



Roost Assessment and Phase Two Bat Surveys

**Park Cottage, East Grafton,
Wiltshire, SN8 3DD**

24 September 2025

Roost Assessment and Phase Two Bat Surveys of Park Cottage, East Grafton, Wiltshire, SN8 3DD

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EXECUTIVE SUMMARY

NatureBureau Ltd was instructed by Tim Dallos to undertake a Preliminary Roost Assessment and subsequent dusk (emergence) surveys at Park Cottage, East Grafton, Wiltshire, SN8 3DD.

The results of the surveys are as follows:

Survey	Survey Findings
Roost Assessment 03 June 2025	A substantial quantity of bat droppings - numbering in the thousands - were recorded across the loft insulation throughout the entire loft space. However, most of the internal roof surface has been treated with spray foam insulation, effectively sealing off all but one access point into the loft (northwest gable apex). The DNA results came back as brown long-eared bat. The main house was categorised as offering high (void and crevice) bat roosting potential, whilst the garden shed was categorised as offering negligible bat roosting potential.
Emergence Survey 03 June 2025	One common pipistrelle emerged from below a roof tile on the lower right side of the northeast gable end.
Emergence Survey 01 July 2025	Two common pipistrelle bats emerged from below a roof tile on the lower left side of the northeast gable end. One soprano pipistrelle bat emerged from under roof tiles above the eaves on the left side of the west-facing gable end.
Emergence Survey 12 August 2025	Two common pipistrelle bats emerged from below a roof tile on the lower left side of the northeast gable end. One common pipistrelle entered this location. One common pipistrelle bat emerged from a roof tile at the base of the southeast chimney. One common pipistrelle bat emerged from between the soffit and the wall at the apex of the north-facing gable end. Two soprano pipistrelle bats emerged from under roof tiles above the eaves on the left side of the west-facing gable end. One brown long-eared bat emerged from between the soffit and the wall at the apex of the north-facing gable end – where access into the loft void had been noted.

The significant number of bat droppings identified in the loft void suggests the presence of a significant brown long-eared bat roost. However, no evidence of significant roosting activity was identified during the emergence surveys. It is considered possible that B1 presents evidence of historical brown long-eared roosting.

Roost 1 (below a roof tile on the lower right side of the northeast gable end), **Roost 2** (below a roof tile on the lower left side of the northeast most gable end), **Roost 3** (below a roof tile at the base of the southeast chimney) and **Roost 4** (between the soffit and wall at the apex the northwest-facing gable end) have been characterised as day roosts for a peak count of one or two common pipistrelle bats. These roosts have been assessed of being of importance at site level.

Roost 5 (under roof tiles above the eaves on the left side of the west-facing gable end) has been characterised as a day roost for a peak count of two soprano pipistrelle bats. This roost has been assessed as being of importance at site level.

Roost 6 (the loft void) has been characterised as a day roost for a peak count of one brown long-eared bat. This roost has been assessed as being of importance at site level.

In absence of mitigation, Roosts 1, 2, 3, 4, 5 and 6 would be destroyed and bats may be harmed or killed.

Following mitigation, Roost 6 will be partially retained.

Roosts 1, 2, 3, 4 and 5 will be lost but will be replaced.

All roosts will be impacted during the works, and as such, an **EPSM Licence will be required** prior to the commencement of works.

Upon receipt of a EPSM licence, mitigation and compensation recommendations have been made in this report (however these are subject to change pending comments and consultation with Natural England):

- The Named Ecologist (or Accredited Agent) will supervise works that could impact roosts and will brief the operatives with a Toolbox Talk before works are started;
- Temporary compensation: three woodcrete bat boxes will be installed on trees prior to the commencement of the works;
- A careful soft-strip exercise of external roosting features will be carried out;
- Retention of roost access: Bat access will be retained at the northwest gable end, providing access into the retained loft void;
- Creation of roosting features: Roosts 1, 2, 3, 4 and 5 will be replaced by features created at the existing roost locations when the new roof is installed.
- Roost 6 will be partially retained. The loft will be sectioned, leaving the northwest/west section of B1 as a dedicated bat loft. Access will be retained at the northwest gable apex. A cold roof system is proposed, which is likely to reduce internal loft temperatures. Therefore, a bespoke insulated hotbox is recommended.
- Only bitumen roofing felt type 1F is to be used.
- Retention of commuting habitat: The surrounding gardens (including tree lines) have been identified as important commuting and foraging features for bats and must not be directly or indirectly impacted by the proposed works. Recommendations have been made in relation to lighting during the construction and operational phase;
- A post-development monitoring schedule will need to be designed and implemented.

1 INTRODUCTION

Park Cottage, East Grafton, Wiltshire, SN8 3DD (hereafter referred to as "the site"), is centred on Ordnance Survey Grid Reference SU 25384 60563. It comprises a detached, two-storey residential dwelling (B1). The current proposals for the site involve the complete reroofing of B1, including the removal of the existing roof tiles, battens, and spray foam insulation, followed by the installation of new roofing felt, battens, and tiles. In addition, in-roof solar panels are being considered for installation on the southern roof slope (hereafter referred to as "the proposed works"). Plans also include the removal of a shed to the rear of the site (B2).

NatureBureau was commissioned by Tim Dallos (hereafter referred to as "the client") to undertake a bat roost assessment and dusk (emergence) surveys to satisfy planning conditions in relation to bats and their roosts, which are protected by law. This report summarises the findings of those surveys.

1.1 Landscape and Site Context

B1 is situated within an approximately 2,500 square metre (m²) plot, which includes an amenity garden with trees to the west and north, and driveway with parking to the east and northeast.

The immediate local landscape comprises low density residential housing, open fields, arable land and parcels of woodland - interspersed with mature tree lines and hedgerows. The wider landscape comprises similar landscape features, with extensive arable land and larger patches of woodland.

1.2 Scope of Assessments

The aim of the roost assessment is to assess the status of roosting bats on the site and to determine the existence and location of any bat-suitable foraging and commuting habitats. With regards to roosting bats, this information will serve to assess the ecological impact of the proposals and identify any ecological and legislative constraints.

The key objectives of the emergence surveys are:

- Confirm the presence or likely absence of roosting bats within B1;
- Identify any bat species present, along with the number of individuals and the nature of any roost (where relevant);
- Assess patterns of bat activity around the structures, including any entry or exit points used by bats (where relevant), and any activity which might indicate nearby bat roosting;
- Inform the need for further survey effort or mitigation, should bat roosts be confirmed;
- Ensure compliance with relevant wildlife legislation and planning policy, to support an informed planning decision regarding the proposed development.

Figure 1: B1 and B2 at Park Cottage
(Source: Google Earth, 2020)

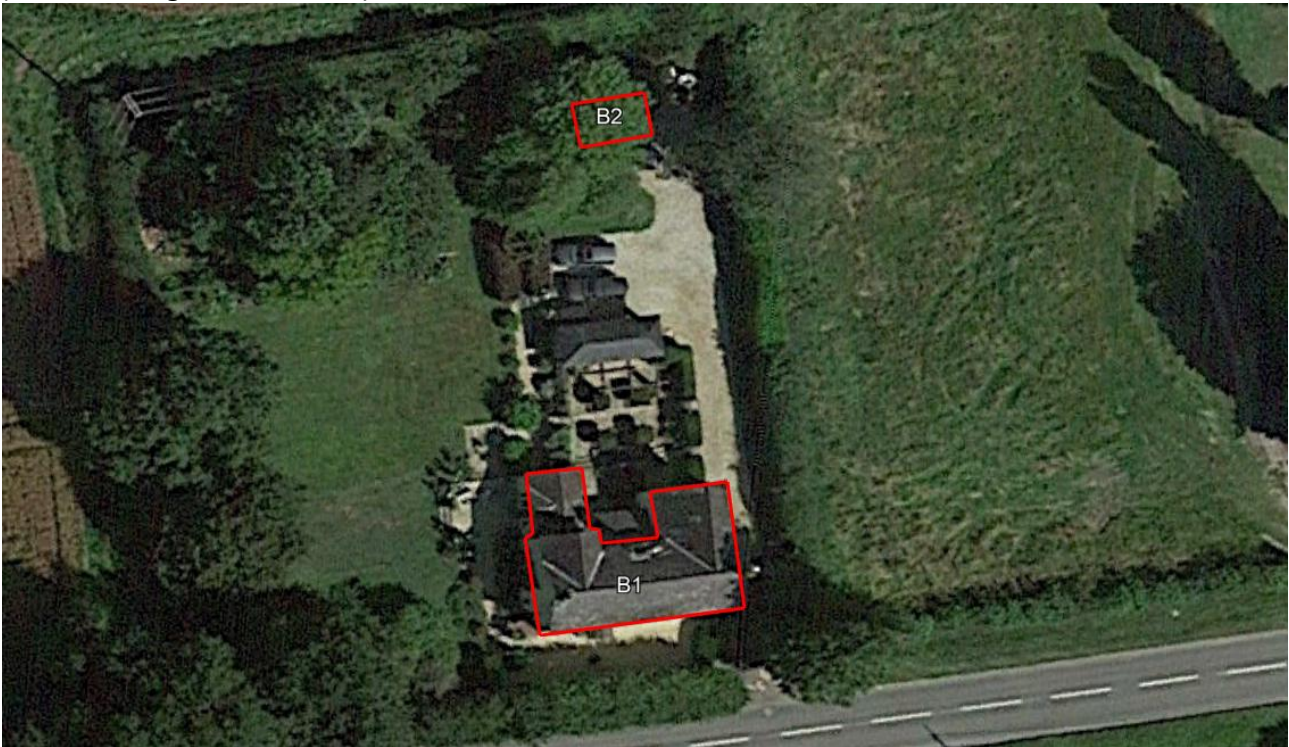


Figure 2: The site location (red) within the wider landscape
(Source: Google Earth, 2020)



2 METHODOLOGY

Survey methods follow best practice guidelines, interpreted using professional experience. The Bat Conservation Trust's fourth edition of Bat Surveys for Professional Ecologists - Good Practice Guidelines (2023) is the main source of guidance for bat surveys in the UK. The Bat Workers Manual (2004) provides further guidance that has been considered when designing the survey method. The ecological appraisal process is defined within the UK Guidelines for Accessing and Using Biodiversity Data (CIEEM, 2016) and the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

2.1 Desk Study

Publicly available online datasets were reviewed to identify any licences issued for works involving bats within a 2-kilometre (km) radius of the site, along with records of designated sites within the same search area. In addition, maps and aerial imagery were examined to identify features of potential importance to bats.

Table 1: Summary of resources used during the desk study

Resource	Information assessed
Google Earth	Assessment of the local landscape. Latest image date: June 2024
Multi-Agency Geographic Information for the Countryside (MAGIC) website ¹	Records of licences issued by Natural England for works affecting bat species within 2 km of the site; any relevant site designations within 2 km of the site; Special Areas of Conservation designated for bat interest within 10 km of the site; Priority Habitats in the local area
Wiltshire and Swindon Biological Records Centre	Bat records within 2 km of the site, recorded since 2010

2.2 Site Surveys

2.2.1 Roost Assessment

An assessment was carried out on B1 and B2 to determine their potential to support roosting bats. The assessment included an internal and external investigation of structures for signs of bat activity such as droppings, rub or scratch marks, staining at potential roosts and exit holes, live or dead bats, and features potentially suitable for use by roosting bats, such as raised or missing tiles. Particular attention was given to the floor and flat surfaces, window frames and features within the roof space (where possible) to search for bat droppings.

The site visit was undertaken on 03 June 2025, between 18:30 and 20:00 hours. The survey was carried out by Kristina Wood. Kristina is a terrestrial ecologist and Full member of the Chartered

¹ [Magic Map Application \(defra.gov.uk\)](https://defra.gov.uk/magic-map-application)

Institute of Ecology and Environmental Management (CIEEM). Kristina holds a Natural England bat Class 1 survey licence registration (licence number available upon request). Equipment used during the survey includes a ladder, binoculars and a high-powered torch.

The suitability of B1 and B2 to support bats was assessed in accordance with Section 4.3 of the Bat Conservation Trust's Good Practice Guidelines, ranging from no suitability to high suitability. Assessments considered potential roost use throughout the year, with the highest level of potential determining the overall rating (e.g., a building with high summer but low winter potential was categorised as high). Recommendations for further surveys were based on Collins (2023).

2.2.2 Dusk Emergence Surveys

Three dusk emergence surveys (using night vision aids) were conducted. The surveys were carried out on the following dates:

- 03 June 2025
- 1 July 2025
- 12 August 2025

Each involved four or five surveyors, positioned to observe all elevations of B1. The details of each bat surveyor and their position during the surveys are detailed in the results section.

Each surveyor was equipped with an Echo Meter Touch 2 Pro bat detector to record bat echolocation calls, and night vision aids to record the building elevations after dark. The footage was reviewed within the following days by the same surveyors. Each surveyor also used a survey record sheet to record all real-time bat activity observed during the survey.

Each survey started 20 minutes before sunset and continued for 1.5 hours after sunset. The surveys were carried out during optimal weather conditions, with dusk air temperatures exceeding 10°C and avoiding heavy rain or strong wind, as adverse weather conditions can impact upon bat emergence and foraging behaviour.

2.2.3 Nesting Birds

Incidental observations of bird nesting were recorded during the surveys. Signs of nesting included the presence of birds on nests, the construction of nests or nest materials (such as twigs, grass, or feathers) in suitable locations, visible eggs or chicks, and bird behaviours indicative of nesting, such as frequent visits to a specific site, carrying food, or defensive behaviour around a potential nest.

2.3 Bat Droppings DNA Analysis

Bat droppings collected during the site visit on 03 June 2025 were submitted for DNA analysis to identify the species present. The droppings were sent for analysis by Genetics Limited, who offer a reliable species identification service using targeted qPCR analysis for individual species of UK bats.

2.4 Bat Roost Characterisation

B1 at Park Cottage was evaluated to determine the type of bat roost(s) present, as identified by Collins (2023). This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence application from Natural England.

2.5 Assessing the Sites Value to Commuting and Foraging Bats

An evaluation of the site's importance for bat commuting and foraging activity was carried out in accordance with established guidance (Wray *et al.*, 2010). This guidance outlines a scoring framework that considers the rarity of each bat species potentially present on-site, alongside factors such as the presence or likelihood of roosts and the types of habitats locally available. Once the scores for each species had been determined, the reference table (see Table 2) was consulted to determine the ecological value of the site on a defined geographical scale.

Table 2: Scoring system for valuing commuting and foraging bats (Wray *et al.*, 2010)

Geographic Frame of Reference	Score
International	> 50
National	41 - 50
Regional	31 - 40
County	21 - 30
District, Local or Parish	11 - 20
Not important	1 - 10

2.6 Limitations

DEFRA's MAGIC mapping system has recently been updated (12 December 2024), and as a result, European Protected Species licences are not always displayed accurately or in full. It is possible that the available data is incomplete.

Identifying bat roosts within buildings can be challenging, particularly in larger structures or those with numerous potential roosting features. Roosting sites used by solitary bats or males can be especially difficult to detect due to their discreet nature. Many bat species utilise narrow crevices, such as gaps between roof tiles or beneath tile linings, where any droppings or signs of occupancy may become concealed and inaccessible to surveyors.

Additionally, internal inspections may not always reveal evidence of bat presence, as droppings and other field signs can degrade quickly in damp conditions. Evidence located on external or exposed surfaces may also be lost due to adverse weather, further limiting the reliability of visual inspections alone. The data collected represents a snapshot in time, based on conditions observed during specific survey dates. As such, it provides an indication of site use by bats at the time of assessment only.

All survey techniques for bats are subject to bias and bat detector surveys may under-record species with quiet echolocation calls, such as brown long-eared bats.

Thermal and infrared cameras were used during the survey to aid in the detection of bat activity under low-light conditions. While these technologies can enhance the visibility of heat signatures and movement in darkness, they are not conclusive tools. Environmental factors such as ambient temperature, background heat sources (e.g., warm walls or rooftops), and vegetation cover can interfere with image clarity and detection accuracy. As a result, observations made using thermal or infrared imaging were supported by visual confirmation and acoustic recordings wherever possible. The use of these tools should be considered supplementary rather than definitive.

Following the first survey (03 June 2025), Surveyor 4 only partially reviewed the footage from the Nightfox Whisker camcorder before the SD card corrupted, and the remaining footage was lost. Therefore, the final 46 minutes of footage were not reviewed, and an image from the darkest point of the survey cannot be provided in the Appendices.

The results of this report are valid up to 12 months and/or if the conditions of the site change significantly, as per the Advice Note on the lifespan of ecological reports and surveys produced by CIEEM in 2019.

3 RESULTS

3.1 Desk Study

3.1.1 Natural England Protected Species Licences

Within 2 km of the site, three licences have been issued by Natural England for activities affecting bat species, according to the MAGIC database. These licences include impacts to known resting places of brown long-eared bats (*Plecotus auritus*), common pipistrelle bats (*Pipistrellus pipistrellus*), serotine (*Eptesicus serotinus*) and soprano pipistrelle bats (*Pipistrellus pygmaeus*) between 2015 and 2020.

The closest record relates to a known soprano and common pipistrelle bat roost 515m east of the site for which one license has been recorded from 2015 (2015-8816-EPS-MIT), until 2020.

3.1.2 Local Bat Records

A record search by the Wiltshire and Swindon Biological Records Centre returned 10 bat records within 2 km of the site, dated since 2020. These relate to records for common pipistrelle bats (*Pipistrellus pipistrellus*), Daubenton's bats (*Myotis daubentonii*), Natterer's bats (*Myotis nattereri*), noctule bats (*Nyctalus noctula*), soprano pipistrelle bats (*Pipistrellus pygmaeus*) and an unspecified long-eared bat species (*Plecotus sp.*).

None of these records are for roosting bats.

3.1.3 Site Designations

The site falls withing the North Wessex Downs Area of Outstanding Natural Beauty.

Within 2 km of the site there are no Sites of Special Scientific Interest (SSSI), no Local Nature Reserves (LNR) and no National Nature Reserves (NNRs). The closest site designation is Botley Down SSSI which is 3.7 km southeast of the site.

Within 10 km of the site there are no Special Areas of Conservation (SACs) designated for bat interest.

3.1.4 Priority Habitats

The site is located approximately 20 m from the nearest parcel of Deciduous Woodland and 2 km northeast of a substantial area of Ancient Woodland. Additional areas of these Priority Habitats are present within both the local and wider landscape. Notably, a parcel of Woodpasture and Parkland - a UK Biodiversity Action Plan (BAP) habitat - is situated approximately 300 m to the east of the site.

These habitats are recognised for their importance in supporting a wide range of bat species, both directly and indirectly. They offer valuable opportunities for roosting and commuting, as well as high-quality foraging resources. A review of recent aerial imagery indicates strong ecological connectivity between the site and these key habitats, suggesting that bats are likely to utilise the site as part of their wider activity range.

3.2 Roost Assessment

A PRA was carried out on 03 June 2025.

3.2.1 B1 (main house)

B1 comprises two north-facing gable-ended structures, positioned parallel to each other. These are connected at their southern ends by a third gable-ended structure that runs on a west–east axis. Within the central section of the U-shaped footprint, there is a single-storey extension featuring a mono-pitched (sloping) roof. This extension occupies part of the courtyard space created by the main building arrangement and is attached to the inner elevations of the primary structures. There is an additional single-storey gable extension to the northwest.

Chimneys (and associated lead flashing) are present at the apex of both the western and eastern gable ends, with a third chimney located on the lower section of the north-facing roof pitch.

B1 is constructed from painted brick and features wooden windows, wooden soffits, and a roof finished with slate tiles.

External Survey

An inspection of the southern elevation found that the brickwork and mortar are in overall excellent condition. with windows and soffits all well fitted to the building and offering no bat roosting potential. On the roof, there are some gaps where tiles have lifted – particularly around the eastern chimney. Lead flashing is also present, both around the base of chimneys and vertically down roof valleys.

To the west, the soffit around the base of the chimney is showing signs of deterioration and offers potential bat access. The client reported that birds occasionally nest within the soffit here. At the lower left side of this gable end, there is a split in the soffit which present further bat roosting potential. Moreover, the roof tiles in this area offer gaps suitable for bat roosting.

Figure 3: The northwest elevation of B1, with bat roosting potential identified around soffits



To the north, the western and eastern second-storey gable extensions offer gaps between the soffits and brickwork which may facilitate bat access. Overall, the other extensions and associated roof features are in good condition, offering limited potential for bats. The brickwork and mortar are in great condition throughout.

To the east, a bird nest was identified under the eaves below the chimney.

Internal Survey

The loft space of B1 was accessed via a hatch on the second floor. A comprehensive inspection was undertaken, extending to both gable ends. No bats were observed during the survey; however, a substantial quantity of bat droppings - numbering in the thousands - was recorded across the loft insulation throughout the entire space.

Most of the internal roof surface has been treated with spray foam insulation, effectively sealing off any potential ingress and egress points for bats across most of the loft void. Discussion with the client determined that the spray foam insulation was installed by the previous homeowner (an unknown period prior to November 2023).

Figure 4: Thousands of droppings were present across the loft space



Figure 5: The loft has been sealed with foam insulation



The north-facing gable extensions, however, have not been treated with spray foam. These areas are lined with bitumen roofing membrane, which was found to be intact and in good condition, with no visible gaps or access points for bats.

The gable end walls comprise exposed brickwork. Gaps observed between the terminal timber beams and the masonry were cobwebbed and did not permit light penetration, other than at the northwest gable apex where external light could be seen when torch light was extinguished.

In summary, evidence of significant bat roosting is present, but only one obvious bat access point could be identified – at the northwest gable apex.

When combining the results of the desk study and site assessment, B1 at Park Cottage was considered to be highly suitable for roosting bats with evidence of roosting activity. A suite of emergence surveys was undertaken to quantify the roosting behaviour on site.

3.2.2 B2 (shed)

B2 comprises a timber shed located at the rear of the site. It has a simple pitched roof covered with plastic sheeting and includes a window on the southern elevation and large double doors on the eastern elevation. The structure is regularly accessed and used for storage.

An internal inspection of B2 found no evidence of bats or bat activity. The interior is bright and draughty, providing suboptimal conditions for roosting bats. Externally, the plastic sheeting obscures the roof structure and would obstruct bat access to any potential roosting features.

As such, B2 is assessed as having negligible bat roosting potential.

Figure 6: The rear (west) of B2



3.2.3 Nesting Birds

During the PRA of B1, an active birds' nest was observed beneath the apex on the west gable end. Additionally, the client reported birds have been entering and exiting the soffit at the eastern gable end. Birds could also potentially begin nesting anywhere on site at any time during bird nesting season.

3.3 Bat Droppings DNA Analysis

Bat droppings collected during the site visit were submitted for DNA analysis for the purpose of species identification. The species present were confirmed to be brown long-eared bat.

3.4 Dusk Emergence Surveys

The results of the surveys are provided in the tables below and shown on the plan in the Appendices.

Table 3: Survey Results from 03 June 2025

Date	03 June 2025	
Pre-survey building inspection	The PRA was carried out immediately prior to the emergence survey and confirmed the presence of bat droppings within the loft space of B1.	
Start and end times	20:50 – 22:46 (sunset: 21:16)	
Weather conditions	Start: Temp: 14.2 °C Humidity: 64% Cloud cover: 15% Wind ² : 1-2 BF Rain: 0	End: Temp: 10.7 °C Humidity: 83% Cloud cover: 40% Wind: 1-2 BF Rain: 0
Surveyor 1	Nathan Prottey, surveyor with two years' bat survey experience No emergences from the east or northeast elevations of Park Cottage. At 21:12 a bird emerged from the nest at the east gable end. Bat activity began three minutes after sunset, at 21:19, with a noctule bat which was heard but not seen (HNS). At 21:49, a common pipistrelle bat was HNS. At 21:50 until 22:04, a common pipistrelle was observed foraging up and down the driveway (north – south) along the east side of B1.	

² The Beaufort (BF) scale is a standardized system for estimating wind speed based on observed conditions, originally developed by Sir Francis Beaufort in 1805. It ranges from 0 (calm, <1 km/h) to 12 (hurricane, >118 km/h), with each level describing typical effects on land, sea, and vegetation.

	Between 22:16 and 22:40, two common pipistrelle bats were almost constantly foraging along this same route. Occasional social calls were recorded. No other species were heard or seen. IR Analysis Review of the full footage from the Nightfox Whisker camcorder confirmed that the observations made during the survey were correct, and there were no emergences from the north or northeast elevations of Park Cottage.
Surveyor 2	Nathaniel Dove (B.Sc., M.Res), surveyor with three years' bat survey experience and a CL18 bat licence No emergences from the south or southeast elevation of Park Cottage Activity began 32 minutes after sunset, at 21:48, with a common pipistrelle bat which began foraging up and down the driveway (north – south) along the east side of B1. From 22:28, a second common pipistrelle joined this activity, and occasional social calls were noted. This continued until the end of the survey. No other species were heard or seen. Thermal Analysis Review of the full footage from the Guide TK612 Thermal Imaging camcorder confirmed that the observations made during the survey were correct, and there were no emergences from the south elevation of Park Cottage.
Surveyor 3	Athena Allen (BSc, MSc, ACIEEM), surveyor with three years' bat survey experience. No emergences from the west elevation of Park Cottage Activity began 28 minutes after sunset, at 21:44, with a common pipistrelle bat which was heard but not seen (HNS). At 21:49, 21:51 and 21:52, common pipistrelles were seen commuting from the eastern driveway to the treeline behind the surveyor (southwest). Bats also commuted from north to south, along the western side of the site. From 22:00 to the end of the survey, common pipistrelles were continuously seen and heard foraging along the treeline to the west of the property. No other species were heard or seen. IR Analysis Review of the full footage from the Nightfox Whisker camcorder confirmed that no emergences occurred from the west elevation of Park Cottage.
Surveyor 4	Adora Thabah (PhD), surveyor with three years' bat survey experience.

	No emergences from the northwest elevation of Park Cottage Activity began 28 minutes after sunset, at 21:44, with a common pipistrelle bat which was heard but not seen (HNS). At 21:48, a common pipistrelle bat flew overhead from towards the east side of the house towards the western tree line. At 21:51, common pipistrelle bats were seen foraging around trees to the south of the site and were commuting along this boundary towards (and from) the eastern driveway. Between 21:59 until the end of the survey, common pipistrelle bats were regularly seen and heard foraging around the rear (west) garden, often commuting along the western tree line. Occasional social calls were recorded from 22:23 onwards, and 2-3 bats were observed engaging in chasing behaviours around the building. At 22:25 a brown long-eared bat was HNS. IR Analysis Review of the footage from the Nightfox Whisker camcorder confirmed that no emergences occurred from the northwest elevations of Park Cottage. However, the footage was only reviewed until 22:00, before the SD card corrupted and the remaining footage was lost. Therefore, the final 46 minutes of footage were not reviewed, and an image from the darkest point of the survey cannot be provided in the Appendices.
Surveyor 5	Kristina Wood (B.Sc., MRes, MCIEEM), surveyor with four years' bat survey experience and a CL17 bat licence One emergence from the north elevation of Park Cottage Activity began 16 minutes after sunset, at 21:32, with a common pipistrelle bat which flew over the roof, from south to northwest. At 21:36 a common pipistrelle flew east to west, across the north of B1. Between 21:37 and the end of the survey, common pipistrelles made occasional passes between the east and west of the site, and faint foraging calls were recorded regularly. At 21:48 a bat emerged from below a roof tile on the lower right side of the northeast gable end and flew northwest towards Surveyor 4 who confirmed the species to be a common pipistrelle bat. At 22:24, three common pipistrelles were engaging in chasing behaviours around the roof of B1 for several minutes. Social calls were recorded during this time.

	No other species were heard or seen. Thermal Analysis Review of the full footage from the Pixfra Arc A613 thermal camera confirmed that the observations made during the survey were correct, and there was one emergence from the north elevation of Park Cottage. 
Infrared/thermal imaging used for survey	• Nightfox Whisker infrared camera paired with a Nightfox XB5 infrared torch (x3) • Guide TK612 Thermal Monocular (x1) • Pixfra Arc A613 thermal camera (x1)
Survey Summary	One common pipistrelle emergence from below a roof tile on the lower right side of the northeast gable end

Figure 7: Surveyor positions and bat roosting results from 03 June 2025



Table 4: Survey results from 01 July 2025

Date	01 July 2025	
Pre-survey building inspection	A site walkover confirmed that no changes have been made since the previous survey	
Start and end times	21:09 – 23:00 (sunset 21:29)	
Weather conditions	Start: Temp: 22 °C Humidity: 20% Cloud cover: 5% Wind: 2 BF Rain: 0	End: Temp: 18 °C Humidity: 79% Cloud cover: 15% Wind: 1 BF Rain: 0
Surveyor 1	Athena Allen (BSc, MSc, ACIEEM), surveyor with three years' bat surveying experience. Two emergences from the northeast elevation of Park Cottage Activity began 20 minutes after sunset, at 21:49, when a common pipistrelle bat emerged from below a roof tile on the lower left side of the northeast gable end and flew west. A second common pipistrelle emerged from an area just below this one at 21:53. Common pipistrelles were then observed foraging and commuting across the site in several instances. At 22:14 a common pipistrelle flew north down the driveway from the road, at 22:31 one flew west from the neighbouring site across to the back garden, at 22:37 one was seen circling the back garden to the west of the property, and at 22:38 two bats were seen commuting along the northern border of the site. From 22:29 until the end of the survey, common pipistrelles were also frequently heard but not seen (HNS). At 22:35 a serotine was HNS and at 22:38 a noctule was HNS. No other species were heard or seen. IR Analysis Review of the full footage from the Nightfox Whisker camcorder confirmed that two emergences occurred from the northeast elevation of Park Cottage.	

	
Surveyor 2	Nathaniel Dove (B.Sc., M.Res), surveyor with three years' bat experience and a CL18 bat licence No emergences from the south or southeast elevations of Park Cottage Activity began at 21:58 with a common pipistrelle bat which was heard but not seen (HNS). At 22:07 a serotine bat was HNS. At 22:11 a noctule bat was HNS. At 22:14 a common pipistrelle flew anticlockwise around B1. At 22:17 and 22:21 a Natterer's bat was HNS. Between 22:23 and 22:49, common pipistrelles were occasionally seen making passes along the driveway or along the southern hedgerow. A peak count of two bats were also observed foraging around B1, making occasional passes over the roof. At 22:34 a serotine bat was HNS. At 22:38 a noctule bat was HNS. No other species were heard or seen. Thermal Analysis Review of the full footage from the Guide TK612 Thermal Imaging camcorder confirmed that the observations made during the survey were correct, and there were no emergences from the south/southeast elevations of Park Cottage.
Surveyor 3	Adora Thabah (PhD), surveyor with three years' bat surveying experience

One emergence from the west elevation of Park Cottage

Activity began seven minutes after sunset, at 21:36, with **a soprano pipistrelle bat which emerged** from under roof tiles above the eaves on the left side of the west-facing gable end.

At 21:47 a common pipistrelle bat was heard but not seen (HNS).

Common pipistrelle bats were also HNS at 21:49, 21:52, 21:53 and 21:54.

At 21:55 a common pipistrelle and soprano pipistrelle commuted north to southeast, down the eastern tree line. A common pipistrelle bat was then HNS foraging until 22:04. During this time, several more common pipistrelles passed up and down the eastern tree line.

From 22:11, common pipistrelles were regularly HNS foraging, and observed commuting along the southern tree line, making occasional passes from south to northwest over B1. This continued until the end of the survey.

At 22:25 a brown long-eared bat was HNS.

At 22:38 a noctule bat was HNS.

No other species were heard or seen.

IR Analysis

Review of the full footage from the Nightfox Whisker camcorder confirmed that the observations made during the survey were correct, and there was one emergence from the west elevation of Park Cottage.



Surveyor 4

Kristina Wood (B.Sc., MRes, MCIEEM), surveyor with four years' bat survey experience and a CL17 bat licence

One emergence from the west elevation of Park Cottage

Activity began seven minutes after sunset, at 21:36, **with a soprano pipistrelle bat which emerged** from under roof tiles above the eaves on the left side of the west-facing gable end (as recorded by Surveyor 3 above).

At 21:47 a common pipistrelle bat was heard but not seen (HNS).

At 21:49, a common pipistrelle bat emerged from the north-facing gable end (by Surveyor 1) and flew northwest across the site. At 21:53, a second common pipistrelle emerged from this area and flew southwest towards Surveyor 3.

Between 22:12 and the end of the survey, common pipistrelles were regularly observed foraging around the rear (west) garden, often commuting along the western tree line. Occasionally, bats would commute over the site, crossing the roof of B1 between the north and southern aspects. Common pipistrelles were also observed commuting along the southern tree line, making occasional passes from south to northwest over B1.

At 22:23 a Natterer's bat was HNS.

At 22:27. 22:46 and 22:50 a brown long-eared bat was HNS.

At 22:38 a noctule bat was HNS.

No other species were heard or seen.

Thermal Analysis

Review of the full footage from the Pixfra Arc A613 thermal camera confirmed that the observations made during the survey were correct, and there was one emergence from the west elevation of Park Cottage.



Infrared/thermal imaging used for survey	- Nightfox Whiskers paired with Nightfox XB5 Pro infrared torches (x2) - Guide TK612 Thermal Imaging camcorder - Pixfra Arc A613 thermal imaging camera
Survey Summary	Two common pipistrelle bats emerged from below a roof tile on the lower left side of the northeast gable end One soprano pipistrelle bat emerged from under roof tiles above the eaves on the left side of the west-facing gable end.

Figure 8: Surveyor positions and bat roosting results from 01 July 2025



Table 5: Survey results from 12 August 2025

Date	12 August 2025	
Pre-survey building inspection	A site walkover confirmed that no changes have been made since the previous survey	
Start and end times	20:17 – 22:10 (sunset 20:37)	
Weather conditions	Start: Temp: 25 °C Humidity: 43% Cloud cover: 5% Wind: 2 BF Rain: 0	End: Temp: 20 °C Humidity: 65% Cloud cover: 0% Wind: 2 BF Rain: 0
Surveyor 1	Athena Allen (BSc, MSc, ACIEEM), surveyor with three years' bat surveying experience	

Two emergences and one re-entry from the northeast elevation of Park Cottage.

Activity began five minutes before sunset, at 20:32, with **a common pipistrelle bat emerging** from below a roof tile on the lower left side of the northeast gable end and flew west. At 20:40, a common pipistrelle circled twice and then entered the roof at the same location. **At 20:54 a common pipistrelle emerged** from the same location and flew west.

At 21:10, two common pipistrelles were observed foraging around the north and west gardens. Between 21:29 and 22:01, these bats made regular passes along the (eastern) driveway.

At 21:11 a brown long-eared was observed foraging over the driveway.

Between 21:26 and 21:28 a serotine bat was observed foraging over the garden to the north of the building before it passed south across B1.

At 22:03 a noctule was heard but not seen (HNS).

No other species were heard or seen.

IR Analysis

Review of the full footage from the Nightfox Whisker camcorder confirmed two emergences and one re-entry occurred at the northeast elevation of Park Cottage.



Surveyor 2	Nathaniel Dove (B.Sc., M.Res), surveyor with three years' bat survey experience and a CL18 bat licence One emergence from southeast elevation of Park Cottage. Activity began nine minutes after sunset, at 20:46, with a common pipistrelle bat which emerged from a roof tile at the base of the southeast chimney and flew southwest. At 21:01 a common pipistrelle flew from the southwest and headed southeast across the road. At 21:06 a common pipistrelle flew from the north, down the easter driveway above the surveyor. At 21:11 a brown long-eared bat flew towards the surveyor from the southwest of the site and began foraging around the driveway. At 21:26 two serotine bats began foraging over B1, making passes between the south and north of the site. This continued for several minutes. At 21:27 a common pipistrelle bat was heard but not seen (HNS). This foraging activity continued regularly until around 22:03, with two bats making occasional passes over the (eastern) driveway and over the house. At 21:44 a myotis bat was seen (but not heard) as they commuted from the southwest and flew up the driveway towards Surveyor 1. At 22:03 a serotine bat flew from northwest to south over the house. Thermal Analysis Review of the full footage from the Guide TK612 Thermal Imaging camcorder confirmed that the observations made during the survey were correct, and there was one emergence from the southeast elevation of Park Cottage.
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Surveyor 3

Kristina Wood (B.Sc., MRes, MCIEEM), surveyor with four years' bat survey experience and a CL17 bat licence

Two emergences from the west elevation of Park Cottage

Activity began five minutes before sunset, at 20:32, with a common pipistrelle which flew towards the surveyor, over B1, from the northeast side. At 20:40 a common pipistrelle returned on this flight path.

At 20:45 **a soprano pipistrelle emerged** from under roof tiles above the eaves on the left side of the west-facing gable end. At 20:46 **a second soprano pipistrelle emerged** from this same location.

At 20:46 a common pipistrelle emerged from the north-facing gable end (see Surveyor 4).

At 20:50 a soprano pipistrelle began foraging around the west garden. This continued to 20:54, and a common pipistrelle also briefly foraged here in this time.

At 20:54 a common pipistrelle flew towards the surveyor, over B1, from the northeast side.

At 21:11 a brown long-eared bat emerged from the north-facing gable end (see Surveyor 4), flew, around the south elevation and headed east.

At 21:21 a common pipistrelle flew from south to north over B1.

At 21:26, two serotine bats began foraging around the west and south of the site. This continued for around five minutes.

At 21:28 a soprano pipistrelle passed over the site from north to southwest.

Thermal Analysis

Review of the full footage from the Pixfra Arc A613 thermal camera confirmed that the observations made during the survey were correct, and there were two emergences from the west elevation of Park Cottage.



Surveyor 4

Ross Allen, surveyor with seven years' bat survey experience

Two emergences from the northwest elevation of Park Cottage

Activity began at 20:32 with a common pipistrelle which flew from the northeast side of B1 and headed southwest. At 20:40 a bat returned in this same direction.

At 20:45 a soprano pipistrelle emerged from under roof tiles above the eaves on the left side of the west-facing gable end. At 20:46 a second soprano pipistrelle emerged from this same location (see Surveyor 3)

At 20:46 **a common pipistrelle emerged** from between the soffit and the wall at the apex of the north-facing gable end.

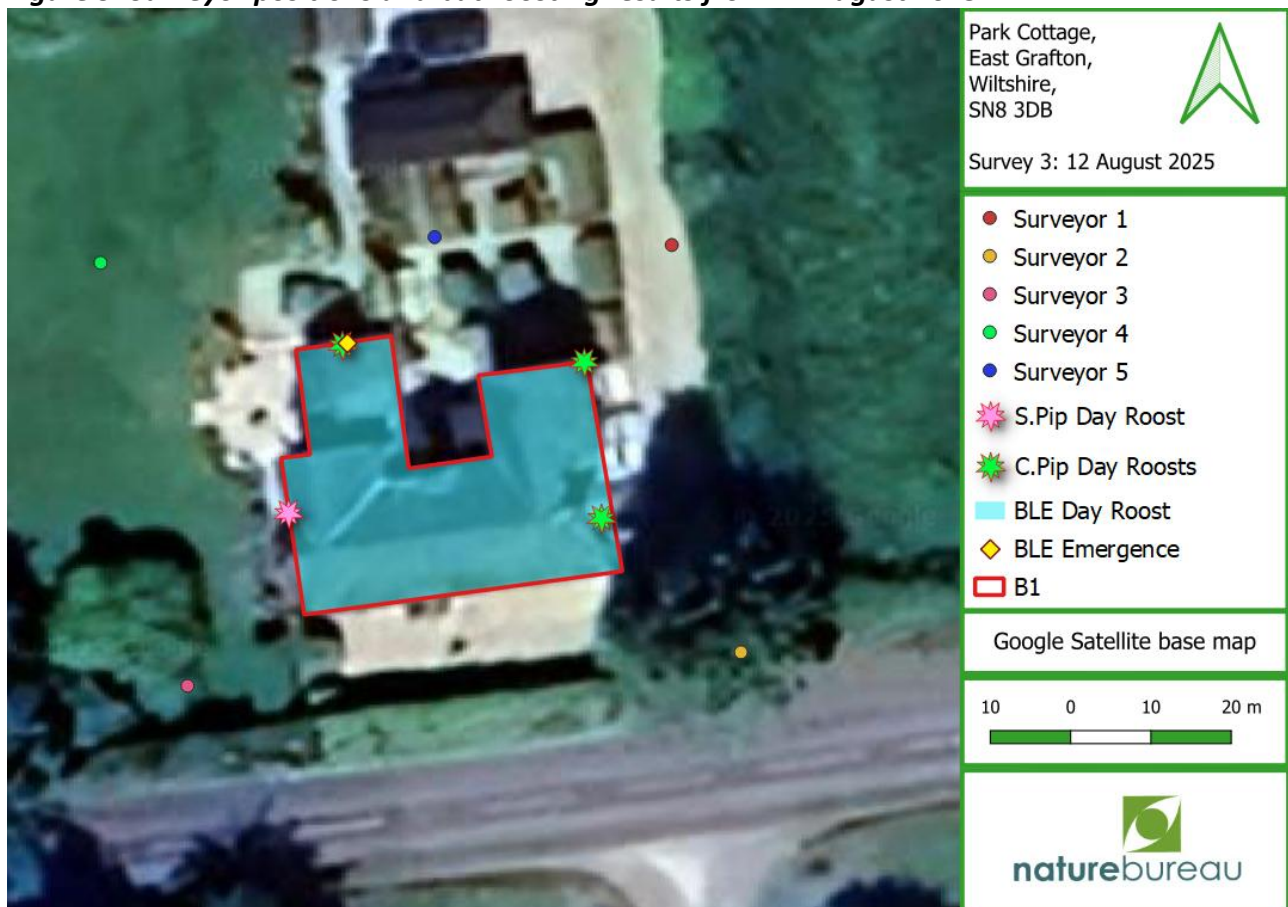
At 20:50 a soprano pipistrelle began foraging around the west garden, making several passes over the surveyor for several minutes.

At 20:54 a common pipistrelle flew from the northeast side of B1 and headed southwest and began foraging around the west of the site. This continued until 20:58.

	At 21:11 a brown long-eared bat emerged from between the soffit and the wall at the apex of the north-facing gable end and flew south around B1. At 21:26, two serotine bats began foraging around the west and south of the site. This continued for around five minutes. Between then and the end of the survey, serotines were heard but not seen (HNS) on several occasions. Between 21:27 and 21:48, common pipistrelles were occasionally HNS foraging. A noctule bat was HNS at 21:53. At 22:05 a myotis was HNS foraging. IR Analysis Review of the full footage from the Sony Handycam FDR AX53 camera confirmed that the observations made during the survey were correct, and there were two emergences from the northwest gable end of Park Cottage.
Surveyor 5	Nathan Prottey, surveyor with two years' bat survey experience No emergences from the north elevations of Park Cottage. Activity began at 20:32 with a common pipistrelle bat emerging from below a roof tile on the lower left side of the northeast gable end. Additional bat activity at this gable end is document by Surveyor 1. At 20:46 a common pipistrelle emerged from between the soffit and the wall at the apex of the north-facing gable end. Additional bat activity at this gable end is document by Surveyor 4. Between 21:10 and 22:01, two common pipistrelle bats were regularly heard but not seen (HNS) commuting and foraging. Occasionally, one was observed passing over the surveyor between the east and west aspects of the site. At 21:11 a brown long-eared was HNS. Between 21:26 and 21:28 a serotine bat was observed foraging over the garden to the north of the building before it passed south across B1. Serotine bats were heard but not seen (HNS) foraging on several occasions throughout the rest of the survey. At 22:03 a noctule was HNS. No other species were heard or seen. Thermal Analysis

	Review of the full footage from the Pixfra Arc A613 camcorder confirmed that the observations made during the survey were correct, and there were no emergences from the north or northeast elevations of Park Cottage.
Infrared/thermal imaging used for survey	• Nightfox Whisker paired with Nightfox XB5 Pro infrared torches • Guide TK612 Thermal Imaging camcorder • Pixfra Arc A613 thermal imaging camera (x2) • Sony Handycam FDR AX53 infrared camera with floodlights
Survey Summary	Two common pipistrelle bats emerged from below a roof tile on the lower left side of the northeast gable end. One common pipistrelle entered this location. One common pipistrelle bat emerged from a roof tile at the base of the southeast chimney. One common pipistrelle bat emerged from between the soffit and the wall at the apex of the north-facing gable end. Two soprano pipistrelle bats emerged from under roof tiles above the eaves on the left side of the west-facing gable end. One brown long-eared bat emerged from between the soffit and the wall at the apex of the north-facing gable end.

Figure 9: Surveyor positions and bat roosting results from 12 August 2025



3.5 Bat Roost Characterisation

3.5.1 Roost 1: day roost for a single common pipistrelle bat

A peak count of one common pipistrelle emerged from below a roof tile on the lower right side of the northeast gable end. This activity was recorded during the first survey (03 June 2025).

3.5.2 Roost 2: day roost for two common pipistrelle bats

A peak count of two common pipistrelle bats emerged from below a roof tile on the lower left side of the northeast most gable end. This activity was recorded during the second survey (01 July 2025). During the third survey (12 August 2025), a single common pipistrelle was observed emerging from this location. A bat subsequently entered the same area, followed by another emergence. These observations are assumed to involve the same individual.

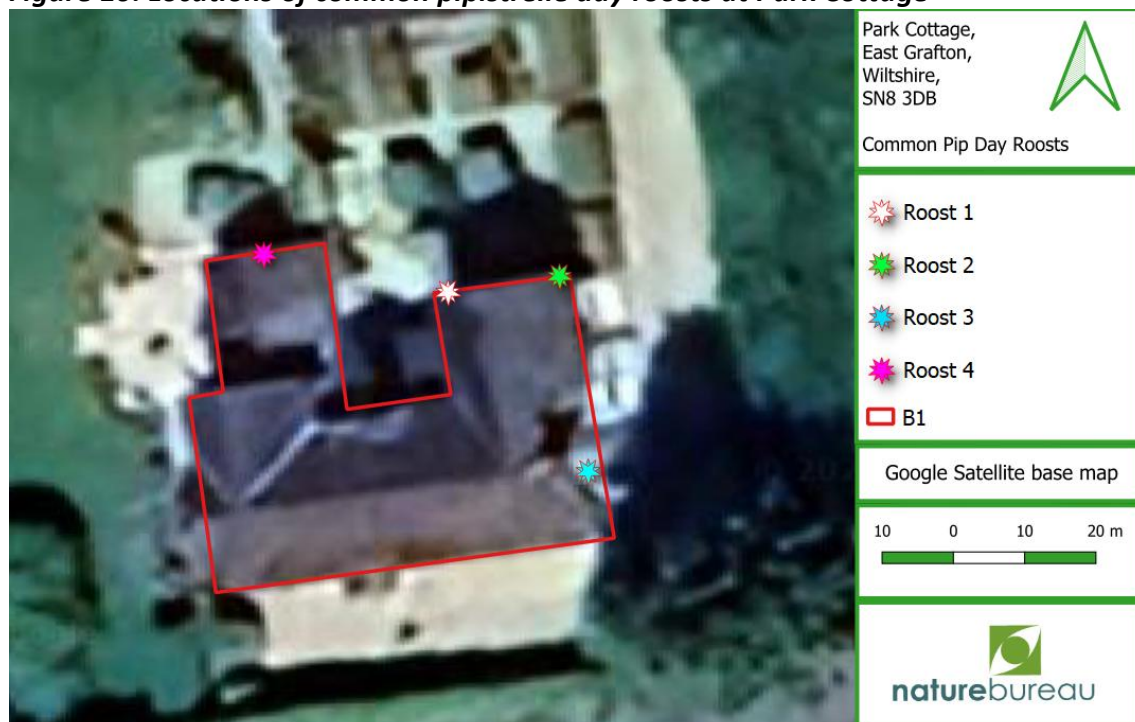
3.5.3 Roost 3: day roost for a single common pipistrelle bat

A peak count of one common pipistrelle emerged from a roof tile at the base of the southeast chimney. This activity was recorded during the third survey (12 August 2025).

3.5.4 Roost 4: day roost for a single common pipistrelle bat

A peak count of one common pipistrelle emerged from between the soffit and wall at the apex the northwest-facing gable end. This activity was recorded during the third survey (12 August 2025).

Figure 10: Locations of common pipistrelle day roosts at Park Cottage



3.5.5 Roost 5: day roost for two soprano pipistrelle bats

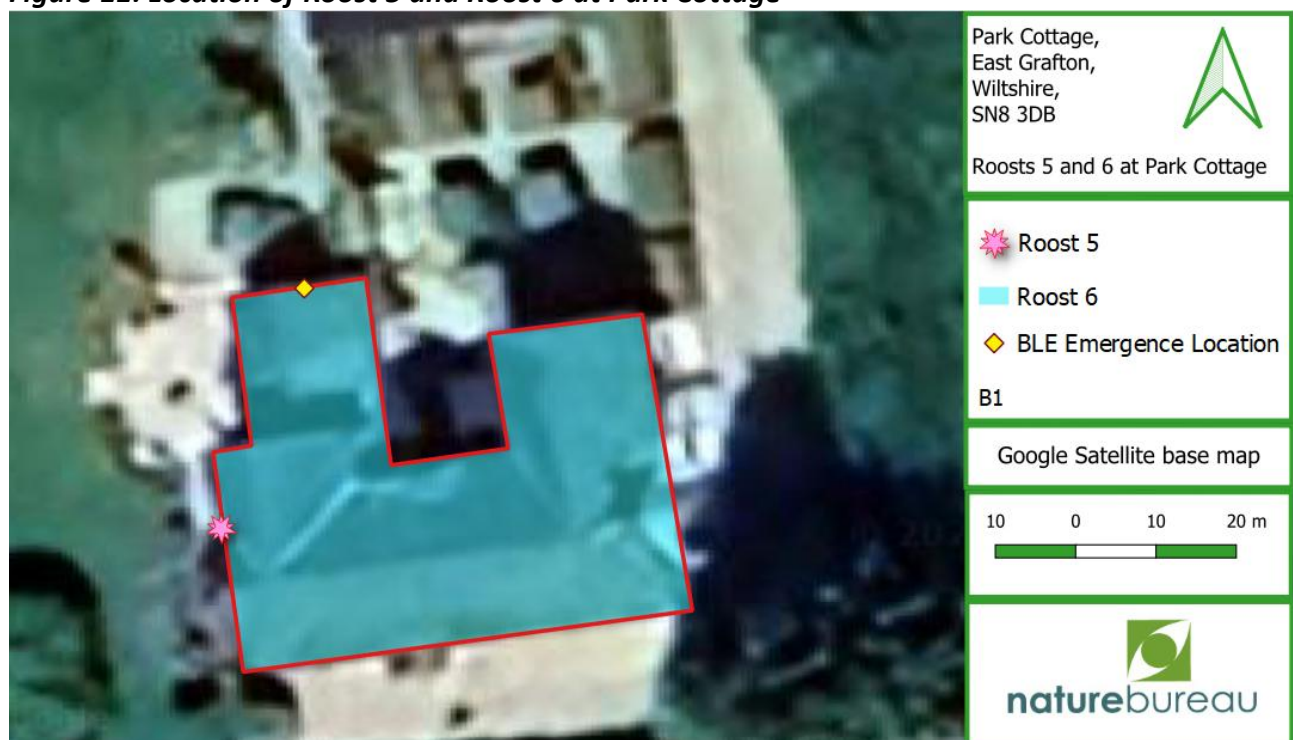
A peak count of two soprano pipistrelle bats emerged from under roof tiles above the eaves on the left side of the west-facing gable end. This activity was recorded during the second survey (01 July 2025 – one bat) and third survey (12 August 2025 – two bats).

3.5.6 Roost 6: day roost for one brown long-eared bat

A peak count of one brown long-eared bat emerged from between the soffit and wall at the apex of the northwest-facing gable end, where access into the loft void has been identified. This activity was recorded during the third survey (12 August 2025).

During the PRA, thousands of bat droppings were identified across the whole loft space, and mixed-species eDNA analysis confirmed these to be brown long-eared bat. This evidence suggests the use of B1 by a larger number of brown long-eared bats over a long period of time; however, it is possible that the spray foam insulation impacted the roosting conditions of the loft, and some individuals have abandoned the roost.

Figure 11: Location of Roost 5 and Roost 6 at Park Cottage



Foraging activity over the site was dominated by common pipistrelle bats commuting and foraging around the driveway and gardens (west and north). Social calls were also regularly recorded from this species.

Brown long-eared, serotine, soprano pipistrelle, Natterer's and noctule bats were recorded commuting over the site on several occasions, with occasional, brief foraging also recorded. During the third survey (12 August 2025), two serotine bats foraged around the site.

4 EVALUATION AND IMPACT ASSESSMENT

4.1 Assessing of the site's importance to roosting bats

Roosts 1, 3 and 4 have been characterised as day roosts for a peak count of one common pipistrelle bat, whilst **Roost 2** has been characterised as day roost for a peak count of two common pipistrelle bats. Common pipistrelles are one of the two most common and widespread species found throughout the UK with pre-breeding population estimates between 991,000 and 7,510,000 (Bat Conservation Trust, 2025). Following the Bat Mitigation Guidelines (Reason & Wray, 2025) Roosts 1, 2, 3 and 4 have been assessed of being of importance at site level.

Roost 5 has been characterised as a day roost for a peak count of two soprano pipistrelle bats. Soprano pipistrelles are one of the two most common and widespread species found throughout the UK with pre-breeding population estimates between 1,970,000 and 8,400,000 (Bat Conservation Trust, 2025). Following the Bat Mitigation Guidelines (Reason & Wray, 2023) Roost 5 has been assessed of being of importance at site level.

Roost 6 has been characterised as a day roost for a peak count of one brown long-eared bat. Brown long-eared bats are common and stable throughout the UK, with pre-breeding population estimates between 52,000 and 2,200,000 (Bat Conservation Trust, 2025). Following the Bat Mitigation Guidelines (Reason & Wray, 2025), Roost 6 has been assessed as being of importance at site level.

4.2 Hibernation Potential

Brown long-eared bats are known to overwinter in some of the same roosts used during the summer months. It is therefore possible that a small number of brown long-eared bat could utilise B1 as a hibernation site. While the winter roosting habits of pipistrelle bats remain less well understood, available evidence suggests they occasionally use cracks and crevices within buildings for hibernation. As such, there is some potential for occasional pipistrelle bats to roost within B1 over the winter period.

Following The Bat Survey Guidelines (Collins, 2023; Middleton, 2019), B1 is assessed as having low potential as a non-classic hibernation site. It is important to note that bats are particularly vulnerable during hibernation, and disturbance during cold periods can have severe consequences, including mortality.

4.2 Assessing the Site's Importance to Commuting and Foraging Bats

The survey results were analysed to inform an assessment of the value of the habitat at the site for commuting and foraging bats (Wray *et al.*, 2010).

- Brown long-eared - (2) + individual bats (5) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **15 (commuting and foraging)**
- Common Pipistrelle - (2) + small number of bats (10) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **20 (commuting and foraging)**
- Natterer's - (5) + individual bats (5) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **18 (commuting)**
- Noctule - (5) + individual bats (5) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **18 (commuting)**
- Serotine - (5) + small number of bats (10) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **23 (commuting and foraging)**
- Soprano pipistrelle (2) + small number of bats (10) + local roost numbers moderate/unknown (4) + network of well-established hedgerows with connected woodland blocks and mixed agriculture (4) = **20 (commuting and foraging)**

The site has been assessed as being of District, Local, or Parish-level importance for commuting and foraging brown long-eared bats, common pipistrelle bats and soprano pipistrelle bats. It is also of the same importance level for commuting Natterer's and noctule bats. Distinguishing meaningfully between these levels can be challenging, as these categories generally relate to small numbers of common species or occasional individuals of rarer species. Combining these categories is considered appropriate in this context.

In contrast, the site has been assessed as being of County-level importance for commuting and foraging serotine bats. This designation reflects the presence of features that form part of a key commuting and foraging area for this species. The loss of these features could adversely affect the wider County populations.

4.3 Impact assessment

The proposed works involve the complete reroofing of Park View Cottage. This will include the removal of the existing roof tiles, battens, and spray foam insulation, followed by the installation of new roofing felt, battens, and tiles. In addition, in-roof solar panels are planned for installation on the southern roof slope.

A cold roof system is proposed, with insulation installed beneath the rafters to ensure the loft space above remains unheated.

In the absence of mitigation, the proposals will result in the following impacts to bats associated with the development:

- Permanent destruction of Roosts 1, 2, 3, 4, 5 and 6.

The proposed work may also cause direct injury or mortality of individual bats during the construction phase and pose a risk of indirectly impacting foraging and commuting bats during the construction and operational phase through lighting, vibrations, noise and dust.

Following discussion of the survey results, the client has indicated willingness to partition the loft space to provide a dedicated (void) bat roost, whilst retaining the remaining section for domestic storage purposes. As a brown long-eared bat was observed emerging from the northwest gable end, the west section will be retained as a void roost, with access at the gable apex installed with the new roof.

5 OUTLINE MITIGATION, COMPENSATION AND RECOMMENDATIONS

Unless the condition of the site changes significantly, no further bat surveys are recommended for the site if site clearance works are carried out within 12 months (CIEEM, 2019).

5.1 Hibernation Survey

Following The Bat Survey Guidelines (Collins, 2023; Middleton, 2019), B1 has been assessed as having low potential as a non-classical hibernation site.

No hibernation surveys are required.

5.2 European Protected Species Mitigation Licence

The proposals will result in the temporary loss and permanent modification of Roost 6, and the permanent loss of Roosts 1, 2, 3, 4 and 5. Bats and their roosts are offered full protection under The Habitat Regulations 2019 (as amended) and The Wildlife & Countryside Act 1981 (as amended) (see Section 6.5).

In order that the works can progress within the confines of the legislative framework a European Protected Species Mitigation (EPSM) licence will be required from Natural England prior to the start of works. The agreed mitigation strategy will be set out in detail in the EPSM application, but outline recommendations are provided below. An application can only be made once full planning or listed building consent has been granted, where relevant. No works should commence at Mannings until Natural England have reviewed and issued the EPSM licence application.

An outline mitigation strategy is below which should be followed unless varied by the EPSM licence application.

5.3 Outline Mitigation Strategy

The following recommendations are made to ensure that no bats are injured or killed during the works.

5.3.1 Timing

In accordance with Reason and Wray (2025), non-breeding summer roosts for common bat species do not require timed works. The proposed works at Nightingales can take place in any month, assuming that bats can be excluded or otherwise safely managed during the works.

5.3.2 Construction Phase

Prior to starting works affecting B1, three temporary bat boxes will be installed on suitable mature trees on site (see Section 5.3.3).

Any works that could impact Roosts and their access points will require coordination and supervision from the Named Ecologist (or Accredited Agent) listed on the EPSM, who will brief the operatives with a Toolbox Talk before carrying out a close inspection of any features that could be impacted by the works.

The Named Ecologist (or Accredited Agent) will then supervise the careful dismantling (soft strip) of all roosting features to be impacted. Any bats found during the works will be monitored and carefully moved to bat box already installed on site, or, where necessary, be transported to a dedicated bat carer for recovery before being released back on site.

Any dismantling works will be carried out until a point where the structure no longer provides any roosting function, and there is negligible risk of bats returning during the works.

5.3.3 Roost Provisions, Retentions and Modifications

To help with the conservation of local bat populations, like-for-like replacement (as close as possible or better) is recommended. As such, the below follows best practice guidance:

- Temporary roost provision on mature trees:
 - Temporary loss of Roosts 1, 2, 3, and 4 at various locations around the roof of B1 at Park Cottage, used as day roosts by a small number of common pipistrelle bats: one crevice-type woodcrete bat box.
 - Temporary loss of Roost 5 under roof tile at the lower left side of the west-facing gable end, used as a day roost by two soprano pipistrelle bats: one crevice-type woodcrete bat box.
 - Temporary loss of Roost 6 within the loft void of B1 at Park Cottage, used as a day roost by brown long-eared bats: one void-type woodcrete bat box.

The above provides a temporary roost for each species identified roosting on site. Boxes are to be installed at height on a mature tree within the ownership of the property prior to the commencement of works, and away from artificial light. The boxes should be installed as soon as possible before work begins, to be used as temporary mitigation during the works, and to be left as a roost for the duration of the life cycle of the trees.

- Modification/Partial retention of Roost 6

- Roost 6 used as a day roost by an individual brown long-eared bat, will be partially retained. The loft will be sectioned, leaving the northwest/west section of B1 as a dedicated bat loft.
- Bat access must be retained at the apex of the northwest gable end.
- Due to the installation of a cold roof system, a bespoke insulated hotbox is recommended.
- Replacement of Roosts 1, 2, 3, 4 and 5.
 - Roosts 1, 2, 3 and 4 used as a day roost by 1-2 common pipistrelle bats, and Roost 5, used as a day roost by two soprano pipistrelle bats, will be replaced by features created at the roost locations when the new roof is installed.
 - Compensation will include bat access tiles suitable for crevice-dwelling bats. Access points can be as small as 15-20 mm high x 20-50 mm wide. However, an excess of 50 mm is recommended as smaller access points can become colonised by spiders' webs, which then become blocked by accumulating small debris.

5.3.4 Commuting Habitats

Most of the bat activity recorded on site during the surveys consisted of bats commuting and foraging around the tree lines to the north and west of the site, and along the driveway to the east. These are clearly important features for the bats and should not be directly or indirectly impacted by the proposed works, both during the construction and operational phases. Works should therefore be conducted during daylight hours without the use of artificial lighting at night.

5.3.5 Roofing felt

Only bitumen roofing felt type 1F is to be used. Non-bitumen-coated roofing membranes (formerly known as breathable roofing membranes, modern roofing membranes, BRMs or MRMs) should not be installed into a roof that is used by bats as these are made from spun-bond polypropylene/polyethylene filaments. The long fibres that make up non-bitumen-coated roofing membranes can be pulled out by roosting bats and pose an entanglement threat to the bats. Non-bitumen-coated roofing membranes are not obligatory under any Building Regulations. Ventilation, regardless of the roofing felt used, is still required (see British Standard BS 5250:2011).

Natural England will not grant licences to buildings where BRM membranes are used and could be accessible to bats.

5.3.6 Lighting

Light spillage during the construction and operational phase could indirectly impact newly provisioned bat roosts and off-site commuting and foraging bats. As such, these features must

remain unlit during all phases. The following recommendations should also be integrated into any new lighting scheme during the construction and operational phase.

- Roost entrances and commuting routes should not be subject to artificial lighting above ground level.
- Night-time lighting should be avoided (sunset to sunrise). However, if artificial lighting is required, it should follow the following specifications:
 - Lighting should be directional, facing away from the surrounding green corridors and known roosts, and set using a steep ground-ward angle and on short columns (no higher than 3m);
 - Use a lamp no greater than 2000 lumens (150 watts), using light sources that peak higher than 550 nanometres, which avoids the UV, white and blue wavelengths;
 - Warm white spectrum LED (<2500 Kelvin) should be used over a cool white spectrum;
 - Cowls, hoods, baffles or louvres should be used to avoid light spillage off-site;
 - Use of reflective surfaces under the light should be avoided.

Most up to date lighting technology should be used and reviewed by an ecologist prior to implementation.

5.4 Post-development monitoring

Once works are completed, an ecologist must review the site to ensure mitigation is present and in order. If remedial works are required, this will be discussed and agreed with notifications given to Natural England.

Natural England do not usually require post-development monitoring for proposals affecting low-status roosts where these affect up to three of the more common species (such as brown long-eared, common pipistrelle and soprano pipistrelle bats).

5.5 Nesting Birds

If work is scheduled during the bird nesting season (March to August, inclusive), the client and site contractors must be fully aware of their legal obligations regarding nesting birds and must check for nests prior to the commencement of any works. Should an active nest be identified, a minimum 5 m exclusion zone must be established around it, and all work within this area must cease until the nest is no longer active. An active bird nest is defined as any nest from the initiation of construction by the bird through to the fledging of the chicks.

Breeding birds and their nests are protected by law, and all active nests must be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works.

6 APPENDICES

6.1 DNA results from bat droppings sample, collected 03 June 2025

Order Number: 3533



Samples submitted

Sample Code	Multi-species?	Sample Type	Date Sample Found	Species Group	Site postcode/ post town /grid ref	Site description / comments (Optional)	Suspected identity of species
SEL-3533-1	Yes	Faecal	03/06/2025	C. Bats	SU 25384 60563		BLE

Analysis Results

Sample Code	DNA Extraction Code	Species Identified	ID Method	Ct value	% match
SEL-3533-1	EG-2025-1372	Plecotus auritus (Brown long-eared bat) Note: All UK bat species tested for - only a single species detected in this sample.	qPCR	21	

6.2 Infrared and thermal images from the darkest point of the survey, 03 June 2025

6.2.1 Surveyor 1: east



6.2.2 Surveyor 2: south



6.2.3 Surveyor 3: west



6.2.4 Surveyor 4: northwest



6.2.5 Surveyor 5: north



6.3 Infrared images from the darkest point of the survey, 01 July 2025

6.3.1 Surveyor 1: northeast



6.3.2 Surveyor 2: southeast



6.3.3 Surveyor 3: southwest



6.3.4 Surveyor 4: northwest



6.4 Infrared images from the darkest point of the survey, 12 August 2025

6.4.1 Surveyor 1: northeast



6.4.2 Surveyor 2: southeast



6.4.3 Surveyor 3: southwest



6.4.4 Surveyor 4: northwest



6.4.5 Surveyor 5: north



6.5 Bat Legislation

All species of bats receive special protection under UK law, including the strict species protection provisions of the EU Habitats Directive as implemented in England and Wales by Part 3 of the Conservation of Habitats and Species Regulations 2019 (the “2017 Regulations, amended by the 2019 Regulations due to Britain leaving the EU”), and, Part 1 of the Wildlife and Countryside Act 1981 (as amended).

Regulation 43 of the Conservation of Habitats and Species Regulations 2017 (as amended by the 2019 Regulations) makes it illegal to:

- i. Deliberately capture, injure or kill a bat;
- ii. Deliberately disturb bats in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young; or
- iii. Damage or destroy a roost – regardless of whether the action was deliberate or not.

Furthermore, the Wildlife and Countryside Act 1981 (as amended) makes it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to damage, destroy or obstruct access to this structure or place.

Eight of the UK bat species are also listed as Priority Species on the UK BAP³, highlighting them as species of conservation concern.

6.6 Industry Guidance and Standards

This report has been written with consideration to:

- Bat Conservation Trust, 2025. The National Bat Monitoring Programme Annual Report 2024. Bat Conservation Trust, London. Available at www.bats.org.uk/our-work/national-batmonitoring-programme/reports/nbmp-annual-report.
- **Bat Conservation Trust (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th edition.**
- Bat Conservation Trust (2019). National Bat Monitoring Program Annual Report 2019.
- Mitchell-Jones, A. J., & McLeish, A. P. (Eds.). (2004). 3rd edition Bat Workers' Manual. Joint Nature Conservation Committee (JNCC), Peterborough. ISBN 1-86107-558-8
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected? <http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf>
- Harris, S. & Yalden, D. (2008). Mammals of the British Isles: Handbook, 4th Edition. The Mammal Society, Southampton.

³ [UK Biodiversity Framework - Biodiversity policy & advocacy - Bat Conservation Trust \(bats.org.uk\)](http://UK Biodiversity Framework - Biodiversity policy & advocacy - Bat Conservation Trust (bats.org.uk))

- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting
- Mathews F, and Harrower C. (2020). IUCN – compliant Red List for Britain’s Terrestrial Mammals. Assessment by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough ISBN 978-1-78354-485-1.
- Mitchell-Jones, A. J. (2004). Bat Workers Manual.
- Reason, P.F., & Wray, S. (2025). UK Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats (Version 1.2). Chartered Institute of Ecology and Environmental Management.
- Wray, S., Wells, D., Long, E., & Mitchell-Jones, T. (2010). Valuing bats in ecological impact assessment. In In Practice (No. 70). Institute of Ecology and Environmental Management (IEEM).

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

6.7 Bat Roost Types

Bat Conservation Trust (2023)

Table 3.1. Bat roost types. (Definitions written by the NE Earned Recognition Project).

Roost type	NE definition
Day roost	A place where individual bats, or small groups, rest or shelter in the day during the summer.
Night roost	A place where bats rest or shelter in the night but are not found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.
Feeding roost	A place where individual bats, or a few individuals, rest or feed for short periods during the night but are not present by day.
Transitional roost	A place used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Maternity roost	A place where female bats give birth and raise their young to independence. In some species males may also be present in the maternity roost.
Hibernation roost	A place where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
Satellite roost	An alternative roost found in close proximity to the main nursery colony used by a few individuals to small groups of breeding females throughout the breeding season.

6.8 Planning Policy

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and recreation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'. Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.