Messrs J & A Waugh

Thompson's Walls, Kilham

Bat Scoping Survey Report

06/04/2010

the landscape agency

T: 01904 691630
F: 01904 691634

Aviator Court, Clifton Moor
York, YO30 4UZ

www.landscapeagency.co.uk
enquiries@landscapeagency.co.uk

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SUMMARY

The Landscape Agency was commissioned to carry out a bat scoping survey at Thompson's Walls, near Kilham, Northumberland. The site is a farmstead in an upland location within the Northumberland National Park. The farmstead comprises a bungalow, a series of traditional stone-built barns and two modern steel-framed barns.

The bat scoping survey is required to accompany a planning application. It is proposed to demolish the existing bungalow and replace it with a larger dwelling, and convert a traditional barn to use as a bunk-barn.

The scope of the survey is to identify the potential of buildings and trees on the site to support roosting bats and to identify requirements for additional surveys where required. The survey was carried out in March 2010. Surveys of bat activity have not been carried out.

Existing records for bats were sought from the Northumberland Bat Group and the National Biodiversity Network. There are no records of bats for the farmstead or surrounding farm. Records were obtained for an area of 2km from the farm boundary and these include roosts of common and soprano pipistrelle, whiskered / Brant's and brown long-eared bats.

The farmstead lies adjacent to three small plots of semi-mature broadleaves and conifers which will provide a foraging habitat for bats if they are present on the site. Beyond these plantations the site is surrounded by improved and semi-improved pasture and rough upland grassland with bracken. There are very few trees, hedgerows or patches of scrub to provide cover for foraging and commuting bats and connect the site with suitable habitat in the wider landscape.

A search was made of all buildings for signs of roosting bats. No signs were found in any of the buildings. Frequent butterfly wing remains were found in the living space of the bungalow. These can represent feeding remains of brown long-eared bats, but as evidence of use the bungalow by swallows, bats and spider was found and as no other

evidence of potential use by bats was found these could not be considered a positive sign of bat presence.

Three buildings were identified as having high potential for roosting bats. These are the bungalow, a traditional two-storey barn and a traditional open stall and store. Two buildings were identified as having medium potential for roosting bats. These are the two traditional open stores. Two modern steel-framed barns were identified as being of low potential roost value.

Further surveys at an appropriate time of year are recommended to confirm use of the site by bats and the location of roosts, if present. Dusk emergence and dawn re-entry surveys should take place where buildings are to be demolished or subject to alteration. Following these surveys, if bats are confirmed as present, detailed mitigation measures should be developed and the need for a European protected species licence and accompanying method statement should be advised on.

1.0 INTRODUCTION

1.1 Background

1.1.1 This bat scoping survey report was commissioned by Messrs Jonathan and Adam Waugh. The report relates to the farmstead of Thompson's Walls, near Kilham, Northumberland. It is proposed to demolish the existing bungalow, construct a replacement dwelling and convert a traditional barn to use as a bunk-barn.

1.1.2 The survey was undertaken by Guy Morrison CEnv MIEEM. He is a qualified ecologist, Chartered Environmentalist and a Full Member of the Institute of Ecology and Environmental Management. He is an experienced bat surveyor, an active member of the North Yorkshire Bat Group and has attended Bat Conservation Trust training on bat surveys of buildings and trees.

1.2 Scope and brief

1.2.1 The purpose of the survey is to assess the potential of the buildings and trees within the development site to support bats and, where found, to record evidence of bat usage.

1.2.2 The report is to outline the survey methodology, present and assess the survey results, and provide appropriate recommendations for further survey work to ensure the protection of legally protected species that may be impacted upon by the proposed works.

1.2.3 This report relates to the farmstead at Thompson's Walls, which comprises the bungalow and the adjoining farm buildings, as well as the immediately adjoin woodland. It does not consider the wider farm or any buildings away from the main farmstead.

1.3 Site description

1.3.1 The site is located at Thompson's Walls, which is a farm of 563ha located south of Kilham, Northumberland (OS grid reference NT 867 304). The farm is located within the Northumberland National Park. Part of the farm boundary lies on the border

between England and Scotland and the farmstead is located at a distance of approximately 2.2km from the border.

1.3.2 The farm is located in an upland landscape and altitude within the farm ranges from 130m to 414m above sea level. The farmstead is located on the upland fringe at an altitude of approximately 175m above sea level.

1.3.3 Appendix B contains photographs of the farmstead buildings and surrounding landscape.

1.3.4 The farmstead comprises a dwelling bungalow, a number of linked traditional barns and two modern steel-framed barns. The location of buildings is shown on the Bat Scoping Survey Plan (Appendix C). The buildings are described in more detail in the Survey Summary Table (Appendix A).

1.3.5 The bungalow (building 1) on the site comprises two unoccupied dwellings. The building is a traditional rural bungalow which is typical of Scotland and the Scottish border areas of England. The age of the building is unknown, but it is assumed that the building is of 19th Century or early 20th Century construction. It has roughly rendered stone walls and a slate roof. A stone-built porch has been constructed on the north-western side of the southern dwellings. Both dwellings have attached rooms serving as coal sheds and there is a shared utility room which provides access to a shared loft.

1.3.6 A collection of joined traditional farm buildings (buildings 2a-d) are located to the east of the bungalow. The most prominent of these is a two-storey barn (building 2a). This is constructed of stone, with a slate roof. The building has a large opening on its north-western side which accesses an area which is open from the ceiling to the roof void. To the north-east of this, a section of the building has a floor forming a first-storey hay-loft.

1.3.7 The two-storey barn adjoins two open farm store buildings (buildings 2b and 2c), which comprise corrugated steel roofs supported by stone walls and timber columns, with timber Yorkshire boarding on the sides (both buildings) and back (building 2c).

The most northerly traditional building has stalls for stock (building 2d). This is constructed with stone with a sheet steel roof. It is open on the south-west side along most of the length, although there is a room with a steel door at the northern end of the building.

1.3.8 A modern steel-framed barn (building 3) containing animal stalls is located at the southern end of the farmstead. This has a corrugated asbestos (or similar fibrous board) roof on a steel frame. It is open on the north-east elevation, with a low concrete wall and timber Yorkshire boarding on the other elevations. A similar larger barn (building 4) is located at the northern end of the farmstead. This has a similar construction, but with a sheet steel roof and an opening to the south-east.

1.3.9 Three small woodland plots have been planted immediately adjacent to the farmstead. Woodland W1 is a plot of semi-mature broadleaves planted to the north of the farmstead. It is dominated by ash and goat willow. Woodland W2 is a plot of mixed semi-mature broadleaves and conifers planted to the north-east of the farmstead and extending up the hill to the east. It is dominated by silver birch and larch. Woodland W3 is a plot of semi-mature conifers planted to the south of the farmstead. It is dominated by Sitka spruce and lodgepole pine, but it also contains a small number of ash trees.

1.3.10 The site is located on the upland fringes. From the north to the south-west of the farmstead are fields of improved pasture which lie within the valley with a small stream at the base. This area contains very few hedgerows or in-field or hedgerow trees. There is a small mixed broadleaved and conifer plantation, named Kilham Fox Covert, approximately 300m to the north-west and several small areas of recent tree planting on steep stream-side banks to the west and south-west. From the east to the south-west of the farmstead is semi-improved pasture which rises to become rough grassland and bracken on the slopes of Longknowe Hill and Coldsmouth Hill. There are very few broad-leaved trees or patches of scrub on this open grassland. Several blocks of conifer plantation are present, with larger blocks present beyond the farm boundary on Haddon Hill to the south and Hare Law to the west.

1.4 Proposed development

1.4.1 It is proposed to demolish the existing bungalow (building 1) and replace it with larger building in the same location. This will be used as single dwelling, estate office and a bed-and-breakfast. The proposed layout is shown on the Existing and Proposed Layout Plan / Masterplan (Reid Jubb Brown Architecture drawing no. AD(0)02-).

1.4.2 It is understood that it is proposed to convert the traditional two-storey barn (building 2a) to a bunk-barn. Details for this proposal are not available, but it is assumed that this will require repair of the roof (probably removal and replacement of all slates), repairs to the internal and external walls, replacement of window and sealing of the large two-storey opening.

1.4.3 All other farm buildings, including the stone and timber-built stores and stalls (Buildings 2b-e) and the two steel-framed barns (buildings 3 and 4) will be retained unchanged.

1.4.4 All woodland plots surrounding the farmstead (woodlands 1-3) will be retained unchanged.

1.5 Biodiversity legislation

1.5.1 All sixteen British bat species are fully protected through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as European protected species.

1.5.2 Under the legislation, it is an offence to intentionally kill, injure or take a bat as well as intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat or disturb an animal while it is occupying a structure or place which it uses for that purpose.

2.0 METHODOLOGY

2.1 Desk study

2.1.1 A standard desk study was carried out in order to identify existing records for bats on the site and its surrounding area (including up to 2km from the site boundary). This data was obtained from the Northumberland Bat Group. In addition, a search for relevant nature conservation information was made using the Multi-Agency Geographic Information for the Countryside (MAGIC) (www.magic.gov.uk) and the National Biodiversity Network (NBN) (www.nbn.org.uk) websites. Data for statutorily protected sites in Scotland was obtained from the Scottish Natural Heritage web-site (www.snh.org.uk).

2.2 Field survey

2.2.1 A bat roost scoping survey of all the buildings was carried out. This included a day time assessment of the interior and exterior of the building to determine its potential as a roosting habitat for bats. This assessed the construction of the building and the presence of cavities, crevices and other features used by roosting bats, as well as the potential access to these features. Particular attention was given to the roof and roof void areas.

2.2.2 The buildings were assessed from ground level, using a torch and binoculars to aid visibility and to highlight areas. Ladders were used were necessary to aid inspection of the roof-gutter area of the bungalow. The roof void of the bungalow was entered.

2.2.3 The buildings were searched throughout for signs of bat habitation, including:

- Direct observation of bats
- Droppings
- Bat carcasses
- Feeding remains
- Scratch marks at entrances to crevices
- Staining from fur and urine at and below entrances to crevices
- Audible squeaking
- Characteristic smell
- Any other signs of bats

2.2.4 The search included the floor of the building, as well as all horizontal surfaces on the walls and observation of the roof and walls. Particular attention was paid to potential access points to crevices and access points to the roof voids and, within the roof void, to the area beneath the roof ridge and the areas adjacent to the gables and chimneys.

2.2.5 Trees on the site were assessed to identify features of potential use for bat roosting and evidence of bat use. Potential features of use include cavities, cracks, loose bark and dense ivy and epicormic branches.

2.2.6 In addition to the assessment of the buildings and trees, the context of the building within the surrounding habitats was assessed to determine if it was well-connected via trees, tall hedgerows and waterbodies to suitable feeding areas and commuting routes in the surrounding landscape.

2.2.7 The methodology followed the guidelines for survey and assessment provided in the Bat Conservation Trust's *Bat Survey Good Practice Guidelines* (2007) and the Bat Mitigation Guidelines (Mitchell-Jones, 2004).

2.3 Constraints

2.3.1 The survey was undertaken in March. At this time of year in this location many bats are likely to be in hibernation and are unlikely to be active, especially when conditions are cold. As such it was not possible to undertake any activity surveys as part of the survey.

2.3.2 Building inspections to assess for the likely presence of bats can be undertaken at any time of year. However in the absence of activity surveys the assessment is unlikely to conclude, with any degree of confidence that bats are not present. External field signs of bats can be removed or lost over time due to rain and weathering.

2.3.3 In Northern England the active bat season commences with the onset of warmer weather which is typically in May time and ends once the weather turns colder again in September. However the bat active season is very much weather dependent.

2.3.4 Bats are highly mobile species and may change roost many times in a year. As such bats are able to establish a roost in any suitable feature at any time.

2.3.5 Not all areas of the building are accessible and therefore it should not be concluded that all areas have been inspected in detail. In particular it is not feasible to inspect the large number of crevices present within the buildings and use of these should be determined by activity surveys at an appropriate time of the year.

3.0 RESULTS

3.1 Desk study

3.1.1 The desk study revealed that the only statutorily protected biodiversity sites within 2km of the farm are the River Tweed SSSI (Scotland) and the Tweed Catchment Rivers – England – Till Catchment SSSI. Due to their distance from the site, these are not considered relevant to the proposal and are therefore not considered further in this report.

3.1.2 The Northumberland Bat Group does not hold any records for the farmstead or the surrounding farm. Records are held for land within 2km of the farm boundary for the following species: common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Brown long-eared bat (*Plecotus auritus*) and Whiskered/Brandt's bat (*Myotis mystacinus/brandtii*). These are listed below in Table 1 below.

Location	Species	km Square	Site Use	Max. No.	Last Date	Site Description
Howtell	Unknown	NT8933	Roost	1	1986	House
Kirknewton	Brown long-eared	NT9031	Roost	5	2004	Mill
Kirknewton	Brown long-eared	NT9031	Roost	13	2004	Cottage
Kirknewton	Brown long-eared	NT9031	Roost	Mat	2004	House
Kirkyetholm	Pipistrelle species	NT8430	Roost	20	1996	House
Kirknewton	Common pipistrelle	NT9031	Roost	6	2004	Mill
Kirknewton	Soprano pipistrelle	NT9031	Roost	6	2004	Mill

Location	Species	km Square	Site Use	Max. No.	Last Date	Site Description
Kirknewton	Whiskered / Brant's	NT9031	Roost	19	2004	Barn

Table 1 Bat records within a 2km radius of the farm (Northumberland Bat Group)

3.1.3 Interrogation of the online NBN database indicate that within the 10km grid squares of NT83 and NT82 there are records of the following species only: common pipistrelle, unidentified pipistrelle species and brown long-eared bat.

3.1.4 It should be noted that the absence of records for the site and a relatively low number of records for the surrounding area is not evidence of absence, as bats are often under-recorded in rural areas such as this.

3.2 Habitat for bats

3.2.1 The site offers low to moderate quality habitat for foraging and commuting bats. The small plantations of semi-mature trees provide some cover for foraging in the immediate surroundings but the farmstead is surrounded on all sides by improved and semi-improved pasture and rough upland grassland and bracken with no trees or scrub. A very small stream runs adjacent to the farmstead and joins a small stream at the valley bottom approximately 400m to the north, but there are very few trees or patches of scrub providing cover and shelter along the stream. Several conifer plantations are present in the wider landscape and these will provide foraging opportunities along their edges and within mature stands, but these plantations are isolated with no connecting features which would provide cover for bats to commute between them.

3.2.2 It is considered that the habitat has moderate potential to support common pipistrelle bats. It is considered that the habitat has less potential to support brown long-eared bats, soprano pipistrelle and *Myotis* species of bats because of the absence of significant tree and scrub cover and/or water present on and near to the site.

3.3 Building inspection

3.3.1 The building inspection was carried out on 27 March 2010. It was a bright dry day with a temperature of 6-8^{o}C. All accessible and safe areas were surveyed including the roof void of the bungalow (building 1) and hay-loft of the two storey barn (building 2a).

3.3.2 The site contains a relatively large number of buildings and the detailed results of the building inspection are contained in the Bat Scoping Survey Schedule (Appendix A). These results are summarised here.

3.3.3 The buildings were searched throughout for signs of bats, such as droppings, carcasses, scratching and staining. None of these were found. Frequent rodent droppings were found in the northern dwelling of the bungalow (building 1), the bungalow attic and a former store room in a barn (building 2d). These were investigated in detail, but no bat droppings were found among them.

3.3.4 The buildings were searched for insect debris, as the wings of moths and butterflies can indicate presence of brown-long-eared bats. Wings of the small tortoiseshell butterfly were found in relatively large numbers in the northern dwelling of the bungalow (building 1). It should be noted that this dwelling also contained swallow nests (two in the bathroom), large number of rodent droppings and spiders' webs. All these species also predate butterflies (and leave the wings) and the feeding remains cannot be concluded as evidence of bat presence in the absence of other features, such as bat droppings.

3.3.5 All buildings were searched for potential to support roosting bats. The bungalow (building 1) contains an attic space with multiple access points through broken and ill-fitting tiles, around the wall plates and where holes have been made for electricity cables to pass through a gable wall. The roof within the bungalow is not lined, but small crevices are present between the slates and roof timbers and between the roof timbers and gable walls. Crevices are also present where mortar has been lost from both the gable walls and chimneys. Crevices of potential roost value are also present in gaps beneath lead flashing and where mortar has been lost at the base of chimneys.

3.3.6 The stone walls on the traditional barns (buildings 2a-d) have numerous gaps due to missing mortar and cracks. These gaps are present on both the exterior and interior walls of most buildings and are likely to provide access to crevices and possibly larger voids within the rubble-filled walls. There is free access to an open roof void in all buildings. Numerous crevices are present within the two-storey barn (building 2a) between the slates and roof timbers and between the roof timbers and gable walls. All other buildings have corrugated or sheet steel and timber roofs. These contain a small number of gaps between overlapping roof timbers. The two-storey barn (building 2a) and the north-eastern stall and store building (building 2d) were both assessed as being of high potential because of the numerous crevices within their stone walls and the crevices within the roof structure of the former building. The two open stores were assessed as being of medium potential because of the limited number of crevices present within their lower stone walls.

3.3.7 The two modern steel-framed barns (buildings 3 and 4) are both of low potential to support roosting bats. These buildings are open with high light and draught levels. They contain no voids and very few crevices, other than those between over-lapping roofing sheets and those between timber Yorkshire boarding and steel girder sections. These crevices are sub-optimal to bats and are unlikely to be used when higher quality potential roosting sites are present within the adjacent traditional buildings. Although these large open barns are unlikely to be used as day-time roosts, barns of this construction may be used as night-roosts by resting bats and they often provide a useful early-evening foraging space before light-levels drop in the surrounding landscape.

3.3.8 No evidence of use of the building by bats for roosting was observed. However, it should be noted that absence of evidence is not evidence of absence and the buildings have some potential due to the presence of potential roosting features. The potential of the buildings is summarised below in Table 2.

Building No.	Building	Potential Bat Roost Value
1	Bungalow	High
2a	Traditional two-storey barn	High
2b	Traditional open store	Medium
2c	Traditional open store	Medium
2d	Traditional open stall and store	High
3	Steel-framed barn	Low
4	Steel-framed barn	Low

Table 2. Summary of bat roost potential of buildings

3.4 Tree inspection

3.4.1 The three areas of woodland (W1-3) surveyed are all of negligible value to roosting bats. All are comprised entirely of semi-mature trees and no features of any potential (such as cracks, cavities, loose bark and heavy ivy cover) were observed. Although the woodland is of negligible value as a roosting habitat, it is of potential value as a feeding habitat (see 3.2), particularly if bats were found to be roosting on the site.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Potential for roosting bats

4.1.1 No bat roosts or evidence of bats was found internally or externally in any areas of the buildings surveyed.

4.1.2 However, biological record searches indicate that several bat roosts are known to occur within 2km of the site.

4.1.3 The habitat adjacent to the farmstead is not considered optimal habitat for bats. Although the surrounding habitat is not optimal there is still potential for the site to be used by roosting bats as small roosts of bats (particularly of common pipistrelle) are known to occur in similar upland farmsteads.

4.1.4 Three buildings were identified as having high potential for roosting bats. These are the bungalow (building 1), the traditional two-storey barn (building 2a) and the traditional open stall and store (building 2d). Two buildings were identified as having medium potential for roosting bats. These are the two traditional open stores (buildings 2b and 2c). Two buildings were identified as having low value for roosting bats. These are the two modern steel-framed barns (buildings 3 and 4).

4.1.5 Further surveys are required to confirm the presence or absence of bats.

4.2 Further bat surveys

4.2.1 Because of the potential of the buildings to support roosting bats, it is recommended that activity surveys are carried out during the appropriate season to identify whether bats are present on the site and using the buildings for roosting.

4.2.2 It is recommended that dusk emergence and dawn re-entry surveys are carried out in accordance with Bat Conservation Trust survey guidelines (2007). It is recommended that at least two surveys are carried out, with one being a combined dusk and dawn survey.

4.2.3 The BCT guidelines recommend that dusk emergence and dawn re-entry surveys should be carried out in the optimum period May to August. Because of the location of this site in the uplands of northern England it is recommended that the surveys are carried out in the period late May to August. Best practice is to spread the surveys through the optimum period.

4.2.4 Consideration should be given to weather conditions and temperature at the start of survey and it may be necessary to postpone the surveys if weather conditions are unsuitable.

4.2.5 Surveys should concentrate on observing the bungalow (building 1), which is due for demolition, and the two-storey barn (building 2a), which is due for conversion. A minimum of two surveyors should be used to survey each building.

4.3 Avoidance and mitigation measures

4.3.1 Detailed mitigation measures should be developed once further surveys have determined the presence or absence of bats and, if bats are present, the species and roost size. If bats are confirmed as present then it is likely that a European Protected Species Licence will be required together with an accompanying method statement.

4.4 Habitat enhancements for bats

4.4.1 Landscape enhancement proposals for the farmstead and wider farm are being prepared. There is potential to improve the habitat on the wider farm for feeding and commuting bats. The site contains a number of small conifer and mixed plantations, as well as small areas of recent tree planting. The site also adjoins larger conifer plantations to the south-east and west. These all provide potential habitat for feeding bats, but lie within in an open upland fringe landscape which is less attractive to most species of bats. It would be beneficial to bats to carry out additional tree and scrub planting to join the woodland areas and reduce the habitat fragmentation in the landscape.

4.4.2 Tree planting could incorporate new woodland planting and the planting of shelterbelts and new hedges with standard trees on field boundaries that are currently fenced only. Planting is particularly recommended along the streams that run through the

site, with connections to all areas of existing woodland and plantation and the farmstead. It is recommended that any woodland planting incorporates areas of open glade, scrub and scattered trees, as well as more solid planting. It is recommended that the planting incorporates locally native species such as sessile oak, silver and downy birch, ash, rowan, hazel, holly and hawthorn wherever possible. However mixed planting with a proportion of conifers such as Scots pine and larch, would also provide a beneficial feeding and commuting habitat for bats.

4.5 Birds

4.5.1 A survey for birds was not carried out, however evidence of nesting birds was noted in the buildings. Therefore, all demolition work should be carried out outside the standard bird nesting period (1 March to 30 August) in order to avoid an impact on nesting birds which are protected under the Wildlife & Countryside Act 1981 (as amended). If it is necessary to carry out work during this period then advice should be sought from an ecologist and an additional survey immediately (i.e. less than 48 hours) before work commenced would be required to determine whether nesting birds are present.

5.0 REFERENCES

BCT. 2007. *Bat Surveys, Good Practice Guidelines*. Bat Conservation Trust, London.

Mitchell-Jones, A.J. 2004. *Bat Mitigation Guidelines*. English Nature, Peterborough.

The Conservation (Natural Habitats &c) Regulations *1994. S.I. 2716. HMSO London*

The Countryside and Rights of Way Act 2000*. HSMO., London*

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APPENDICES

APPENDIX A – BAT SCOPING SURVEY SCHEDULE

APPENDIX B – SITE PHOTOGRAPHS

APPENDIX C – BAT SCOPING SURVEY PLAN

APPENDIX A – BAT SCOPING SURVEY SCHEDULE

APPENDIX A – BAT SCOPING SURVEY SCHEDULE

Building no.	Feature and aspect	Description	Bat Evidence	Potential value
1	**Bungalow**	Traditional rural bungalow with two dwellings. Building currently unoccupied.		**High**
	Walls	Rendered and painted stone walls. Unrendered stone on porch. No cracks or crevices present. Windows uPVC on southern dwelling and timber sash on northern dwelling. Windows well-sealed. Access to utility room through permanent gap beside window. Utility room contains roof hatch to the loft which was open at time of survey. Metal gutters attached directly to walls or roof timbers without timber boarding. Potential access to loft space beneath gutters where roof timbers emerge. Numerous gaps present. Gap in upper wall on SE elevation where electricity cables enter building. Bird nest present, possibly pied wagtail. Gap in NE gable where electricity cables enter building. Gap provides access to loft. No evidence of bats observed.	**None**	
	Roof and roof void	Slate and timber roof construction. Shared loft open along entire length. Accessed through roof hatches in central utility room and northern coal-shed. Thin metal strip seals roof edge at gables. Roof unlined. Slates previously rendered beneath, but much rendering has fallen away. Numerous missing and ill-fitting slates provide multiple points access to loft through roof. Crevices present within attic between roof timbers and slates. Concrete roof ridge. Missing slates provide access to roof ridge. Potential gaps between rendered roof ridge and timber boarding beneath. Six brick-built chimneys. Poorly fitted lead flashing and missing mortar provides access to	**None**	

Building no.	Feature and aspect	Description	Bat Evidence	Potential value
		crevices around chimneys. Gaps in the internal mortaring of walls and chimneys creates potential crevices. Gaps present between the roof timbers and gable walls provide potential crevices. Numerous cobwebs in attic, but many potential crevices without cob-webs. Mouse droppings scattered through loft. Rodent poison trays present. No evidence of bats observed.		
	Internal	Sash window in NE corner of northern dwelling stuck open with small gaps. Numerous mouse droppings found in northern dwelling and utility room. Two swallow nests found in bathroom of northern dwelling. Nest above curtain rail and wall-mounted heater. Numerous bird droppings on walls. Frequent cob-webs webs in northern dwelling. Numerous wings of small tortoiseshell wings found in northern dwelling. Butterflies may have been predated by swallows, spiders, mice or bats (if present).*	**Butterfly wings***	
2	**Traditional barns**	Collection of stone-built or partially stone-built buildings, all connected.		
2a	**Two-storey traditional barn**	Traditional two-storey barn with large opening on the NW elevation and hay-loft at the NE end.		**High**
	Walls	Stone-built construction. Large permanent opening on north-west elevation. Opening provides permanent access to interior and roof void of barn access. Net, possibly designed to prevent access by pigeons, present across opening, but currently gathered up. Large numbers of cracks and missing mortar in all external and internal walls. These provide access to potential crevices and larger voids within rubble-filled walls. No evidence of bats observed.	**None**	
	Roof	Slate and timber roof construction.	**None**	

Building no.	Feature and aspect	Description	Bat Evidence	Potential value
		Permanent opening and missing slates provide access to roof void. Roof void open to ground or first floor hay-loft throughout. Roof unlined. Slates previously rendered beneath, but much rendering has fallen away. Crevices present between roof timbers and slates. Numerous missing slates on SE elevation. Missing slates at base of roof provide access to gap between slates and timber boarding. Gaps present between the roof timbers and gable walls provide potential crevices. Gaps present along concrete roof ridge sections providing potential access to roof ridge crevices. Rendering lost on NE gable providing access to gaps between slates and gable walls. Numerous cobwebs, but many potential crevices without cob-webs. No evidence of bats observed.		
	Internal	Approximately 6 feral pigeon nests present in hay-loft. Deep accumulations of pigeon droppings present in hay-loft and ground. 5 swallow nests present on underside of the hay-loft floor. Gaps present between hay-loft floor beams and walls provide potential crevices. No evidence of bats observed.		
2b	**Open store**	Single-storey construction opens on the NE elevation. Building stores straw bales.		**Medium**
	Walls	2-2.5m stone wall on SW elevation. Timber Yorkshire boarding on NW elevation. Missing mortar on external SW walls providing access to potential crevices within rubble-filled walls. Top of stone wall recently capped with cement. No evidence of bats observed.	**None**	
	Roof	Corrugated steel and timber roof supported by timber posts. Small crevices present where lengthwise roof timbers overlap. No evidence of bats observed.	**None**	

Building no.	Feature and aspect	Description	Bat Evidence	Potential value
2c	**Open store**	Single-storey construction opens on the NW elevation		**Medium**
	Walls	2m stone wall on NE, SE and SW elevations. Timber Yorkshire boarding above stone walls. Small number of gaps in stone walls provide access to potential crevices within rubble-filled walls. Top of stone wall recently capped with cement. No evidence of bats observed.	**None**	
	Roof	Corrugated steel and timber roof supported by timber posts. Small crevices present where lengthwise roof timbers overlap. No evidence of bats observed.	**None**	
2d	**Open stall and store**	Single-storey construction opens on the SW elevation along most of length. Stock stalls present. Small store room with steel door at NW end.		**High**
	Walls	External wall on SE elevation (open to building 2c) has numerous gaps providing access to potential crevices within rubble-filled walls. Wall separating the stall from the store room has partially collapsed and been patched with cement. Numerous gaps provide access to potential crevices in rubble fill. Small number of gaps in wall on NE elevation provide access to potential crevices within rubble-filled walls. Top of stone wall recently capped with cement. Numerous cobwebs on wall, but many potential crevices without cob-webs. No evidence of bats observed.	**None**	
	Roof	Modern sheet steel and timber roof supported by walls and steel girder. No evidence of bats observed.	**None**	
	Internal	Store room at NE end can be accessed through gaps in the timber boarding separating the stall area and through permanent ventilation hole in the NE elevation wall. Numerous mouse droppings present on work bench. No evidence of bats observed.		

Building no.	Feature and aspect	Description	Bat Evidence	Potential value
3	**Steel-framed barn**	Modern steel-framed barn open on SE elevation. Stock pens present.		**Low**
	Walls and roof	Asbestos (or similar fibrous board) roof on steel frame. Walls of timber Yorkshire boarding on low concrete walls. Open with no significant roosting opportunities. Potential as night roost or early evening foraging space. No evidence of bats observed.	**None**	
4	**Steel-framed barn**	Modern steel-framed barn open on NE elevation. Stock pens present.		**Low**
	Walls and roof	Steel sheeting roof on steel frame. Walls of timber Yorkshire boarding on low concrete block walls. Open with no significant roosting opportunities. Potential as night roost or early evening foraging space. No evidence of bats observed.	**None**	

APPENDIX B – SITE PHOTOGRAPHS

Photo 1. Bungalow (building 1), viewed from the south-west.

Photo 2. Bungalow (building 1), viewed from the north-east.

Photo 3. Chimney and surrounding roof on bungalow (building 1). Note potential crevice behind poorly fitted lead flashing.

Photo 4. Interior of bungalow (building 1) roof void. Note light entering through gap created by missing roof slate.

Photo 5. Traditional two-storey and store barns (buildings 2a and 2b), viewed from the south-west.

Photo 6. Traditional two-storey and store barns (buildings 2a and 2b), viewed from the north-west.

Photo 7. Traditional two-storey barn (building 2a), viewed from the south. Note missing roof slates and missing mortar with potential crevices in walls.

Photo 8. Roof void of traditional two-storey barn (building 2a) with access to first-floor hay-loft.

Photo 9. Traditional store barn (building 2b), viewed internally from the south-east.

Photo 10. Traditional store barn (building 2c), viewed internally from the south-west.

Photo 11. Traditional stall and store (building 2d), viewed from the south-west.

Photo 12. Gable of traditional stall and store (building 2d), viewed from the south-east. Note missing mortar and potential crevices in wall.

Photo 13. Modern steel-framed barn (building 3), viewed from the north-west.

Photo 14. Modern steel-framed barn (building 4), viewed from the south.

APPENDIX C – BAT SCOPING SURVEY PLAN

(Landscape Agency drawing no. 488-02)