits and appropriate training in their use.
- Any storage of materials on site is likely to create suitable refugia for several species and therefore should only be moved by hand.

- Any pits or holes dug during construction phase must be covered up overnight or fitted with exit ramps (scaffolding planks) for mammals, to be placed at an angle of 30° from base to top.
- Check any areas of ground thoroughly before work starts. Holes left following removal of tree stumps/rocks should also be checked.
- Remaining vegetation to be gradually reduced in size, checking for wildlife, such as small mammals and reptiles.
- Any small mammals should be given chance to move away of their own accord to a place of safety or carefully remove them to a safe area nearby, preferably in vegetation, away from the working area.

9. References

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APPENDIX 1. Precautionary Working Method Statement

METHOD STATEMENT FOR CONTRACTORS BUILDINGS AT TITLINGTON HALL, POWBURN, NE66 2EB

The following precautions are necessary to prevent a legal offence being committed. All species of breeding bats and breeding birds are protected by law. Deliberate or reckless disturbance of these animals is a legal offence, punishable by fines and/or imprisonment. They are intended to reduce the impact of this development on protected species. These recommendations must be followed by all of those working on the site.

Should any protected species be found, work should immediately stop, and the project ecologist contacted.

Bats commonly roost in cavity walls and roofs. They may be present under roof tiles, ridge tiles and at wall tops or within crevices. All species of bats are strictly protected by law. Damage or destruction of a bat roost is an absolute offence with a maximum penalty of a £5,000 fine per offence, up to 6 months imprisonment, and confiscation of equipment.

Birds often nest at eaves, in roofs and in soffits. All species of breeding birds, their nests (whilst being built and when in use), eggs and chicks are also protected by law.

Bats

- **No works to the cottage roof or roofline are to take place without further consultation with the project ecologist and a Natural England European Protected Species Mitigation Licence (EPSML).**
- **Works will avoid the maternity period May-August inclusive to avoid disturbance to potential maternity roosts.**
- Cartshed and outbuildings: Roofing features such the tiles and flashing to be removed by hand, carefully checking for bats. It is recommended that crevices in walls have one-way flaps added for a period of time prior to any repointing works, installed by the project ecologist. Repointing and masonry work must be undertaken to a method statement and with checks by the project ecologist prior to the commencement of works.
- All works to cease immediately if bats, bat signs or nesting birds are found, and the project ecologist contacted for advice before works can proceed.
- Any external lighting should be directional away from any roosts/valuable habitat featured and follow the ILP 2018 guidance¹⁴. Any new external lighting will be directional, low intensity and controlled by motion sensor. It should be designed to face away from the trees surrounding the buildings and any roosts found on site.
- If bats or signs of bats are found, then work must stop, and the project ecologist contacted for advice.
- Non-Bitumen (Breathable) Roofing Membranes¹⁵ should not be used as these are known to cause death to bats by entanglement. Currently the only 'bat safe' roofing membrane is bitumen 1F felt that is a non-woven short-fibred construction.

¹⁴ ILP/BCT (2018) *Advice note 08/18 - Bats and artificial lighting in the UK - Bats and the Built Environment series.*

¹⁵ www.bats.org.uk/our-work/buildings-planning-and-development/non-bitumen-roofing-membranes

- Any external paint used should be checked to ensure it will not cause harm to bats or birds.
- Integrated features suitable for bats (such as bat access tiles/integrated bat box) are recommended to be incorporated into the proposed extension to ensure No Net Loss of bat roost potential.

Birds

- Site contractors must be made aware of the law around the bird nesting season (March-August inclusive). Construction works should avoid the bird nesting season unless a suitably qualified ecologist has confirmed that no nesting birds are present 48 hours prior to the works commencing.
- Integrated nesting provision for birds should be included with the renovation designs to ensure No Net Loss of nesting provision.
- Swallow nest cups with suitable overhand must be provided. The client should work alongside the project ecologist to choose a suitable location.

Other species and habitats

- Root Protection Areas should be marked up around trees. Refer to 'British Standard 5837:2012 Trees in relation to design, demolition and construction' and 'BS 3998:2010: Tree work – Recommendations'.
- All materials, fuel and equipment, if left on site, to be stored securely in a position away from the site boundaries and at least 5 metres from the nearby woodland/tree lines.
- The project ecologist should be informed of any tree work proposed and this assessment will be updated.
- A Pollution Prevention Plan should be put in place to prevent site run-off during the construction stage.
- Chemicals must be stored carefully and following their COSHH guidelines. All those working on site to have access to spill kits and appropriate training in their use.
- Any storage of materials on site is likely to create suitable refugia for several species and therefore should only be moved by hand.
- Any pits or holes dug during construction phase must be covered up overnight or fitted with exit ramps (scaffolding planks) for mammals, to be placed at an angle of 30° from base to top.
- Check any areas of ground thoroughly before work starts. Holes left following removal of tree stumps/rocks should also be checked.
- Remaining vegetation to be gradually reduced in size, checking for wildlife, such as small mammals and reptiles.

- Any small mammals should be given chance to move away of their own accord to a place of safety or carefully remove them to a safe area nearby, preferably in vegetation, away from the working area.
- Contractors should check any areas of ground thoroughly before starting work and before they leave.

Signed by Owners

Names

Date.....

Signed by Contractors

Name	Job Title	Date	Signature

APPENDIX 2. Relevant wildlife legislation

Under Section 25 (1) of the Wildlife & Countryside Act (1981) local authorities have a duty to take such steps as they consider expedient to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species.

The Natural Environment and Rural Communities Act (2006) places a Statutory Biodiversity Duty on public authorities to take such measures as they consider expedient for the purposes of conserving biodiversity, including restoring or enhancing a population or habitat.

Paragraph 109 of the National Planning Policy Framework (NPPF) requires that the planning system minimizes impacts on biodiversity and provides net gains where possible.

In Britain all bat species and their roosts are legally protected, principally under the Conservation of Habitats and Species Regulations (2010), with additional protection under the Wildlife and Countryside Act (1981) (as amended), including under Schedule 12 of the Countryside and Rights of Way Act, 2000, which created a new offence of reckless disturbance.

The combined effect of these is that a person is guilty of an offence if they:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats. In particular where this may:
 - i. Impair their ability to survive, to breed or reproduce, or rear or nurture their young.
 - ii. Affect significantly the local distribution or abundance of the species.
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time).
- Intentionally or recklessly obstruct access to a bat roost.

All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird. Barn Owls are named in Schedule 1 of this Act.

The barn owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependent young of wild barn owls.

APPENDIX 3. Bat suitability tables

From 'Bat Conservation Trust (2016). Bat Surveys Good Practice Guidelines'. Those in **bold** and **blue shaded boxes** apply to the building/site. The assessment has been done on the site/buildings collectively.

Overview of site suitability for bats.				
Habitats and settings				
	Negligible	Low	Moderate	High
Habitats and cover within 200 metres.	City centre.	Open, exposed arable, amenity grass or pasture.	Hedges and trees linking site to wider countryside.	Excellent cover with mature trees and/or good hedges.
Habitats within 1km.	City centre.	Little tree cover, few hedges, arable dominated.	Semi-natural habitats e.g. trees, hedgerows.	Good network of woods, wetland and hedges.
Alternative roosts within 1km.	City centre.	Numerous alternative roost sites of a similar nature.	A number of similar buildings in the local area.	Few alternative buildings and site of good quality for roosts.
Setting.	Inner city.	Urban with little green space.	Built development with green-space, wetland, trees.	Rural Lowland with woodland and trees.
Distance to water/marsh.	>1km	500m-1000m	200m-500m	<200m
Distance to woodland/scrub.	>1km	500m-1000m	200m-500m	<200m
Distance to species-rich grassland.	>1km	500m-1000m	200m-500m	<200m
Commuting routes.	Isolated by development, major roads, large scale agriculture.	No potential flyways linking site to wider countryside.	Some potential commuting routes to and from site.	Site is well connected to surrounding area with multiple flyways.

Overview of site suitability for bats.				
Buildings				
	Minimal	Low	Medium	High
Age (approximate)	Modern.	Post 1940s.	1900-1940.	Pre 20th Century.
Building/complex type	Industrial complex of modern design.	Single, small building.	Several buildings, large old single structure.	Traditional farm buildings, country house, hospital.
Building – storeys	N/A	Single storey.	Multiple storeys.	Multiple storeys with large roof voids.
Stone/brick work	No detectable crevices.	Well-pointed.	Some cracks and crevices.	Poor condition, many crevices, thick walls.
Framework – timbers/steel	Modern metal frame with sheet cladding.	Timber purlins, sheet asbestos.	Timbers kingpost or similar.	Large timbers traditional joints.
Roof void	Fully sealed roof.	Small, cluttered void.	Medium, relatively open.	Large, open, interconnected.
Roof covering	Modern sheet materials and tightly sealed.	Good condition or very open not weatherproof modern sheet materials.	Some potential access routes, slates, tiles.	Uneven with gaps, not too open, stone slates.
Additional features	Very well maintained and tightly sealed.	No features with potential access.	Some features with potential access.	Hanging tiles, cladding, barge boards, soffits with access gaps.
External				
Lighting	Extensive security. Lights covering much of the site.	Widespread areas above 2 lux at night.	Intermittent lights of low intensity	Minimal
Building use	Very noisy, dusty	Regular use	Intermittent use	Disused

Guidelines for assessing the potential suitability of proposed development sites for bats, based on presence of habitat features within the landscape.

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, <i>i.e.</i> not very well connected to the surrounding landscape by other habitat.</p> <p>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>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>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>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>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>Site is close to and connected to known roosts.</p>

Suitability	Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used by larger numbers of bats (<i>i.e.</i> unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.