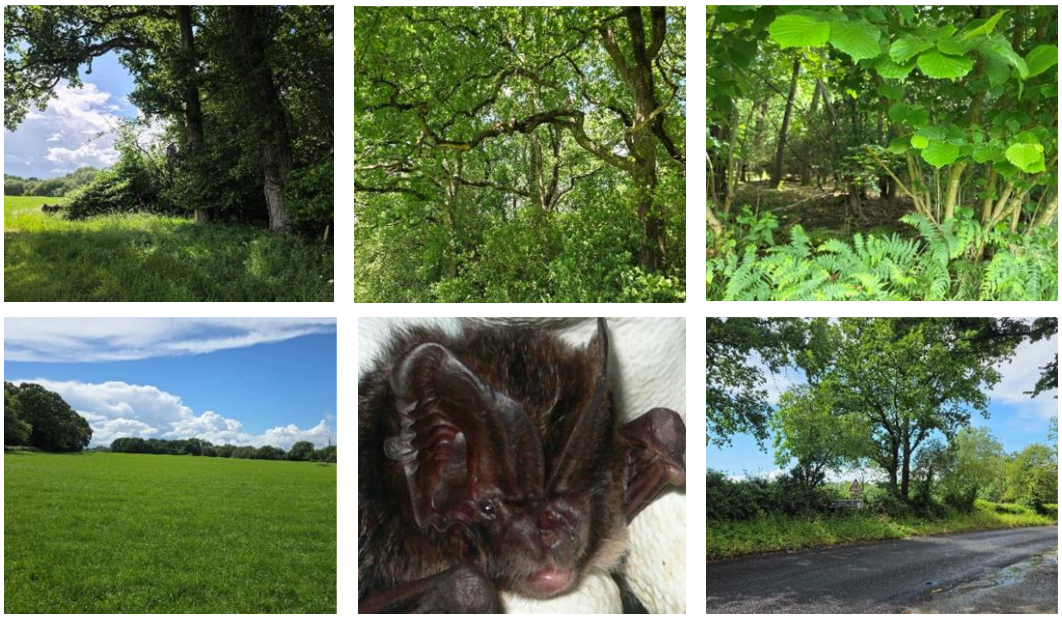
A Review of Barbastelle Bats in the New Forest and Mottisfont Bats SAC
Potential Impacts from Development at Landford Corner



For

The New Forest National Park Authority (NFNPA)

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A Review of Barbastelle Bats in the New Forest and Mottisfont SAC Potential Impacts from Development at Landford Corner

Executive Summary

The New Forest National Park Authority (NFNPA) are required to consider small scale residential developments through the Local Plan review process. The NFNPA have identified a potential residential development site at Landford Corner in the north of the National Park. Ecological Consultancy Services Ltd. (ECS) were appointed by the NFNPA to review local barbastelle *Barbastella barbastellus* bat records and consider whether a development would be likely to have significant effect on the Mottisfont Bats Special Area of Conservation (SAC). Landford Corner is outside of the 7.5km 'Core Consultation Zone' for assessing impacts on the SAC, however barbastelle bats have a large home range and other barbastelle bat colonies within the National Park may be in closer proximity to this site. This information will also feed into the Habitats Regulations Assessment (HRA) of the NFNPA Local Plan Review.

ECS surveyors have undertaken bat capture and acoustic surveys within the New Forest since 2006; these have focussed primarily on identifying colonies of two rare bat species, barbastelle and Bechstein's *Myotis bechsteinii* bats. The findings of these surveys together with other local barbastelle records submitted to Hampshire Bat Group (HBG) and Wiltshire & Swindon Biological Records Centre (WSBRC) are reviewed in this report. The RSPB's Franchises Wood reserve is circa 1.3 km southwest of Landford Corner where barbastelle bats, including juveniles have been captured over the last three years. Bechstein's bat maternity roost trees are known to be present within the reserve. A short review of other barbastelle research which has been undertaken since Mottisfont Bats SAC was designated, including a revised population estimate for the UK is also discussed. ECS also undertook a short period of acoustic monitoring at Landford Corner in June 2026 and recorded a range of bat species including barbastelle and one pass from a greater horseshoe bat *Rhinolophus ferrumequinum.*

The site ownership at Landford Corner extends to circa 20 ha; the potential development footprint is anticipated to be contained within 1ha in the northeast corner of the site. The majority of the site area is 'improved grassland' which has low/negligible value for bats. However, the site includes high value foraging areas and potential roost sites for bats including barbastelle (as well as other rare bat species). These areas include semi-natural ancient woodland (Heath and Middle Copse), riparian corridor (alder *Alnus glutinosa* carr) and Smallbrook Meadow Site of Special Scientific Interest (SSSI). The echotone between the woodland/treeline edge and grassland within the perimeter of the site also offers sheltered foraging opportunities (including barbastelle). Any development must avoid impacts on these areas, including indirect impacts such as light spill, habitat degradation, unauthorised access and unmitigated severance of hedgerows. Considering the large size of the site and provided that impacts are avoided the site offers scope for habitat enhancements.

If a development is Consented then strict Conditions must be adhered to including measures to ensure that impacts on bats are avoided (including strict controls on lighting) and mitigated to secure high quality habitat enhancements and their on-going management and maintenance. More detailed pre-application bat surveys would be required to inform this.

1.0 Introduction

The New Forest National Park Local Plan Review
ECS's Project Brief and Scope of Assessment
Site Description, Location & Proposals
Overview of Barbastelle Bat Ecology

1.1 The New Forest National Park Local Plan Review

The New Forest National Park Authority (NFNPA) must periodically review and update the New Forest National Park Local Plan. Through this process the NFNPA are required to identify and consult upon sites for small scale housing delivery. The Local Plan is a 'plan or project' which is subject to a Habitats Regulation Assessment (HRA) review. Where significant effects cannot be ruled out an Appropriate Assessment (AA) is also needed. The Local Plan does not in itself permit a development and that any site allocations in the Plan will still require a full planning application submission with all associated surveys and assessment.

The NFNPA appointed Footprint Ecology to undertake an HRA of the Local Plan current revision. Their findings will help to inform the final Plan which is due for further public consultation in late summer 2026. A potential allocation site has been identified to the north of the settlement of Landford (hereafter referred to as 'Landford Corner'). This is located in the county of Wiltshire in the north of the New Forest National Park.

Bats are highly mobile species and barbastelle bats have one of the largest home ranges of any UK bat species. 'Mottisfont Bats SAC' was designated in 2005 to protect a breeding colony of the rare barbastelle bat[1]. There is a planning protocol in place to screen potential development impacts within 7.5km of the Mottisfont SAC[2]. This radius has been referred to as the 'core consultation zone' within which most functionally linked habitats used by the Mottisfont barbastelle colony are likely to be located.

Loss of habitat and disturbance have been identified as a potential threat to the barbastelle colony at the Mottisfont Bats SAC.[3] The southern boundary of the Mottisfont SAC is located 8.8km to the northeast of the Landford Corner and therefore falls outside of the core consultation zone'. However, since the Mottisfont designation the presence of other barbastelle breeding colonies has been confirmed in the New Forest[4]. Furthermore it is recognised that high quality habitats are not evenly distributed within the home range of a

[1] *Annex II Habitats Directive*

[2] *Jonathan Cox Associates (2010) Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers Report for Natural England.*

[3] *Natural England Site Improvement Plan Mottisfont Bats (Accessed 10/06/2026)*

[4] *As well as other areas in the southern areas of England and Wales although barbastelle are still considered to be a rare species which is 'Vulnerable' in Europe, Great Britain and England*

colony and frequency of use may vary according to the weather or season. The term 'zone of influence (ZoI)' is used to refer to any area within which an impact could occur.

Footprint Ecology have recommended that potential impacts on barbastelle bats should be considered in more detail for the following reasons:

- Other breeding colonies of barbastelle bat are known to occur in the New Forest; some of these are in closer proximity to Landford Corner than Mottisfont Bats SAC.
- The relationship between colonies is poorly understood but recent studies show that home ranges can overlap; some genetic interchange must also occur.
- Suitable habitat (including movement corridors) exist between the Mottisfont Bats SAC and the New Forest colonies.
- Barbastelle bats have one of the largest home ranges of all UK bat species which can extend up to 20km which is beyond the 7.5km protocol area.

The Mottisfont Bats SAC is designated solely for barbastelle bats as 'qualifying species'. Large areas of the New Forest National Park are also designated as an SAC[5] but bats are not qualifying species on any of the New Forest Designations.

1.2 ECS's Project Brief & Scope of Assessment

The NFNPA appointed Ecological Consultancy Services Ltd (ECS) to undertake the following:

- To assess the likely use of the site at Landford Corner site by barbastelle bats including a review of local barbastelle records and a short period of acoustic monitoring.
- To undertake a site visit to assess the potential value of the habitat features within the site for barbastelle.
- To identify any evidence of strong functional links between the New Forest sites and Mottisfont Bats SAC.
- To identify any precautionary on-site mitigation measures that could be undertaken and potentially included in the final allocation policy.
- To make recommendations which are proportionate and should take into account the practicalities of timelines for the Local Plan process.
- To identify strategic site enhancement measures for barbastelle or any other rare bat species over and above those required for mitigation or HRA process.

ECS were appointed on 1st June 2026 with a deadline for a final report by mid July 2026[6].

ECS have over 30 years of experience undertaking bat surveys and assessing the impacts of proposed developments on bats. Both surveyors are also actively involved in research which has included assessing the distribution of rare bats including barbastelle (as well as

[5] Areas within the New Forest and Solent are also designated as Special Protection Area (SPA), Ramsar and Sites of Special Scientific Interest (SSSI).

[6] The final report should provide professional advice on the likelihood of significant effects arising from the proposed allocation; and any precautionary on-site mitigation measures that could be taken and potentially included within the final allocation policy. Reporting could also include identification of any strategic enhancement measures for Barbastelle and any other key bat species over and above those required for mitigation or HRA process.

Bechstein's and greater horseshoe bat) in the New Forest and more widely in Hampshire and other counties. Further information on surveyor experience is provided in **Appendix 1**.

1.3 Site Description, Location & Proposals

1.3.1 Site Description

The site within the ownership boundary extends to circa 20ha and has an 'L shaped' plan. The majority of the site area is 'improved grassland' which is species poor. There are habitats of high conservation value[7] within the site as follows:

- A small area of semi-natural deciduous woodland (Heath Copse) in the northeast area of the site.
- A small area of semi-natural deciduous woodland (Middle Copse) in the northwest area of the site.
- Smallbrook Meadow SSSI (Unit 14 of the New Forest SSSI) including a watercourse (tributary of the River Blackwater) in the northeast area of the site.
- A tree line dominated by mature oaks *Quercus robur* along the southern boundary of the site (southwest). Many of the trees within the site are mature oaks which feature split and torn limbs, flaking/lifted bark and crevices suitable for bat roosting.
- Areas around the edge of the site which although improved grassland are sheltered by boundary features and are likely to provide bat foraging opportunities.

The boundary hedgerow in the north-eastern corner of the site has some mature trees but parts of the eastern hedgerow have become fragmented.

The proposed site allocation policy seeks to protect the semi-natural ancient woodland (Heath Copse and Middle Copse) and Smallbrook Meadow SSSI through appropriate wording.

1.3.2 Site Location

The proposed site is within the County of Wiltshire and within the New Forest National Park. The settlements of Landford and Nomansland lie to the south and southeast and together form one of the largest settlements in the north of the New Forest. The Hamptworth Road runs along part of the northern boundary of the site. The Lyndhurst road runs along the eastern boundary with Landford Church of England Primary School and village hall just opposite the northeast corner of the site. A more detailed account of the site including habitat features is provided in **Section 3.2** of this report.

The central point within the site is at Ordnance Survey Grid Reference SU 25177 19477.

[7] *Including some Priority Habitats*

1.3.3 Proposals

The site under consideration is in a single ownership. It is anticipated that development would encompass an area of c 1ha with the rest of the site remaining undeveloped (although this could potentially include areas used as open greenspace). Development is most likely to be in the northeast corner between the junctions of Hamptworth and Lyndhurst Roads.

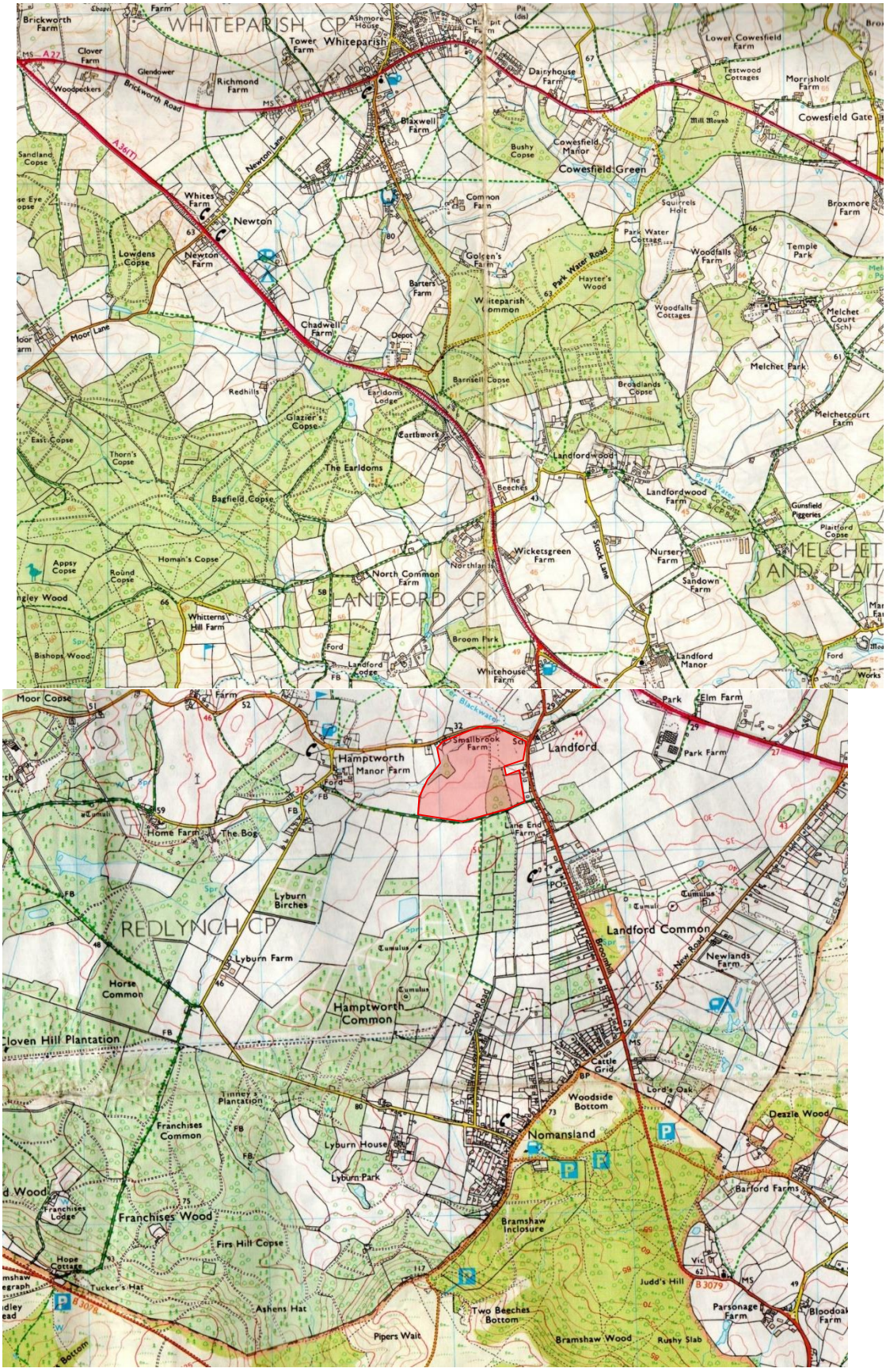
The detailed layout and form of development is typically decided at the planning application rather than Local Plan stage but a residential allocation of circa 30 dwellings is being considered of which 50% would be affordable housing.

The final site allocation policy requires a future detailed development proposal to include the following which will influence site design:

- A limit of 100 square metres habitable floor area for each unit.
- Suitable vehicular access from Lyndhurst Road with safe crossing points between the site and school/village hall.
- A landscape-led design and layout that reflects the landscape character of the local area and adopted Landford Village Design Statement.
- Provision of on-site informal public open space.
- Mitigation measures to alleviate flood risk including avoidance of development in parts of the site and buffers to the watercourses in the north of the site.
- A Construction Environmental Plan (CEMP) which demonstrates how impacts will be mitigated for and suitable buffer provided to the SSSI. Suitable nutrient neutrality statement in relation to Solent's internationally designated sites.

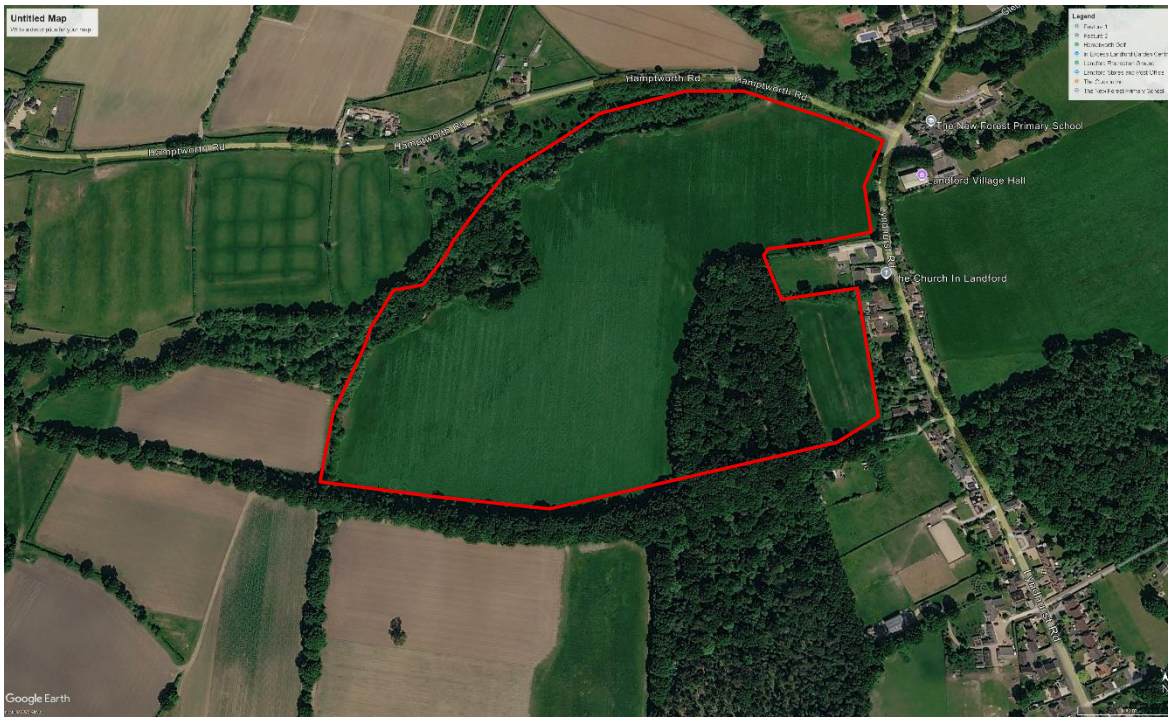
Figure 1 shows the site location. **Figure 2** shows the boundary of the site ownership and the area within which development is proposed through the draft Local Plan.

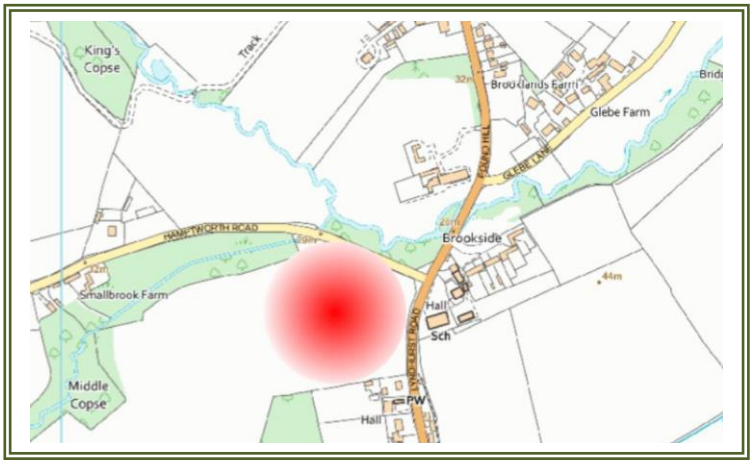
***Figure 1** Site location*



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Figure 2 *Site ownership boundary (image taken from Google Earth). The red shaded circle (inset provided by NFNPA) denotes the area within the single land ownership, with built development being considered in the north east corner of the site.*





1.4 Overview of Barbastelle Bat Distribution & Ecology

1.4.1 Status & Distribution

Barbastelle bats are one of the rarest bats in western Europe. They are classified as Near Threatened (IUCN), and Vulnerable in Europe, Great Britain and England. The UK population estimate is 21,000-42,000 with a Favourable Conservation Status (FCS) of 71,000-147,000. There are estimated to be 118 maternity colonies in England and Wales (Zeale, M. R. K., 2024). The figures show that barbastelle bats are not currently in FCS throughout their range. Barbastelle bats have undergone a significant decline over the last few hundred years as a result of human induced environmental changes (Razgour et al, 2023). UK populations have been shown to have higher levels of genetic diversity and lower levels of inbreeding.

In the UK barbastelle range extends throughout the southern part of England (including the Isle of Wight) as far north as Lincolnshire as well as parts of Wales. Within Hampshire seven maternity colonies are known, of which four are in the New Forest. However, this species is under-recorded and it is likely that at least 2-3 times this number of colonies are present in Hampshire. At the time of the Mottisfont Bats SAC Designation (2005) there were only six known maternity colonies in the UK.

1.4.2 Ecology

Barbastelle bats are primarily a tree roosting species. Maternity colonies favour areas of closed canopy in unmanaged and ancient woodlands (Greenway, F & Hill D, 2004). They favour roost sites such as splits, tears and flaking/lifted bark where they are protected from predators; these features are often ephemeral and associated with older trees. They switch roosts frequently and form sub-colonies (Russo et al, 2005); individuals are estimated to utilise up to 30 roosts over the course of a year. This behaviour makes population estimates of individual colonies difficult. Barbastelle bats remain faithful to a roost woodland and consequently the 'roost resource' within that woodland needs to be continuously replenished as individual trees naturally age and decay. Barbastelle bats are also known to roost in barns; these are mainly older style buildings with traditional timber frames where bats select crevice roost sites around mortice joints. All known maternity colonies in Hampshire are in trees.

Maternity roost sites are often found in unmanaged woodlands (or large woodlands with significant areas of non-intervention). These have predominately high canopy with mature trees[8] (ancient or semi-natural ancient woodland); some larger woodlands may also have established areas of plantation woodland. These habitats are under constant threat from forestry and ironically also from conservation efforts to reinstate coppicing regimes over short time periods to fit in with budgetary constraints (including grants). There is also increasing pressure for woodlands to get available for public recreation; old and damaged trees are seen as liabilities and are therefore often removed.

[8] *Harris, J in British Island Bats, Volume 1. A review of the barbastelle Barbastella barbastellus in Norfolk, based on the work of the Norfolk Barbastelle Study Group (accessed from the internet June 2026) This study reviewed the woodland characteristics of 24 barbastelle colonies in East Anglia (2012-2025)*

Barbastelle bats give birth in late June/early July and young bats are volant by late July/early August. Little is known about hibernation sites or whether this species displays 'autumn swarming behaviour' (akin to *Myotis* species where mating and gene flow may occur).

Barbastelle bats utilise a 'hawking' foraging strategy and have a specialised echolocation call suited to foraging on tympanate (hearing) moths (Goerlitz et al, 2012). Barbastelle bats have one of the largest home ranges of all UK species although the extent of these can vary considerably between individuals and may also reflect the quality of habitat available to a maternity colony (Zeale, 2024). Individual ranges of between 1-20km have been recorded. Zeale *et al* (2012) studied the ranging behaviour of barbastelle bats and radio tracked 24 bats from two colonies in the south of England. They recorded a mean maximum distance flown from roost of 6.8km (=/- 4.8 SD). Non-productive females foraged at greater distances than reproductive females. Commutes were typically rapid and bats moved freely across large open areas. Individual bats foraged independently from each other being faithful to their respective core foraging areas. These 'core clusters' formed just a small fraction of home ranges.

Zeale *et al* also found that most important habitats for foraging were ranked in order with riparian zones and broadleaved habitats being most strongly selected. Unimproved grassland and field margins were also important foraging areas but arable and improved grassland were least favoured. The authors recommended that conservation efforts target protection and enhancement of preferred foraging habitats within 7km of roost sites. Other researchers have found considerable variability in the size of home ranges and this is discussed later in this report.

Barbastelle bats are particularly sensitive to disturbance around roost sites. Razgour et al (2024) found that they are negatively affected by artificial light which can impact roosts, foraging areas and commuting routes. The authors also found that genetic connectivity in Forest bat species was impeded by artificial lights and facilitated by rivers and broadleaved woodland cover.

2.0 Methodology

Data Collation & Analysis
Review of Relevant Literature
Site Visit (habitat assessment)
Acoustic Surveys

2.1 Data Collation & Analysis

ECS have undertaken a detailed desktop study for this report which includes the following:

- A data search of all Hampshire Bat Group barbastelle records for the New Forest and the area between the New Forest and Mottisfont Bats SAC.
- A data search of Wiltshire & Swindon Biological Records Centre (WSBRC) for barbastelle records between the New Forest, Salisbury and the Wiltshire/Hampshire boundary.
- A review of suitable potential habitat corridors suitable for foraging and commuting barbastelle bats between the proposed site, Mottisfont Bats SAC and barbastelle colonies in the New Forest.
- A literature review.
- A site assessment to consider the potential value of habitat features within and adjacent to Landford Corner for barbastelle bat roosting, foraging and commuting.
- Acoustic surveys within the proposed site (June 2026).

Hampshire Bat Group (HBG) have a more comprehensive data set of bat records than Hampshire Biological Information Centre (HBIC) and so the HBG database has been used in this assessment. Details of all records were interrogated by ECS and classified in **Figure 4a** to one of the following definitions:

- Roost record: maternity roosts confirmed by radio tracking/emergence surveys.
- Roost record: other non-maternity roost record.
- Capture record: Juvenile bat (suggesting location of maternity roosts nearby).
- Capture record: non breeding female or male bat.
- Acoustic record.
- Dead/injured bats.

ECS then identified known and likely locations of maternity colonies. A 7.5km area (in line with the Mottisfont core consultation zone) has then been shown around each these (**see Figure 4b**). A 6km area is also shown as this is the area recommended by BCT as the Core Sustenance Zone (CSZ) around maternity roosts for barbastelle bats (see **S5.1** for more detailed explanation).

In 2006 ECS surveyors established a research project through HBG to review distribution of rare bats in the New Forest (inducing barbastelle). During the period 2006-9 they identified

three maternity colonies of barbastelle bat[9] in the New Forest by radio tracking bats to roost trees in three areas (all at least 7km apart). Subsequent trapping and acoustic surveys have been undertaken and a regular review undertaken as other records have been submitted to HBG. The RSPB has also captured barbastelle bats (and undertaken some radio tracking of Bechstein's bats) in Franchises Wood which is c 3km to the south of Landford Corner. The results of these surveys and subsequent data sent to HBG by other researchers including those in southeast Wiltshire have been included in this review. A review of the most up to date survey results monitoring Mottisfont Bats SAC in 2023 & 2025 are also discussed.

Colleen Hope of ECS has also recently undertaken a review of barbastelle bats in Hampshire (currently under review); this has involved liaison with adjacent counties and input to a recent workshop through the National Barbastelle and Bechstein's Survey (NBBS)[10]. These records are discussed in **Section 3.1** of this report as they provide context within which to assess the Hampshire colonies.

2.2 Review of Relevant Literature

A review was undertaken of the following reports:

- Jonathan Cox Associates (2010) *Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers Report for Natural England.*
- Davidson-Watts, I. & McKenzie, A. (2006) *Habitat use and Ranging of Barbastelle Bats of the Mottisfont Estate, Hampshire.*
- Various papers referencing barbastelle ecology relevant to the brief.
- A review of data collated from radio tracking work at the RSPB's Franchises Wood to the south of the site.

2.3 Site Visits

A site visit was undertaken by ECS and the NFNPA Senior Planning Officer and Ecologist on 2 June 2026 with a second visit (ECS) to Heath Copse on 17 June 2026. Notes were taken of key habitat features and the potential location for development. Site visits were completed within a period of 2.0 and 1.5 hours.

2.4 Acoustic Survey

Two acoustic detectors (Song Meter 4, Wildlife Acoustics) were erected on posts c 2m above ground level at two locations within the northeast corner of the site (on the north and southern boundaries) during the period 04/06/2026-17/06/2026. These were then moved to different locations on the northwest and southwest parts of the site on 17/06/2026 for a second two-week period. See **Figure 2.**

[9] We also found five colonies of Bechstein's bat in the New Forest (the nearest to Landford Corner being at Fritham) and have recently found a sixth near Ashurst
[10] A collaborative project between Vincent Wildlife Trust and Bat Conservation Trust aimed at refining understanding of the ecology of barbastelle and Bechstein's bats

04/06/2026-17/06/2026: Location 1
04/06/2026-17/06/2026: Location 2
17/06/2026-29/06/2026 Location 3
17/06/2026-29/06/2026 Location 4

Recordings were downloaded and scrubbed. They were initially classified using SonoBat 30 UK Data Wizard and then manually vetted using SonoBat 30 UK & Eire bat analysis software. Calls were classified to species or genus where possible. A percentage of calls were auto-classified as 'potential bat' but of too poor quality to specify to species/genera; these were discounted.

2.5 Survey Limitations

2.5.1 General Limitations

The scope did not extend to a detailed account of the site and surveyors did not enter the SSSI or Landford Larches (to the south of the site)[11]. An individual assessment of trees for potential bat roost features was not undertaken.

Bat records are generally submitted to recording centres on an *'ad hoc'* basis. They reflect areas of interest/survey effort (either by volunteers or as a result of consultants assessing potential developments). It cannot be assumed that the absence of a record means that a species is absent from an area.

2.5.2 Acoustic Detectors

Pipistrelle, noctule *Nyctalus noctula* and serotine *Cnephaeus serotinus* bats have louder echolocation calls than long-eared *Plecotus sp*., horseshoe *Rhinolophus sp.,* barbastelle and bats in the Genus *Myotis*. Noctule and serotine bats have low frequency calls which attenuate less and therefore are detectable from greater distance. As a result some species are more readily detected acoustically.

Pipistrelle, noctule and serotine bats are also better adapted to flying in open or 'edge' environments where as horseshoe, long-eared and bats in the genus *Myotis* are better adapted to flying in 'cluttered' woodland environments.

Often bats in the genus *Myotis* cannot be reliably distinguished to species level from acoustic records alone[12]. This genus includes rare species such as Bechstein's bat as well as more widespread species such as Daubenton's *Myotis daubentonii* bat. Brown long-eared bat *Plecotus auritus* is a common and widespread species whereas grey long-eared bat *Plecotus austriacus* is rare with a restricted range. Often these two species cannot be readily separated acoustically.

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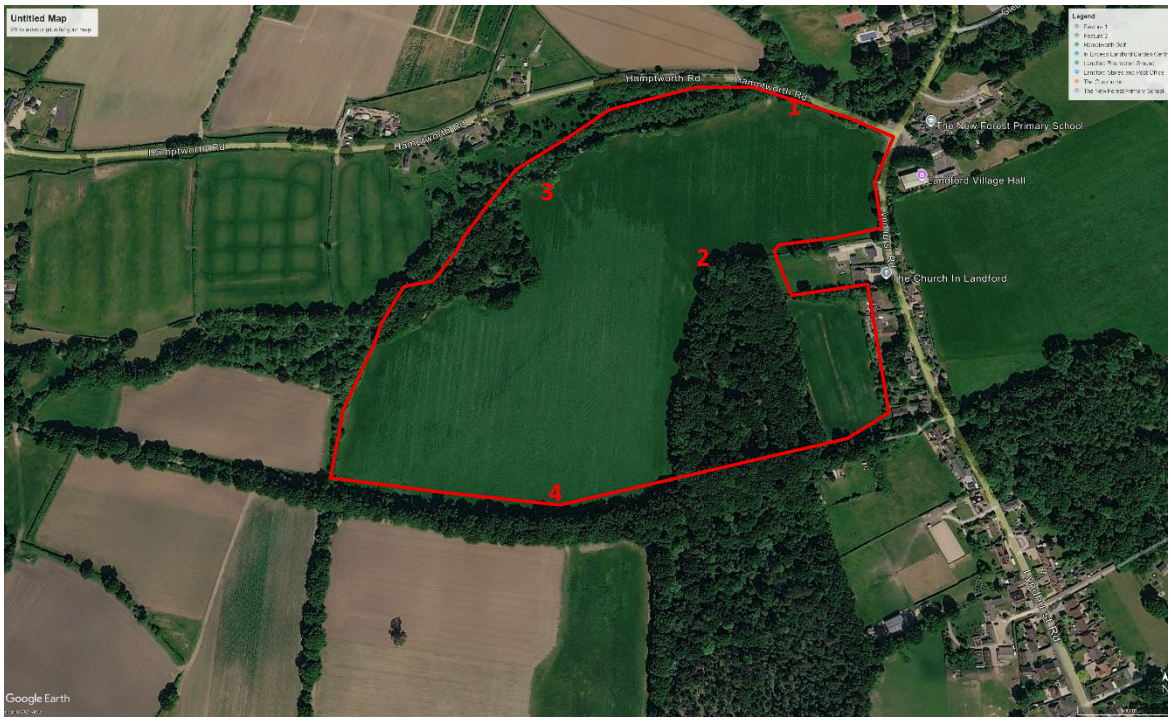
[11] *These two areas are outside of the area being considered for allocation through the New Forest National Park Local Plan Review*

[12] *Their echolocation calls are all similar because they forage in similar 'cluttered' i.e. well vegetated habitats. Daubenton's bat has a strong preference for foraging over open water when its call is distinctive (but not when in woodland). Natterer's Myotis nattereri bat calls are also sometimes more reliably identified as they are broadband call with a short pulse interval and irregular. If social calls are recorded then they can sometimes provide a reasonably reliable assessment.*

If identification is required to species level for bats in the genera *Myotis* or *Plecotus* then it is necessary to capture bats and in some cases take specific morphometric measurements or to collect bat dropping samples (for DNA analysis) from known roost sites.

The acoustic recording at this site has been limited to a short window of time in mid summer and may not be representative of bat activity or species composition in other seasons.

Figure 3 *Locations of SM4 Acoustic Detectors (1) & (2) 04-17/06/2026 and (3) & (4) 17/06/2026-29/07/2026.(image taken from Google Earth).*



3.0 Results

Results and Analysis of Data Searches
Habitats within Site & Adjacent to the Site
Acoustic Surveys

3.1 Results & Analysis of Data Searches

The total number of barbastelle records for the search area was 954. This included 153 records from Franchises Wood[13] and 85 from Langley Wood. ECS has amalgamated the two datasets and distinguished five categories described in **S2.1.** Subsequent to the data search two additional day roosts was reported in Langley Wood and a farm southeast of Salisbury[14].

Table 1: *Breakdown of barbastelle records within the search area*

	Hampshire including Franchises Wood	**Notes**
Maternity roosts (trees)	13 (five areas)	
Day/hibernation roosts	39	All in Hampshire
Acoustic records	792	
Capture records	99	
Capture records of juveniles	10	All 10 from Franchises Wood

The maternity roost trees have all been confirmed by radio tracking and subsequent emergence surveys; colonies identified in this report are all at least 6.5km apart.

The maternity colonies are referenced in **Table 2** overleaf showing the distance from roost trees/clusters of roost trees to Landford Corner.

[13] *both county recorders held the same set of records for Franchises Wood and so duplicates were removed.*
[14] *K O'Malley (pers comm.) radio tracked individuals in September (two different years) from a capture site north of Langley Wood. Radio signals were lost but a roost was found somewhere in Langley Wood and potentially also at a farm southeast of Salisbury.*

***Table 2:** Distances between barbastelle maternity roosts and the site*

Location	Distance to Landford Corner	notes
Mottisfont Bats SAC	8.8km (northeast)	
Redshoot	12km (southwest)	
Church Moor	12km (south)	
Godshill	8.2km (west)	
Franchises/Bramshaw	Multiple juveniles captured 2.6-3km southwest 2022-2025	Radio tracking not conducted but proximity of juveniles (and lactating females) strongly suggests maternity colony within 2km

There are also believed to be maternity colonies in the Ladycross area east of Brockenhurst[15] (19.5km southeast) and southeast of Ashurst (14-15km southeast)[16].

The nearest barbastelle records to Landford Corner are acoustic records from Landford Bog SSSI (a Wiltshire Wildlife Trust reserve 800m to the southeast of the site). The distribution of records shown in **Figure 4a** shows that barbastelle bats have been recorded at multiple locations surrounding the site. Survey effort around the site has not been evenly distributed due to the higher intensity levels of survey effort in certain areas. Additionally static acoustic bat detectors (which have in some cases been set out for weeks at a time) account for a significant number of the records[17] and interpretation of these data is necessary.

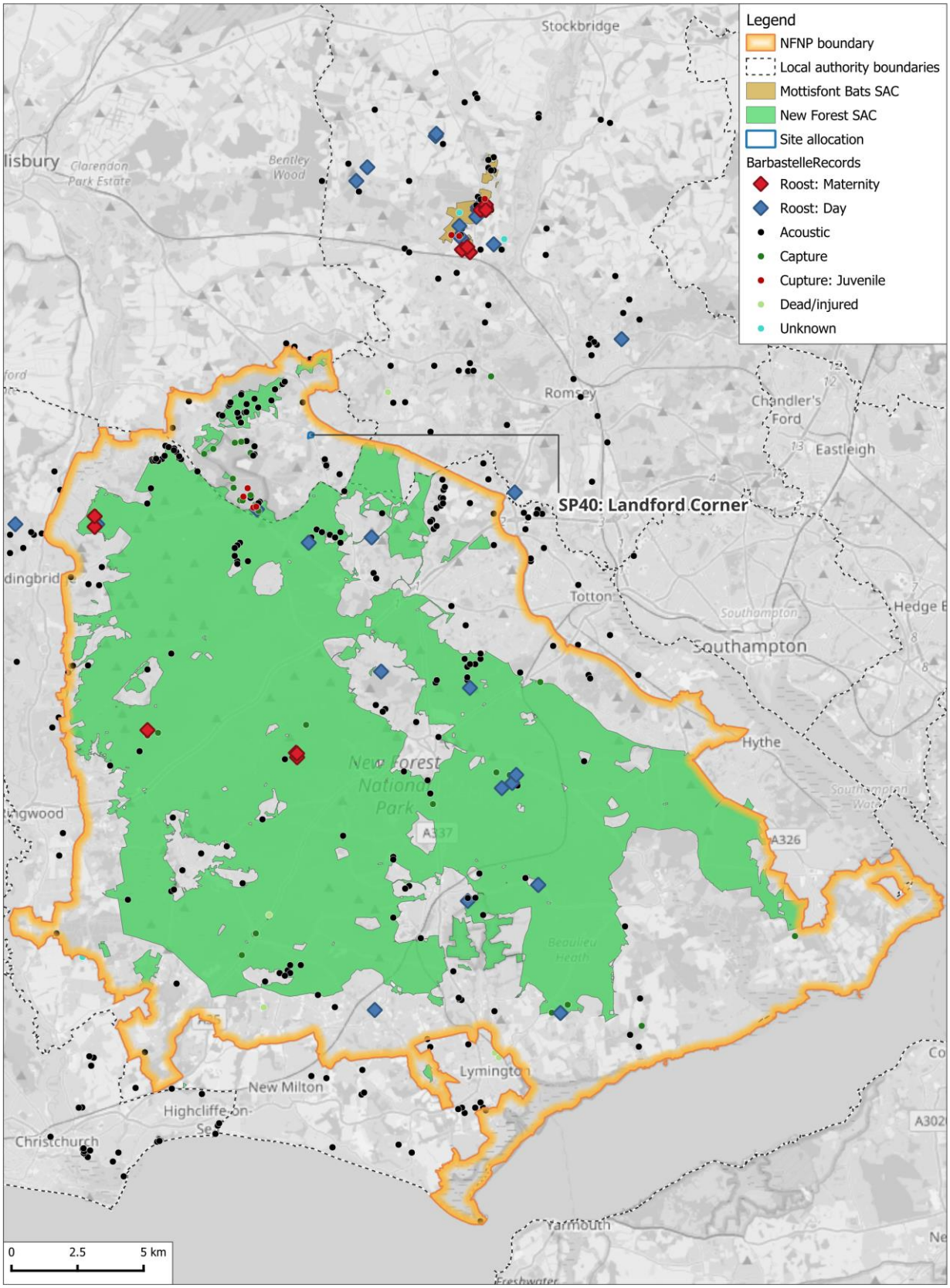
[15] *Reference made in a report to Forestry England by Frank Greenaway after he observed bats commuting from likely maternity roosts.*

[16] *The Ashurst location is the authors view taking into account acoustic records for the area and a large hitherto un-surveyed woodland with suitable habitat*

[17] *Some recorders have detailed each individual bat pass whereas others have just stated that barbastelle bats were recorded (not always stating the time period the survey covered). . A single bat may leave multiple registrations by repeated passes on a single or successive nights.*

***Figure 4a Barbastelle records** (map provided by Footprint Ecology)*

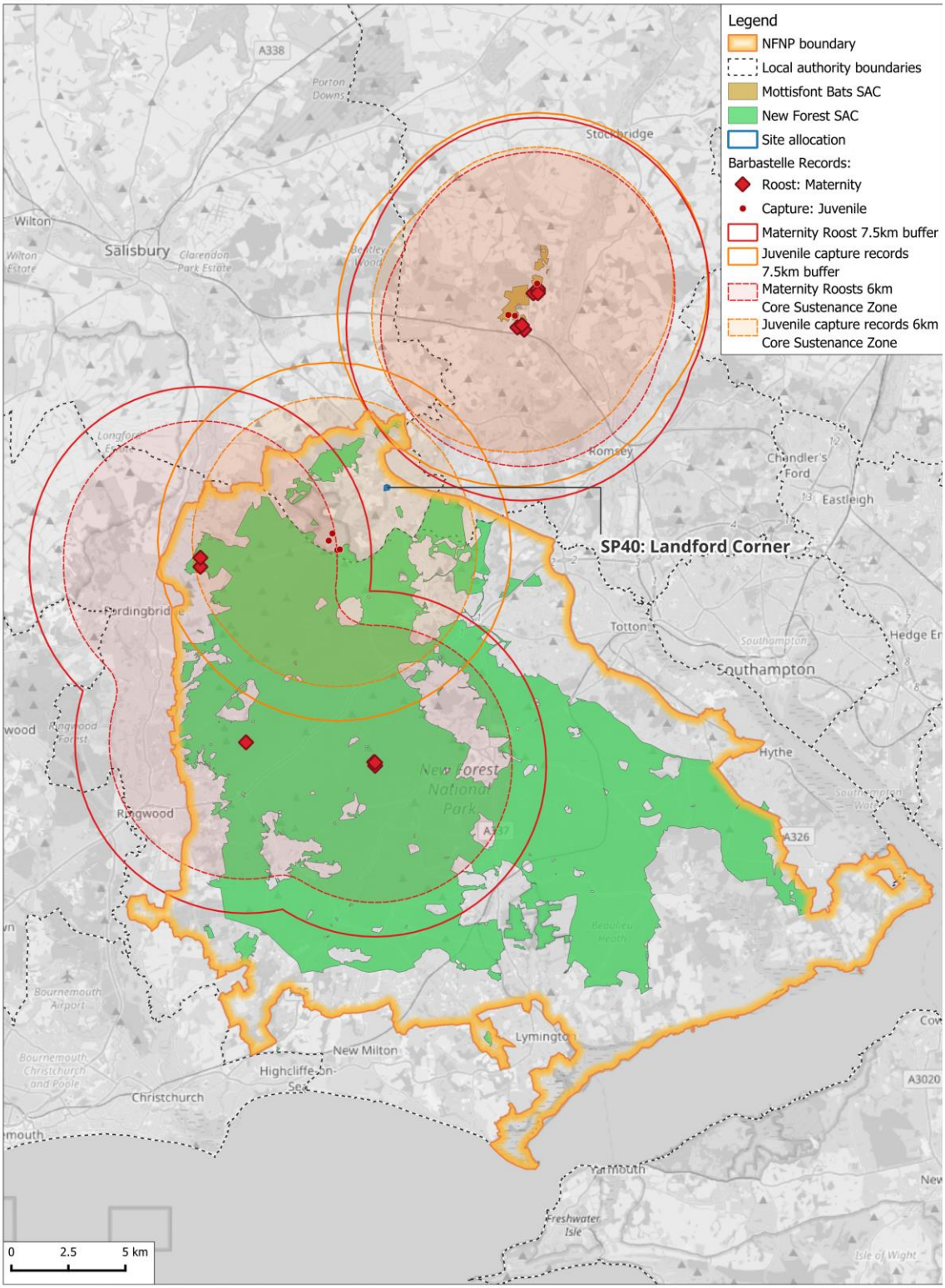
Barbastelle records in context of Mottisfont Bats SAC and the New Forest SAC



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© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2026.
Barbastelle records collated by Colleen Hope using data extracted by Hampshire Bat Group, Hampshire Biodiversity Records Centre and Wiltsshire Records Centre.

***Figure 4b Barbastelle records** (map provided by Footprint Ecology) 6km and 7.5km buffer zones are shown around the maternity roosts (and likely location of a maternity roost at Franchises)*

Maternity and juvenile capture records only of Barbastelle bats in the context of Mottisfont Bats SAC and the New Forest SAC



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Barbastelle records collated by Colleen Hope using data extracted by Hampshire Bat Group, Hampshire Biodiversity Records Centre and Wiltsshire Records Centre.

3.2 Habitats within the Site

The site ownership within the redline boundary is c 20ha. Only a small proportion of this is being considered for development through the New Forest National Park Local Plan Review.

Target notes (TN1-9) refer to features described in the text and are shown in **Figures 5a & 5b.**

The broad habitats within the site are as follows:

- TN1: Semi-natural ancient woodland (Heath Copse) extending to circa 3.25 ha.
- TN2: Semi-natural ancient woodland/meadow (Smallbrook Meadow SSSI)[18] including a riparian corridor (tributary of the River Blackwater) extending to circa 3.25ha.
- TN3: Improved grassland extending to circa 13.5ha.

Other habitat features are as follows:

- TN4: Hedgerow with trees: This tree line forms part of a trackway along part of the southern boundary. It is dominated by mature oak trees (southwest corner); this section of tree line extends to circa 358m with a smaller section east of Heath Copse (circa 60m).
- TN5: Hedgerow with trees: forming the boundary between the site and Hamptworth Road in the northeast corner; extends to circa 150m. Tree species include alder, oak and ash *Fraxinus excelsior* and sycamore *acer pseudoplatanus.*
- TN6: Hedgerow with trees: between the site and Lyndhurst Road to the east (3 x oak) This hedgerow is on a steep bank (approximately 2m above the road level); this extends to circa 118m.
- TN7: Hedgerow with trees: between Lyndhurst Road and the east side of Heath Copse; this extends to circa 110m (mainly ash).
- TN8: Circa 1345m of the field boundary is woodland edge most of which includes mature trees including oak, willow *Salix sp*. and mature hazel *Corylus avellana*. Many of these trees have potential bat roost features including split, torn limbs and flaking bark.
- TN9: There are residential properties immediately east of (and outside of) the southeast part of the site boundary. There is a small enclosed field between these properties and Heath Copse which falls within the site ownership boundary.

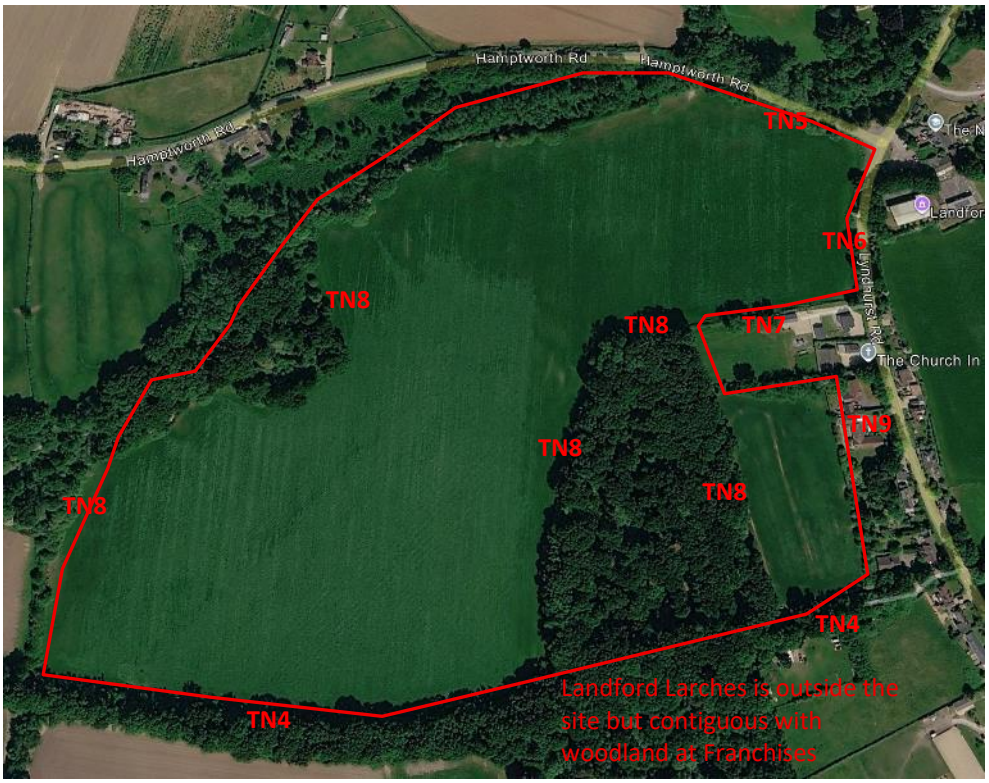
The improved grassland is of least value to bats. The woodlands (including woodland edges), riparian corridor and mature tree line are of greatest value to bats within the site.

[18] *The SSSI is classified as being in unfavourable and declining condition when last assessed by Natural England.*

Figure 5a Key features of the site (basemap taken from MAGIC) showing areas of semi-natural ancient woodland (solid green) and the New Forest SSSI (Smallbrook Meadow)



Figure 5b Key features within the site (Aerial image taken from Google Earth) with target notes referred to in the text. The location of Landford Larches (woodland to the south of Heath Copse is also shown).



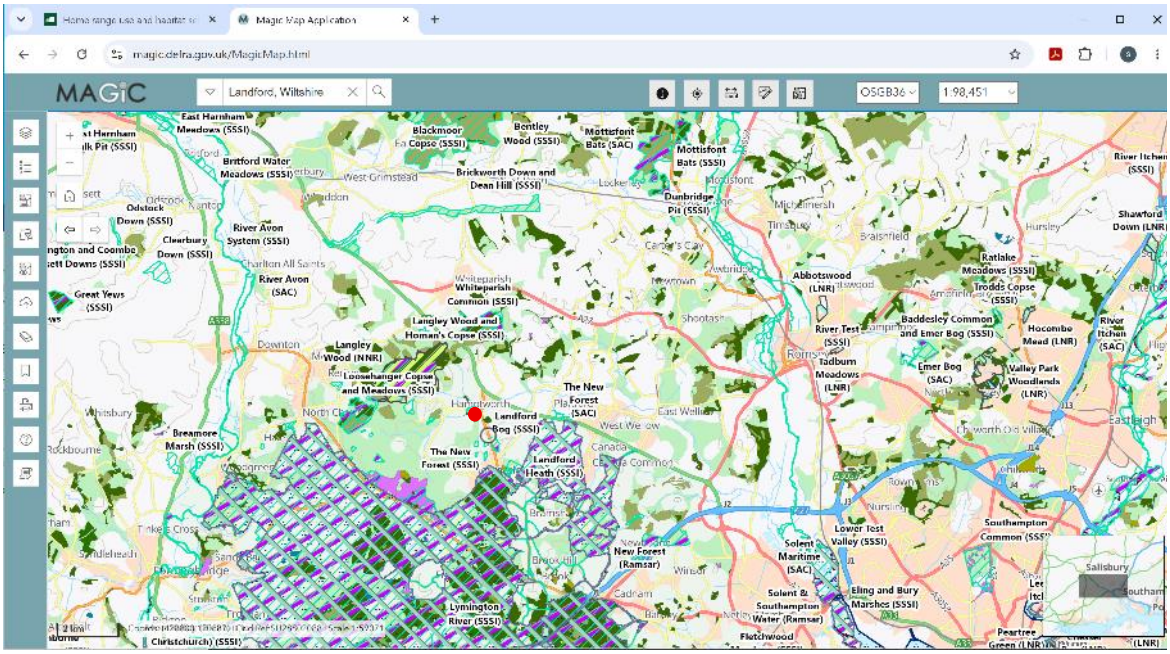
3.3 Habitats Adjacent to the Site

Figure 6 shows the relationship between Landford Corner and Mottisfont Bats SAC to the northeast, Langley Wood National Nature Reserve (NNR), SAC and associated SSSI's to the west and Designated sites (SAC, Special Protection Areas & Ramsar) in the New Forest to the south (these then extend further south). Blocks of semi-natural ancient woodland and larger watercourses are also shown.

Figure 7 shows an aerial image focussing on potential habitat linkages within 3km of the site. The most striking feature is the contiguous woodland block which leads from woodland at Franchises (where 10 juvenile barbastelle bats have been captured) through Landford Larches and then Heath Copse which is within the site. The northern end of Landford Larches was seen from the right of way. Despite the name which suggests it is conifer it can be seen from the track that the northern circa 100m is mixed deciduous woodland.[19] MAGIC maps shows Landford Larches to have pockets of deciduous woodland within the conifer plantation[20].

There are mature hedgerows and riparian corridors between Hamptworth and Langley Woods and between Landford Corner and deciduous/mixed woodland to the northeast around Sherfield English. These areas are all relatively unaffected by artificial lighting.

Figure 6 *Map to show Designated Sites and semi-natural ancient woodland between Mottisfont Bats SAC to the north and Designated Sites in the northern part of the New Forest. Langley Wood NNR and associated SSSI's are also shown. Taken from MAGIC (Natural England).*



[19] *access was not obtained to enter and inspect the woodland more thoroughly.*

[20] *A more detailed survey of the site could find that it is Plantation on Ancient Woodland (PAWS).*

There are suitable habitat linkages between Mottisfont Bats SAC and the Landford Corner site including deciduous and mixed woodland, riparian corridors and mature hedgerows. It is certainly feasible for individual barbastelle bats to include Landford Corner within their home range however it is far more likely that any barbastelle bats using the Landford Corner would originate from the colony associated with Franchises/Langley Wood.

Figure 7 *Potential movement corridors onto/through the site from surrounding woodland and riparian corridors (Image taken from Google Earth)*



3.4 Acoustic Surveys

The following bat species/genera were recorded within the site:

Greater horseshoe bat
Barbastelle bat
Common and soprano pipistrelle bat
Long-eared bats
Species in the genus *Myotis*
Serotine bat
Noctule bat

3.4.1 Barbastelle Bat

A total of 135 barbastelle passes were recorded with presence on most (23/25) nights.

During the first period 32 calls were recorded on the northern hedgerow (detector 1) and 19 on the field/Heath Copse (detector 2). During the second period 59 calls were recorded on the northeast field edge (detector 3) and 25 on the southwest tree line (detector 4). Some of these calls were very close together suggesting one or two individual bats foraging up and down a field boundary on a regular basis. The average mean emergence time for barbastelle bats is 24 minutes after sunset (Zeale et al, 2012) although they will normally remain within the cover of woodland for approximately 20 minutes. A number of barbastelle passes were within 70 minutes of sunset; the earliest being 43 minutes after sunset on 14 June and 17 June. The barbastelle recording nearest to sunrise was just 18 minutes before sunrise on 25 June[21]. Although there is no empirical data[22] for average return times to roosts 18 minutes would be very late for this species (*per obs.)* suggesting a roost is located nearby.

3.4.2 Greater Horseshoe Bat

One greater horseshoe bat call was recorded on the northern hedgerow (03.32 hrs 15/06/2026) and two further passes were recorded (02.26 on the night of 19/06/2026)[23]. Again this suggests an individual occasionally foraging on the site.

Charts to show barbastelle and greater horseshoes bat passes for each detector/location are presented in **Figures 8i-iii**.

3.4.3 Other Bat Species

Charts to show passes for common and soprano pipistrelle, greater horseshoe, long-eared and *Myotis*, serotine and noctule bat for each detector/location are presented in **Appendices 3i-viii.** The charts includes the dates and number of passes.

[21] A number of recordings were made within an hour of sunrise.
[22] Establishing mean emergence times is more reliable than re-entry times because individuals frequently return during the night/morning to a roost to feed young, possibly to mate, to rest and/or because they do not need to remain foraging any longer.
[23] The detector assigns calls post midnight to the previous day.

Table 3 overleaf shows the number of bat passes on each detector broken down into species/genera.

***Table 3** Bat passes per species/genus)*

Species (common name)	**Northern hedgerow (detector 1)** *04-16/06/2026*	**Field edge/Heath Copse (detector 2)** *04-16/06/2026*	**Field edge/Smallbrook Meadow (detector 3)** 17-28/06/2026	**Field edge/Tree line southwest (detector 4)** 17-28/06/2026	**Total**
Barbastelle	32	19	59	25	135
Greater horseshoe		1	2		3
Common pipistrelle	1101	1876	1322	4661	8960
Soprano pipistrelle	54	179	192	514	939
Long-eared bat	28	28	24	1	81
Genus *Myotis*	83	55	16	8	162
Serotine	36	18	117	110	281
Noctule	8	17	20	10	55

***Figure 8i** Chart to show barbastelle bat passes on northern hedgerow (detector 1: 04-16/06/2026)*

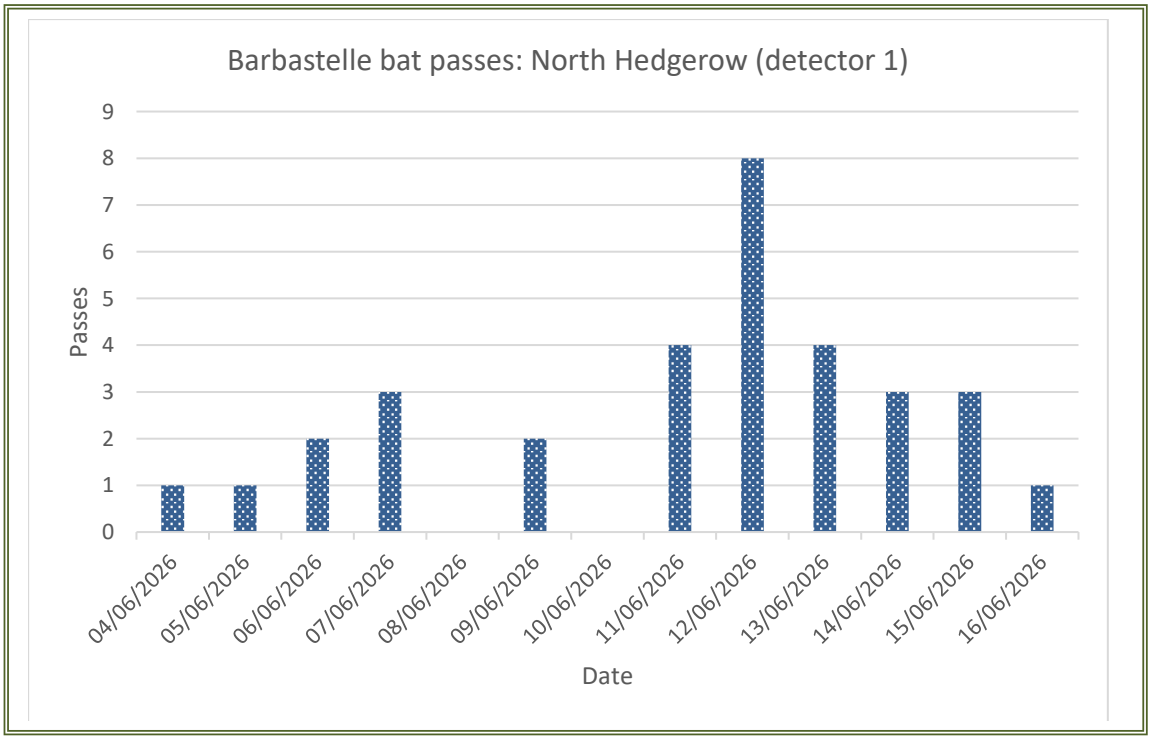


Figure 8ii *Chart to show barbastelle and greater horseshoe bat passes field/Heath Copse woodland edge (detector 2: 04-16/06/2026)*



Figure 8iii *Chart to show barbastelle and greater horseshoe bat passes northwest field edge adjacent to Smallbrook Meadow (detector 3: 17-29/06/2026)*

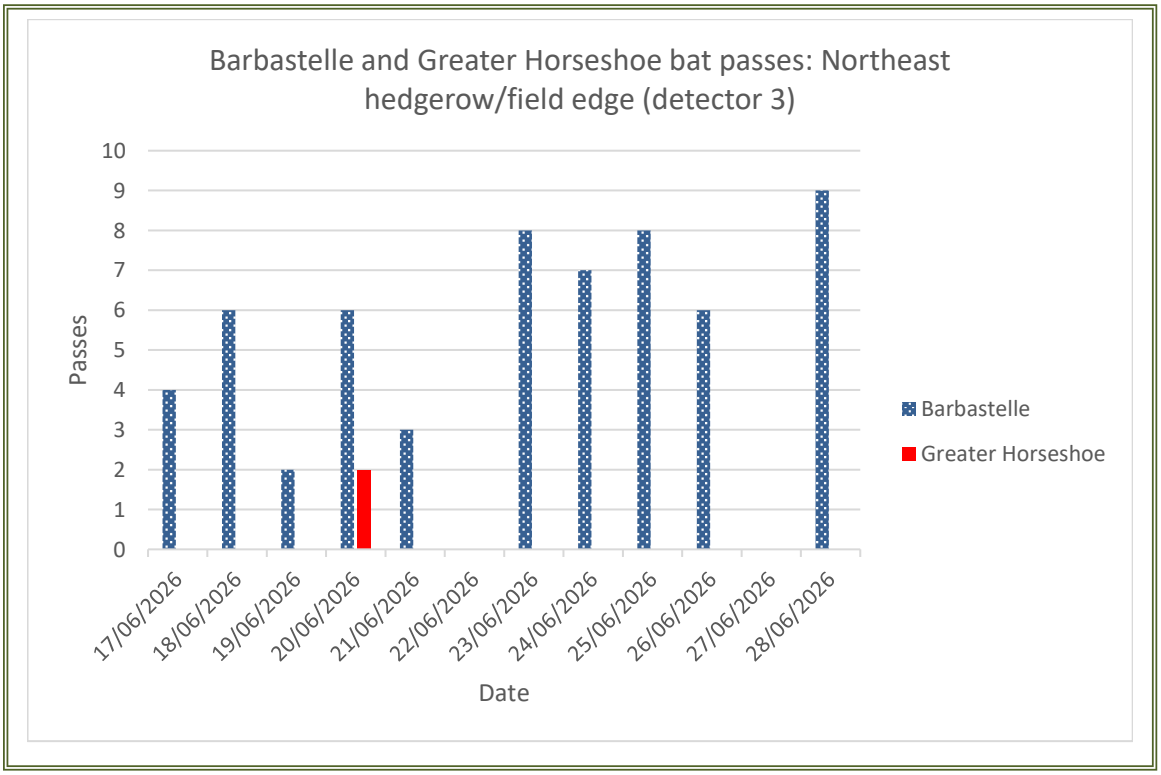
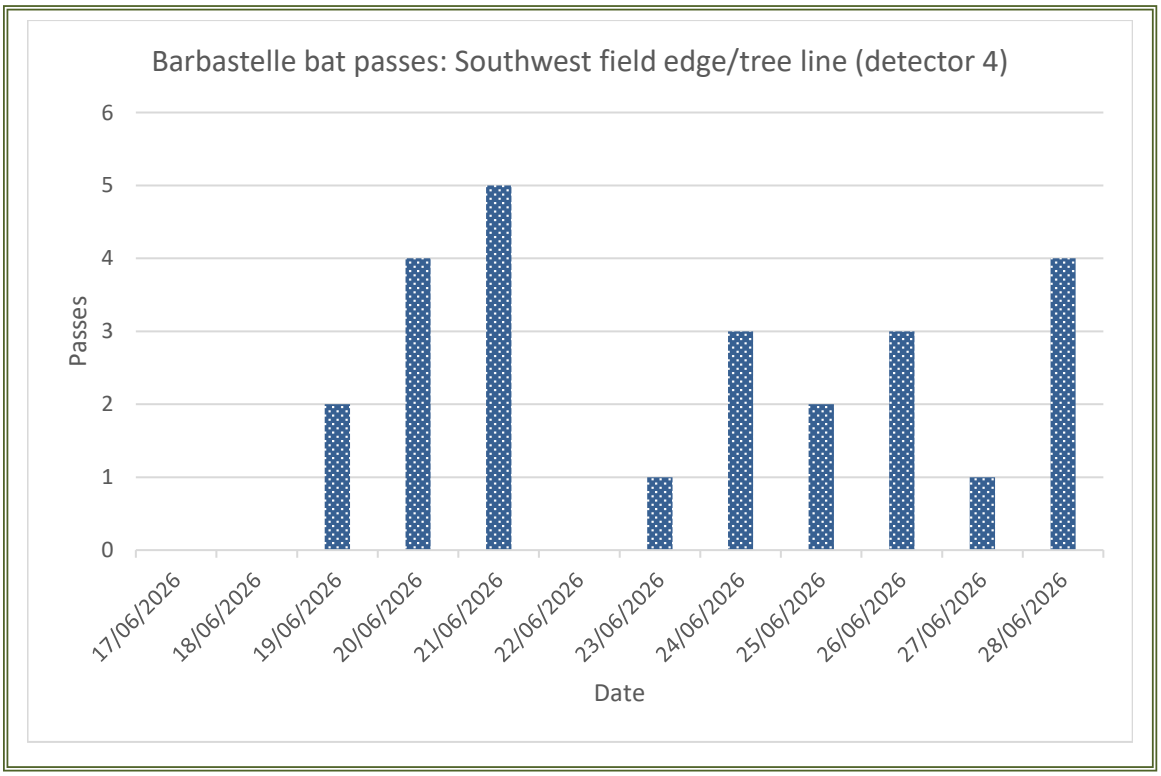


Figure 8iv *Chart to show barbastelle and greater horseshoe bat passes southwest field edge (detector 4: 17-29/06/2026)*



4.0 Barbastelle Bats: A Review of the Mottisfont Bats SAC and Bat Research in the New Forest

Review of the Mottisfont Bats SAC
Review of Mottisfont Bats SAC Protocol for Planning Officers
Barbastelle Bats in the New Forest

4.1 Mottisfont Bats SAC

The Mottisfont Bats SAC[24] was designated in 2005 in accordance with the EU Habitats & Species Directive. The SAC Designation extends to 197 ha and incorporates the key areas used by a maternity colony of barbastelle bats[25]. This includes broadleaved, ancient semi-natural and mixed woodland, hazel *Corylus avellana* coppice. The River Test SSSI runs along the eastern side of the SAC providing wetland habitats and riparian corridors into the surrounding areas. Much of the SAC (70%) is owned and managed by the National Trust with the remainder in private ownerships.

European Site Conservation Objectives for
Mottisfont Bats SAC (site code UK0030334)
Qualifying species: Barbastelle bat *Barbastella barbastellus*

To ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of the habitats of qualifying species.
- The structure and function of the habitats of qualifying species.
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

4.1.1 Ranging Behaviour of Barbastelle Bats from the Mottisfont SAC (2000-2005)

Davidson-Watts Ecology (DWE) was commissioned to undertake a study to investigate the ranging behaviour and habitat selection of barbastelle bats from the maternity colony at the Mottisfont Bats SAC between 2000 & 2005. He assessed the population to be in the region of 50-100 individuals. Fourteen female barbastelle bats were radio tracked during the period

[24] European Site Conservation Objectives for Mottisfont Bats SAC was updated in 2018 by Natural England and should be read in conjunction with any relevant Site Improvement Plans (SIPs)
[25] At the time of designation it was one of only six sites known to support breeding colonies of this species in the UK.

which spanned the seasons mid to late summer (June-August). Minimum convex polygons (MCPs) showed that the total combined home range for the tagged bats was 103.5km² with individual home ranges varying greatly from between 85-4200ha (average 982.62 +/-332.2ha). The 90% core areas provide a more representative estimation with values which still varied but were smaller (average 43.19+/-9.2ha).

Post lactating females foraged the furthest distances from the roosts. The maximum overall distances were flown in August (16.51km in 2004) with maximum distances in other months varying between 1.12-8.65km (average distance 5.201+/-1.16km). The average distance flown by foraging females during the breeding season was 5.5km. None of the bats tracked during the study flew within c 5km of Landford Corner[26]. Compositional analysis ranked water and deciduous woodland as the most used habitats with arable the least used. Seasonal variations in habitat use were also apparent.

As a result of this research the 'Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers' was produced.

4.1.2 Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers

The 'Mottisfont Bats Special Area of Conservation (SAC) Protocol for Planning Officers: Report for Natural England' was prepared by Jonathan Cox Associates (JCA) and published in June 2010. JCA used DWE's data to produce a distribution curve showing that 80% of foraging bats travelled less than 7.28km from their roost site. As a result it was recommended that a distance of 7.5km around the SAC would be used to identify projects like to have an impact upon habitats used by barbastelle from the Mottisfont Bats SAC.

JCA identified the key vulnerabilities to the Mottisfont SAC (also cited in Natural England's Site Improvement Plan for the site) as follows:

- Not all roost locations are known and some are likely to fall outside of the ownership of the NT. These are vulnerable to inappropriate management including silviculture.

- The SAC does not include all of the key foraging areas or commuting corridors used by the colony and so much of the home range is in areas that have no effective management secured.

The following detrimental impacts are also widely recognised by other researchers as potentially having a negative impact on barbastelle bats.

- Loss of foraging habitat.
- Impacts and processes resulting in a reduction in moth prey.
- Disturbance such as artificial lighting or noise/other disturbance effects in proximity to roosts, foraging areas or interfering with commuting routes.

[26] *Although tagged bats represent only a sample of the population and it cannot be assumed that other bats did not.*

- Water quality (which could indirectly affect the abundance of prey items) and management of riparian corridors (from inappropriate management/ditch management and drainage operations).
- Change of land use from grasslands which support a high biomass of moths and other invertebrates to poor quality habitats such as arable and improved pasture. Reduction of grazing pasture (in turn reducing the biomass of dung beetles and flies).
- Scrub and hedgerow clearance or inappropriate management (resulting in loss of prey and severance of commuting routes).
- Fragmentation of habitats (e.g. construction of roads).

> *"The size of development likely to have adverse effects on the SAC will vary depending on their proximity to sensitive habitats and the scale of impact they are likely to have. A small development in a sensitive location may have greater impact than a much larger one a long distance from sensitive habitats. As a general rule, any loss or damage of open water, riparian, deciduous woodland, unimproved grassland and mosaics of these habitats should not be permitted unless there is sufficient offsetting measures incorporated into the plan or project to fully mitigate such losses."* (S.3.2)

JCA states that in addition to considering the risks from development, all development within the 7.5km core consultation zone should also aim to 'create and exploit opportunities to' enhance and improve habitats and create new habitats for barbastelle bat.

JCA's advice is based largely on potential impacts within the 7.5km core consultation zone around the Mottisfont Bats SAC but also emphasises that bats range outside this area. Consequently it is still feasible that a development outside the area could in theory impact the Mottisfont Bats SAC and in some cases may be subject to the scrutiny of an Appropriate Assessment.

4.1.3 Mottisfont Bats SAC: Subsequent Monitoring (2023-2025)

The most recent radio tracking and acoustic studies were undertaken by Bat Conservation Trust (BCT) in 2025; data from this was reviewed which identified a number of maternity and day roosts all of which are in trees. Colleen Hope has found additional day and some hibernating bats roosting in barns within and adjacent to the SAC.

4.2 Barbastelle Bats in the New Forest

The New Forest Barbastelle & Bechstein's Research Project established by HBG received funding from The New Forest National Park Sustainable Development Fund for capture and radio tracking equipment in 2006. This enabled capture, radio tracking, acoustic surveys to be undertaken. All surveys and training were voluntary and led by Colleen and Dr Paul Hope. The focus of the project was on these two rare woodland species but other bats species were recorded during the key project period (2006-9). Trapping has continued on an '*ad hoc*' basis since then and bat box surveys have also been established. During the key trapping period

three barbastelle maternity colonies were identified at Reshoot, Church Moor and Godshill[27] [28](see **Table 1**).

The RSPB purchased Franchises Wood in 2018, a 405ha reserve which at its closest point is 1.3km to the southwest of Landford Corner. The National Forest Inventory (2021) described the site as consisting of woodland as 51% conifer, 39% broadleaved woodland; the remainder is acid or neutral grassland; parts of the reserve are within the New Forest SSSI. The RSPB has been undertaking acoustic and trapping surveys in the Franchises Wood reserve over the last five years with some more recent radio tracking of Bechstein's bats. Ten juvenile barbastelle bats have been captured over three different years (2022, 2023 & 2024) during the periods late July, August and early September[29]. In July juveniles would not be expected to fly far from maternity roost trees and it is highly likely that a maternity colony is located within Franchises or adjacent woodland.

There is an anecdotal record of a further barbastelle maternity colony at Ladycross east of Brockenhurst; HBG have also tracked females to this area but outside of the key maternity period. Suitable habitat exists for further colonies in the northeast and southwest of the New Forest. These areas will be priorities for future HBG surveys (although this will be resource dependent). The RSPB has received funding to radio track barbastelle bats from Franchises Wood in July/August 2026.

Based on the above considerations any barbastelle bats utilising the site at Landford Corner are more likely to be from a maternity colony associated with Franchises Wood. Although the Landford Corner site is within the potential range of bats using the Mottisfont SAC there is at least one other maternity colony within 8km (Godshill).

[27] *Bechstein's maternity colonies have also been found at Fritham, Anderwood, Exbury, Lyndhurst, Denny Wood and most recently near Ashurst.*
[28] *A fuller account of these surveys is presented in Chatters, C (2024) and Newton, A. C (2010)*
[29] *Dieck, C (2024) Radio tracking of Bechstein's bats RSPB Franchises Lodge, New Forest August 2024*

5.0 Discussion

Barbastelle Research since 2010: Revised Population Estimates
The potential relationship between adjacent barbastelle colonies

5.1 Barbastelle Research since 2010: Revised Population Estimates

Considerable research into barbastelle ecology has been undertaken since the barbastelle maternity colony was discovered at Mottisfont. The number of colonies is the UK (including those in Hampshire) is now known to be considerably greater and a considerable variance in the sizes of home ranges has been demonstrated. The study area described in this report supports contiguous barbastelle colonies where there is assumed to be overlap in home ranges, at least to some extent; this is clearly shown in **Figure 4b.** Little is understood about the relationship between adjacent colonies or how impacts on one colony can affect another. We have reviewed some of the findings from two other areas where contiguous colonies have been studied in West Sussex Weald and East Anglia.

BCT (2020) published advice on Core Sustenance Zones (CSZ) for each species of bat in the UK[30]. A CSZ is defined as *"the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost'.* BCT recommended that a Core Sustenance Zone for barbastelle be applied around maternity colonies of 6km.

5.2 The Potential Relationship between Colonies

O'Malley et al (2023) found that typical roost counts ranged from 14-52 bats with an average of circa 30.6 bats per colony and this aligns with Zeale's estimates (2024). The number of females in spring roosts are also smaller before collecting in larger 'maternity' or 'nursery' roost sites to give birth. Barbastelle maternity colonies (as well as some many other bat species) fragment into smaller roosting groups or 'satellite roosts' making individual colony counts and subsequent population estimates within areas difficult (including any post-development impact monitoring). O'Malley et al also cite that this problem is compounded by frequent roost switching behaviour even of larger groups.

Distinguishing between different colonies requires radio tracking or mark and recapture which is costly and invasive. Where colonies are adjacent to each other it may not always be clear which colony an individual or sub-group belongs to. This applies to the relationship between Godshill and Franchises which is unclear and could be one colony over a large home

[30] *BCT (2020) Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London https://www.bats.org.uk/resources/guidance-for-professionals/bat-species-core-sustenance-zones-and-habitats-for-biodiversity-net-gain*

range. ECS have recorded barbastelle roost trees supporting 40 and 20 individuals respectively 4km apart between the months of July and early September in south east Hampshire (2025)[31].

Heavily pregnant females and young juveniles tend to forage close to maternity roosts and so the quality of foraging habitat and any features relied upon for commuting in proximity to these roosts must be a considerable limiting factor in terms of where maternity colonies are located and the number of bats that habitat can sustain. As bats disperse more widely individuals appear to adopt routes and foraging sites to which they remain faithful; females may then range further so as to avoid competition with juveniles.

It makes sense therefore that colonies must be reasonably widely dispersed so as to avoid intra-specific competition particularly within the most intensively used areas around maternity roosts. Bats are long-lived; breeding success in any one year is reliant on local climatic conditions which influence invertebrate biomass; spring weather may also influence the development of young and hence birth dates. Inevitably then the distance bats must travel to sustain their needs may vary between years and this must result in range overlap.

5.2.1 Studies Considering the Relationship between Adjacent Colonies: Sussex Weald

One of the first barbastelle colonies to be discovered and studied in the UK was at Ebernoe Common in the Sussex Weald.[32] A (final) report compiled by Whitby et al (2015) identified a number of other colonies around Ebernoe which have subsequently been found[33]. ECS have discussed subsequent findings with the author which suggest that there may be high levels of movement between roosts used by smaller groups of bats (*pers comm*).

In his report Whitby also stated

"that the discovery of new colonies demonstrates that there is suitable habitat beyond the previously known colony ranges for Ebernoe and The Mens which are likely to be used barbastelle bats from these colonies."

and

"Barbastelle bats will fly within open habitats once it is dark and they are not as reliant on connectivity features to move throughout the wider landscape or for navigation, such as when they forage in open floodplain habitats. However, good sheltered connectivity features close to a maternity colony enable bats to disperse from the sheltered woodland sooner after they emerge from the roost, rather than wait for lower light levels in which they are more vulnerable, and forage in favoured foraging areas sooner increasing foraging success."

[31] *Pers obs.*
[32] *Greenaway, F. (2001) The barbastelle in Britain. British Wildlife, 12: 327-334.*
[33] *"It is the author's understanding that this is the first time this has been recorded and provides some interesting opportunities to look at the species colony structure and colony mapping. This also shows that colonies may be utilising a greater proportion of the suitable habitats within this area than previously thought."*

5.2.2 Studies Considering the Relationship between Adjacent Colonies: East Anglia Norfolk

The Norfolk Barbastelle Study Group (NBSG)[34] was established in 2007 and has since identified 15 maternity colonies through radio tracking and roost emergence counts. Additional colonies in this area have been found during consultancy work. They now report the total number of colonies to be 24 over a span of 40km. The region is largely arable with pockets of woodland and an extensive coastal fringe. Barbastelle bats forage over a range of habitats but particularly exploit coastal marshes.

Maternity roosts are in trees with the exception of Paston Great Barn (SAC). All maternity colonies are in woodland, most of which are high canopy with mature trees. The majority are non-intervention or have a minimal woodland management; oak is a consisting dominant feature of all woodlands. Most colonies are between 4-6km apart and as with other studies roost switching is frequent. As with other studies, maternity colonies start to form in small groups in late May and then coalescing into larger groups in late June with pups born early July. However, in these studies home ranges were significantly smaller than most previously recorded with maximum distance travelled from roost woodland averaging 3.5km and no bats travelling more than 5.5km. It was accepted that these distances applied to females and that the distances travelled by males may be greater. Radio-tracking studies revealed an overlap between some adjacent maternity colonies.

[34] *Harris, J in British Island Bats, Volume 1. A review of the barbastelle Barbastella barbastellus in Norfolk, based on the work of the Norfolk Barbastelle Study Group (accessed from the internet June 2026). A more recent update is also available on the internet but currently understood to be subject to an embargo*

6.0 Assessment of Impacts

Potential Value of Landford Corner for Barbastelle Bats
Avoidance of Negative Impacts
Opportunities for Site Enhancements

6.1 Potential Value of the Site at Landford Corner for Barbastelle Bats

The habitats within the site support foraging and potentially commuting barbastelle bats. These areas of greatest value are likely to be the woodlands and riparian corridor. The field edges also offer sheltered foraging areas where moths and other invertebrates may be found. The value of the site should be considered throughout the year including inclement weather; bats may also forage on mild winter nights.

The mature trees within the woodlands and tree lines offer suitable potential roost sites. The location of the maternity roost trees used by lactating adult and juvenile bats at or near Franchises Wood reserve has not yet been established. Heath Copse and Middle Copse are small woodlands (although Heath Copse is contiguous with woodland to the south). It would be unlikely that the two woodland blocks within the site support maternity roosts but they could support roost trees used by barbastelle and/or Bechstein's bats at other times of the year.

Notwithstanding the above the site ownership extends to 20ha with a proposed development footprint of 1ha. This is likely to be in the northeast of the site close to existing roads. The majority of the site is improved grassland which has low/negligible value for bats. It is therefore feasible that through good design a small development could occur. However this species avoids artificial lighting (as are horseshoe bats and species in the genera *Myotis and Plecotus*). The design of any development must ensure that there is no light spill into the buffer areas around the hedgerows/tree lines and field edges. Additional site enhancement measures should be included.

6.1 Avoidance of Negative Impacts

Impacts can be direct or indirect; cumulative impacts (in combination with other developments) must also be considered. Impacts can occur pre, during and post development. The Habitats Regulations gives a higher level of legal protection than domestic protections, such as SSSIs. The potential impacts of a development plan or project must be assessed prior to its approval (Habitats Assessment or HRA). The Conservation of Habitats and Species Regulations 2017 (as amended) states that *"The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site"*[35]

[35] *Unless there are Imperative Reasons of Overriding Public Interest (IROPI) in which case compensation would be required*

Potential impacts of a development at Landford Corner (in the absence of mitigation or careful site design/location) could extend to the following:

- Damage to/destruction of a roost site (if a roost is present in tree which is felled).
- Disturbance to bats in a roost site (as a result of noise, vibration or artificial illumination).
- Disturbance to bats in a roost during the operational phase (after development) from recreational pressures on the woodlands within/adjacent to the site.
- Predation on bats from cats.
- Degradation of habitats used by bats (e.g. from recreational use of the woodland areas resulting in a suppression of ground flora, understorey, unauthorised fire sites etc).
- Felling of trees considered to be a future safety hazard where public access is extended to previously inaccessible sites.
- Loss of foraging areas through management which reduces invertebrate biomass (particularly moths).
- Loss of foraging areas from artificial lighting (including ambient lighting and lighting added post development e.g. in gardens which may abut bat foraging or commuting areas).
- Artificial lighting which may attract moths away from foraging areas to lit areas which bats avoid.
- Severance of or interference to commuting routes (e.g. severance of hedgerows and lighting which may deter bats).
- Impacts which result in pollution or siltation of the water course.

Mitigation measures which are specifically required to avoid or reduce harmful effects on a European site should not be taken into account when establishing whether a plan or project will result in likely significant effects. However if a development can be sited and designed to avoid impacts then there are opportunities to enhance the site for bats.

6.2 Opportunities for Site Enhancements

The following measures should be incorporated into site design; details should be informed by further bat surveys:

- New hedgerow planting in and around the site. An option for linking Heath Copse and Middle Copse was discussed at the site meeting. Planting should be of native species which are local to the area and provide both structure and a variety of food sources to encourage moths and other invertebrate prey species. Double row planting will be more robust and some standard trees should also be included.

- A (low/no intervention) management plan for Heath Copse and Middle Copse should be considered. This should be based on the results of further bat surveys and aimed specifically at benefiting barbastelle and Bechstein's bats.

- Other opportunities for roost creation should be explored. This could include a built structure suitable for greater horseshoe and barbastelle bats. Bat boxes may be considered. Bat roosts for a range of species should be integrated into new houses.

- Provision of a pond or series of ponds.

- Creation of wildflower meadow/s and scrub edges. Some of these can be incorporated in buffer strips and hedgerows and woodland edges.

7.0 Recommendations

Compliance with Legislation & Policy
Site Design to Avoid Negative Impacts (all bat species)
Survey Protocol to Inform Details of Site Design
Monitoring and Maintenance

7.1 Compliance with Legislation & Policy

The EU Habitats Directive (Council Directive 92/43/EEC) is transposed under UK law primarily through the Conservation of Habitats and Species Regulations 2017 (as amended, EU Exit 2019)[36]. This requires that measures are taken to maintain or restore particular habitats and species at FCS. These objectives are delivered through a network of 'Protected Sites' (also referred to as European Sites) such as SAC's. Regulation 61 of the Habitats Regulations restricts the granting of planning permission for development which is likely to have a 'significant effect' on a European Site. The effects of a proposal should be considered either individually or in combination with other projects as to whether effects are likely to be significant in terms of the conservation objectives for which the site was classified[37].

Bats and bat roost sites are afforded distinct legal protection under the Conservation of Habitats and Species Regulations and Wildlife and Countryside Act 1981 (as amended) (the W&CA). Bat roosts are also legally protected from damage or destruction, obstruction of access to a roost and bats are protected from killing, injury and disturbance.

Bats are not a qualifying species on any of the Designated sites in the New Forest National Park. However, all National Park Authorities have a statutory duty to conserve and enhance biodiversity[38]. The NFNPA have policies in place through various documents including nature recovery objectives stated in the National Park Partnership Plan 2022-2027, New Forest National Park Local Plan, New Forest National Park Authority Business Plan 2024-2027 and Hampshire & Wiltshire Nature Recovery Strategies[39].

7.2 Site Design to Avoid Negative Impacts (on all bat species)

Any development at Landford Corner should avoid potential impacts on all bat species. Particular focus should be on potential impacts on barbastelle and Bechstein's bats as Landford Corner is within the respective ZoI of both species[40].

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[36] *(the England and Wales Habitats Regulations)*
[37] *OPDM Circular 06/2005*
[38] *The New Forest National Park was designated in 2005. The Authority's work is guided by the statutory National Park purposes as originally set out in the National Parks & Access to the Countryside Act 1949, namely:*
• To conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and
• To promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public.
[39] *New Forest National Park Authority Biodiversity Duty Reporting February 2026. Accessed from the internet 10/06/2026*
[40] *BCT cite a 6km CSZ for barbastelle bat and 3km for Bechstein's (although Bechstein's bat roosts are all normally within a colony range span of 1.5-2km).*

The RSPB radio tracked an adult female Bechstein's bat to a foraging site 1.24km southwest of the Landford Corner in August 2024. Six maternity roost trees were found; the closest to the Landford Corner being 1.72km to the southwest (max count 27 individuals)[41]. Hampshire Bat Group have recorded 6 maternity colonies of Bechstein's bat in the New Forest National Park; the closest to the Landford Corner is south of Franchises at Fritham. Greater horseshoe bats are a rare species. Prior to the recording on site, the closest records were Franchises Wood and a garden at the edge of Langley Wood (*pers comm)*.

Although individuals from both barbastelle and Bechstein's maternity colonies at Franchises are likely to forage within or commute through Landford Corner the areas of improved pasture areas are likely to be avoided.

Roosts could be present in trees within the site including those in Heath Copse which is directly south of the proposed development area. Avoidance measures for barbastelle (such as roost protection, retention of foraging and commuting areas and avoidance of artificial lighting) are likely to take account of Bechstein's and greater horseshoe bats.

The site ownership extends to circa 20ha with a suggested development footprint of circa 1ha. If the following measures are taken it is considered unlikely that a proposed development would have an adverse effect on barbastelle bats (including those associated with the Mottisfont Bats SAC).

The following avoidance/mitigation measures should guide the location and design of any development within the site:

- Development must remain within areas of improved grassland which have negligible value for bats.
- A buffer must be retained with no development within 20m of Heath Copse. This measurement should be taken from the outer margins of the tree canopy[42] which extends into the field.
- A similar buffer must be retained with no development within 20m of the woodland edge around the riparian corridor/Smallbrook Meadow and Middle Copse.
- A buffer must be retained of 10-20m of the northeast hedgerow.
- There should be no public access to Heath Copse, the riparian corridor/Smallbrook Meadow and Middle Copse. These areas may require fencing to ensure that unauthorised access is also deterred.
- Site design must incorporate measures to ensure that there is no pollution to (including siltation and nutrient enrichment of) the water courses including ground water which may indirectly impact the river Blackwater and its tributaries.
- Artificial lighting should be minimised within the site and planting/lighting design should minimise lighting and light spill. There must be no light spill into the buffer zones. Particular care must be taken in designing and shielding lighting associated

[41] *The number of bats counted emerging from the other five trees was 6, 46, 49 and 69).*

[42] *(This may be wider than the standing advice on ancient woodland.)*

with the site entrance and impact of car headlights. Best practice guidance should be adhered to (this may also require predictive light modelling)[43].

- A clear lighting plan must be included in any site application. This should include innovative solutions to resolve any potential issues which may arise when avoiding light spill around the buffer zones and boundary features. Early stage discussions should be held with the relevant Authorities when considering legislation and guidance on lighting access roads shared with public paths as well as the site entrance opposite the school and bus stop.
- The location and design of the site access should be in the least impactful area (i.e. in the eastern hedgerow) with mitigation (planting) to increase the value of this hedgerow and site boundary. Mature trees should be retained where possible.
- Any development constraints required to avoid impacts on bats should be clearly stated through the relevant criteria wording. Compliance monitoring may also be required.

Planting such as native trees/shrubs within buffer areas could enhance the foraging value of the site and protect microclimates within the woodland areas. It may also be used to dissuade unauthorised access into these areas.

7.3 Survey Protocol to Inform Detail of Site Design

The assessment made in this report is limited to considering a potential proposed site at the final Local Plan-making stage. Any future development would still require a full planning application with detailed survey information and would itself be subject to a Habitats Regulations Assessment/Appropriate Assessment. Consequently any development proposal at the at Landford Corner must be informed by a robust survey protocol and incorporate the following:

- An updated data search from both Hampshire and Wiltshire sources (all bat species)
- A review of the findings of radio tracking studies undertaken by the RSPB in Franchises Wood (estimated July/August 2026).
- A detailed assessment of trees within and adjacent to the site for potential bat roost features.
- A detailed assessment of trees within Heath Copse for potential bat roost features.
- Acoustic surveys of the site in accordance with best practice (BCT, 2023 or the most recent update). These should extend into April and October and also include some winter monitoring.
- Seasonal capture surveys within Heath Copse and potentially woodland/riparian corridors in the northwest of the site[44].

7.4 Site Enhancement Measures

Site enhancement measures cited in **Section 6.2** of this report should be incorporated.

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[43] *BCT/Institute of Lighting Professionals (2023) Bats and Artificial Lighting at Night*

[44] *Particularly aimed at identifying use of the site by Bechstein's bat*

7.5 Monitoring & Maintenance

A Construction Environment Management Plan (CEMP) should incorporate all of the recommendations made in this report. Additional measures may be included subsequent to more detailed pre-application bat surveys. Actions should be clear, time lined and measurable. Compliance monitoring should also be applied.

Post development monitoring should be robust and designed to clearly show the results of any impacts (including enhancements). It is likely that any post development monitoring will need to be continued for at least 10 years post development. Maintenance costs for mitigation and site enhancement features should be secured from the developer.

8.0 Conclusions

Barbastelle and greater horseshoe bats have been recorded at Landford Corner. There are good habitat linkages between Landford Corner and woodland at the RSPB's Franchises Wood Nature Reserve. The RSPB have captured a number of juvenile barbastelle bats in recent years and a maternity colony is likely to be within or in close proximity to the reserve.

The Mottisfont Bats SAC is 8.8km from Landford Corner. Barbastelle bats have a large home range and can fly 20km from roost sites and so Landford Corner is within the range of bats from Mottisfont. The relationship between adjacent barbastelle colonies is poorly understood. However, given the proximity of a maternity colony at or near Franchises it is more likely that barbastelle bats foraging or potentially roosting within the site at Landford Corner are from a colony within the New Forest.

Landford Corner is also within the ZoI of a Bechstein's maternity colony (at the reserve at Franchises) and one pass was recorded of greater horseshoe bat within Landford Corner in June 2026.

Any development at Landford Corner must be contained within areas of improved grassland. Buffer areas without development or lighting (including ambient lighting or light spill) must be maintained around the edges of the site to protect bat foraging areas, commuting routes and potential roost sites. These constraints will influence the size, design and location of any development. Any future application for development at the site must be submitted with results of a robust survey regime, appropriate mitigation, site enhancement measures and monitoring protocol. Given the large size of the site ownership and contained area of proposed development there are opportunities to create significant site enhancements.

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***Appendix 2** Surveyor qualifications and experience*

Colleen Hope (nee Mainstone), Chartered Ecologist, MCIEEM, BSc, PGCE
Director, Ecological Consultancy Services Ltd.

Colleen Hope is joint Director of Ecological Consultancy Services Ltd (ECS), an ecological consultancy which she established in 2008. Prior to this Colleen was employed in a senior role at a consultancy based in Winchester for six years. Colleen is a Chartered Ecologist and full member of CIEEM.

ECS employs two permanent staff who undertake surveys for a wide range of protected species including reptiles, great crested newts, dormice, otters, water voles, bats and barn owls. ECS specialises in surveying and assessing sites for bats.

ECS has a wide client base including local authorities, the Environment Agency, MOD, Forestry England (formerly the Forestry Commission), National Trust, Woodland Trust, , South Downs & New Forest National Park Authorities, local planning authorities and large, small and medium sized planning consultancies. ECS also provides specialist bat survey services to other ecological consultancies mainly with regard to Environmental Impact Assessments (EIA). Colleen has successfully obtained over 180 DEFRA/Natural England EPS (bat) development licences for a range of sites including modern and historic buildings, barns, trees, large scale new town developments, wind farms and road schemes.

Over the last 25 years Colleen has managed a number of county and borough wide bat surveys including a capture, ringing and radio tracking study into the distribution of Bechstein's and barbastelle bats in the New Forest, Hampshire. Bat survey work has taken her overseas to India, Burma (Myanmar) and Vietnam. She was formerly a trustee of Bat Conservation Trust (BCT) and trainer for Hampshire Bat Group (HBG).

Colleen holds a Natural England bat survey licence to Levels CL19 & CL20. She has attained Level A3 (highest level) of Natural England's Earned Recognition WML-CL47 (Annexes A, B, C, D H1 & H2) registration reference BER0201 and is also a Registered Ecological Consultant (REC) ref RC049 under Natural England's Low Impact Licence (CL21). Colleen also holds Natural England licences to survey/disturb barn owl, great crested newt, dormouse. She has held licences to disturb sand lizard and smooth snake and Natural Resources Wales (NRW) licences to survey/disturb bats and dormouse and as a Natural England licenced trainer.

Dr Paul Hope, BSc (Hons), MCIEEM
Director, Ecological Consultancy Services Ltd.

Paul is also joint Director of ECS and based in Romsey, Hampshire. He undertakes site appraisals for a range of species including reptiles, badgers, water voles, dormice and species and specialises in surveying for bats.

Paul has held Natural England bat survey licences for over 25 years and undertaken a range of surveys for both bats and reptiles. He was also a licenced trainer for Natural England

(Conservation licences) and also trains consultants for bat survey licences (to levels CL19 & CL20). He also holds a licence to survey/disturb great crested newts.

Paul obtained a PhD through the University of Bristol where he studied the hibernation ecology of British bats. He has extensive experience in the collection and analysis of field data using of a range of monitoring devices including bat detectors (Real time, time expansion, frequency division and heterodyne), infrared motion sensors and radio telemetry equipment for receiving and data logging.

During the process of surveying for environmental impact assessments both Colleen & Paul have undertaken radio tracking and ringing studies of a number of bat species including barbastelle, Bechstein's and greater horseshoe bats. They each have over 1300 hours radio tracking experience radio tracking a range of bat species in relation to impact assessments for development and providing information for bat conservation.

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Appendix 2 *Site photographs*



Plate 1: View across the site from the northeast corner looking southwest. Heath Copse is at left.



Plate 2: View of the northeast corner where any proposed development is likely to be situated



Plate 3: Northeast boundary hedgerow/tree line with Hamptworth Road just visible through the field gate



Plate 4: Eastern hedgerow



Plate 5: Eastern boundary taken from the Lyndhurst Road



Plate 6: Field edge between Smallbrook Meadow and the site. This interface between treelines, scrub and grassland offers sheltered foraging opportunities



Plate 7: Small field between Heath Copse and residential properties to the east. This is within the site ownership boundary



Plate 8: View along public right of way which runs outside but along much of the southern boundary of the site. This is lined with mature oak trees many of which have potential bat roost sites



Plate 9: Southern field boundary and mature oak trees



Plate 10: Mature oak trees with potential bat roost sites in Heath Copse (photo taken of woodland edge from within the site)



Plate 11: Field edge between Heath Copse and site



Plate 12: Heath Copse



Plate 13: Bat detector located on field/woodland edge north of Heath Copse



Plate 14: View inside Heath Copse



Plate 15: Example of potential bat roost feature in tree (Heath Copse)



Plate 16: Trackway between Heath Copse (at right) and Landford Larches (at left)



Plate 17: View of northern end of Landford Larches (taken from right of way between Landford Larches and Heath Copse)



Plate 18: View of Landford Larches showing track along eastern edge (photo taken from public right of way)



Plate 19: Smallbrook Meadow (alder carr forms riparian corridor in northwest of site)

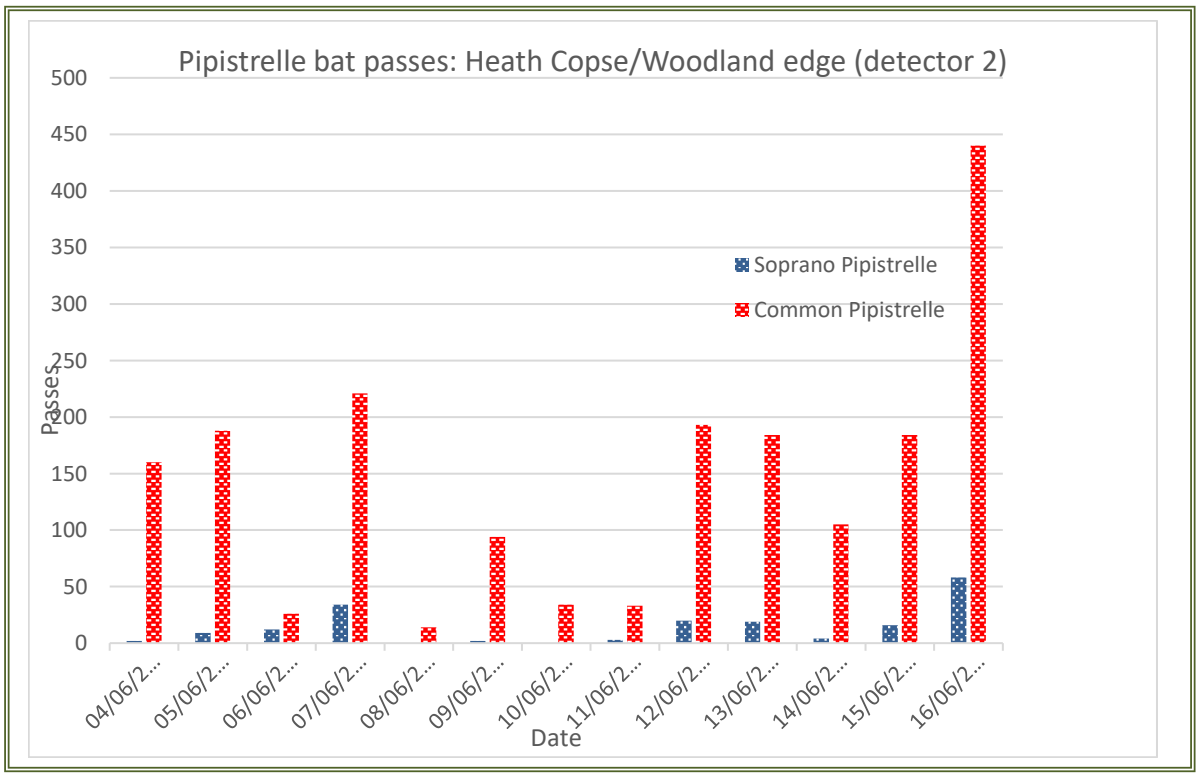


Plate 20: Smallbrook Meadow

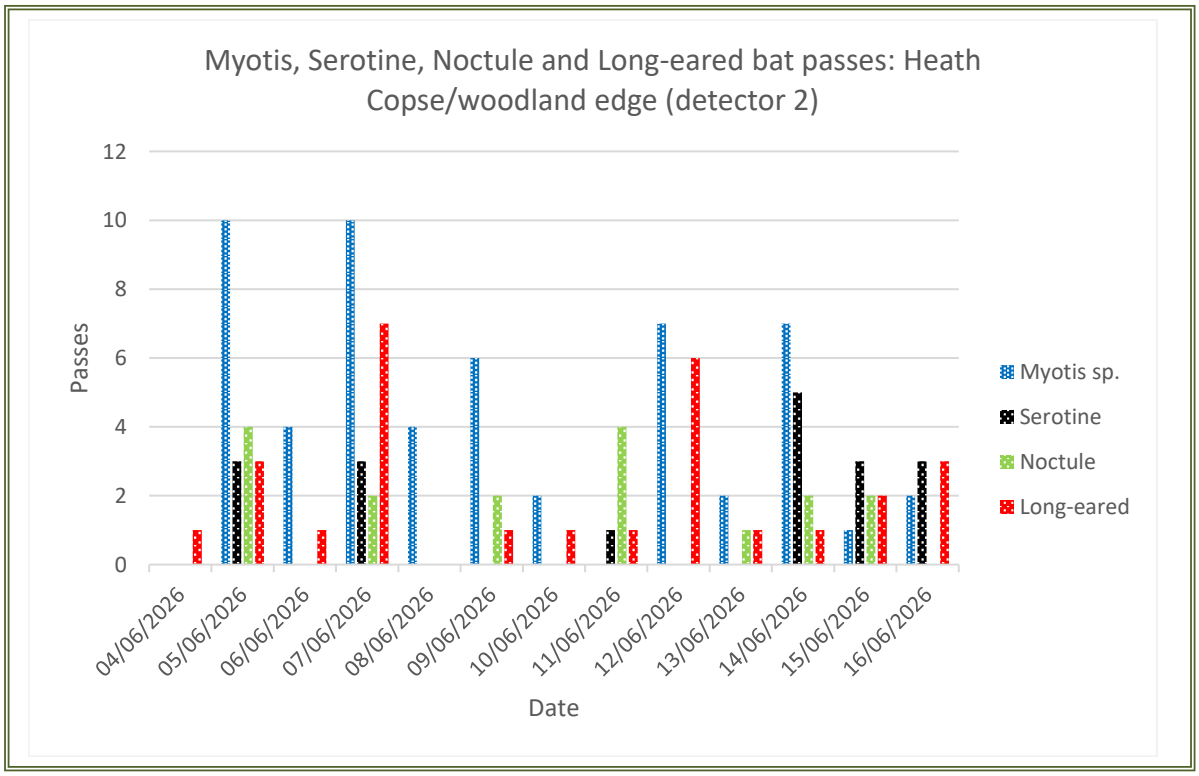


Plate 21: Field edge between Smallbrook meadow and the site

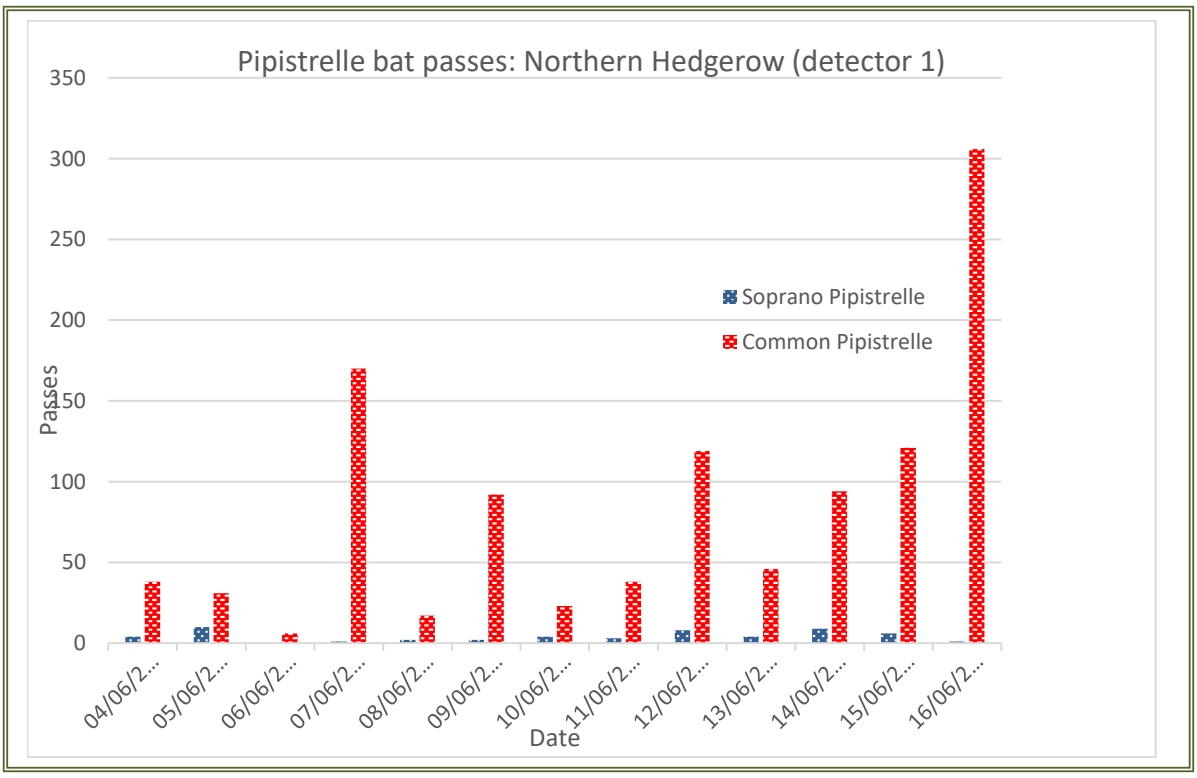
Appendix 3i *Heath Copse/Field Edge: Chart to show pipistrelle bat passes (detector 2: 04-16/06/2026)*



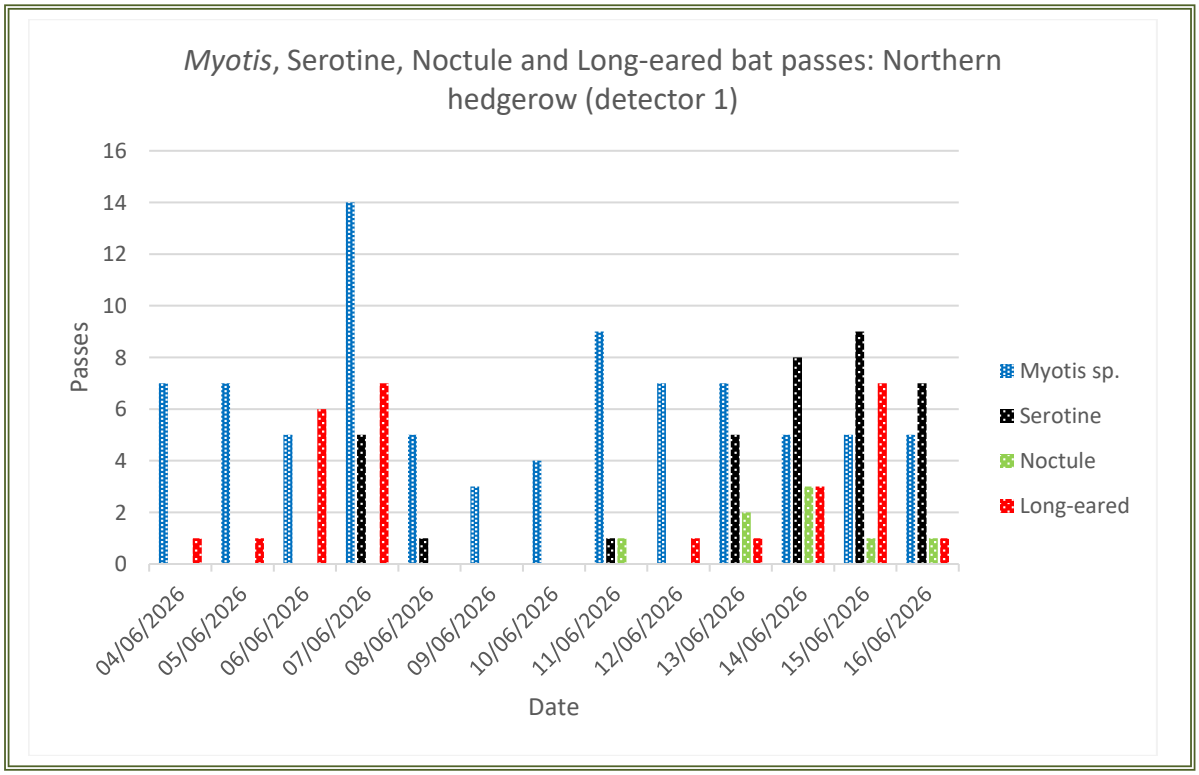
Appendix 3ii *Heath Copse/Field Edge: Chart to show Myotis, serotine, noctule, and long-eared bat passes (detector 2: 04-16/06/2026)*



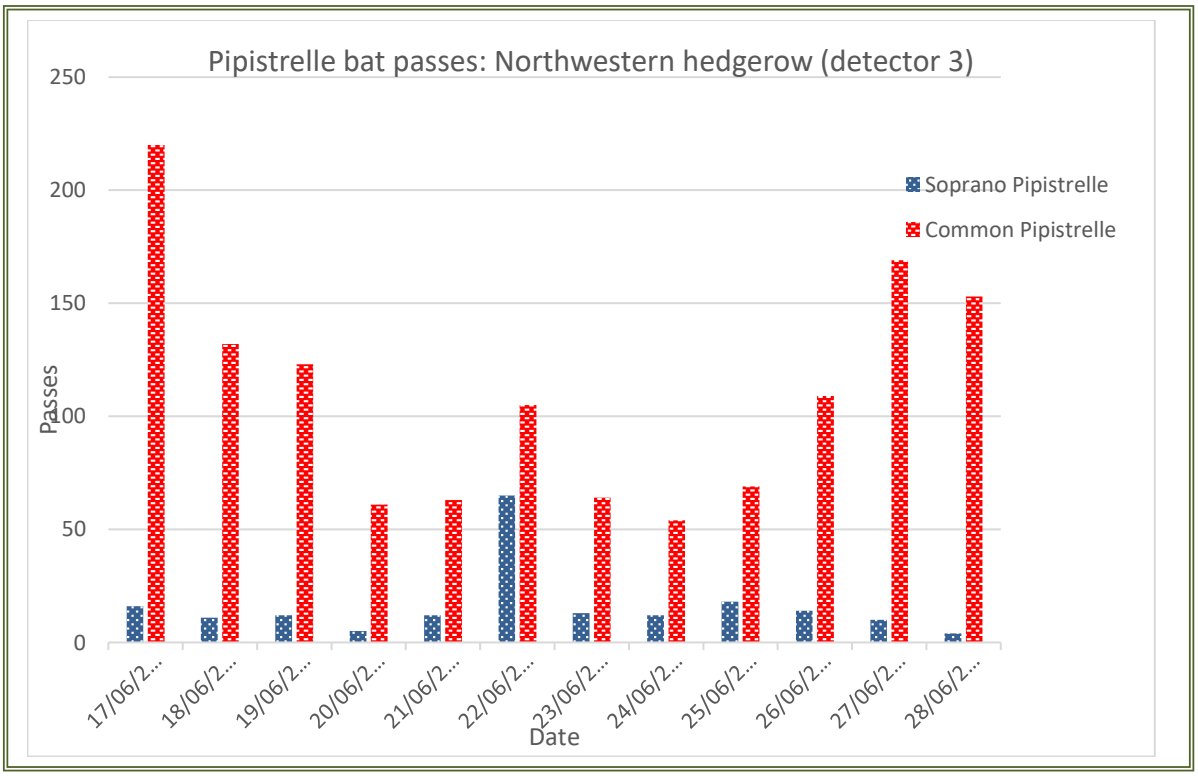
Appendix 3iii *Northern Hedgerow: Chart to show pipistrelle bat passes (detector 1: 04-16/06/2026)*



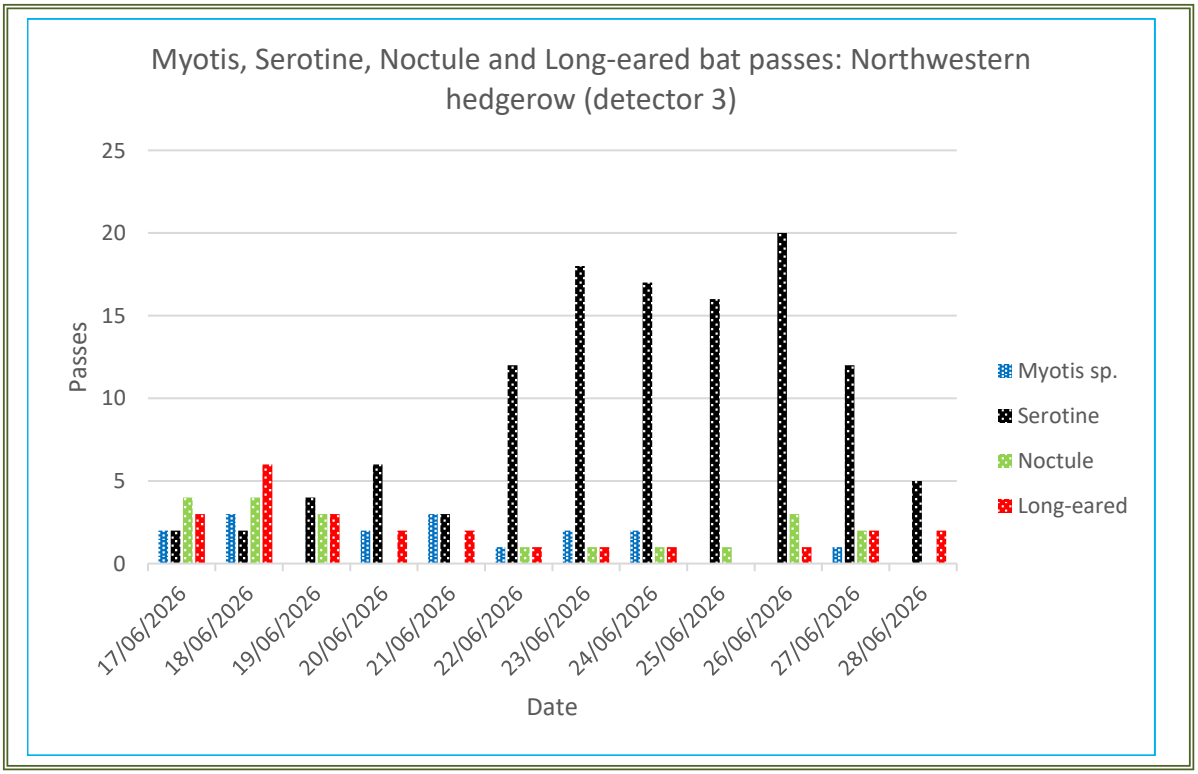
Appendix 3iv *Northern Hedgerow: Chart to show Myotis, serotine, noctule, and long-eared bat passes (detector 1: 04-16/06/2026)*



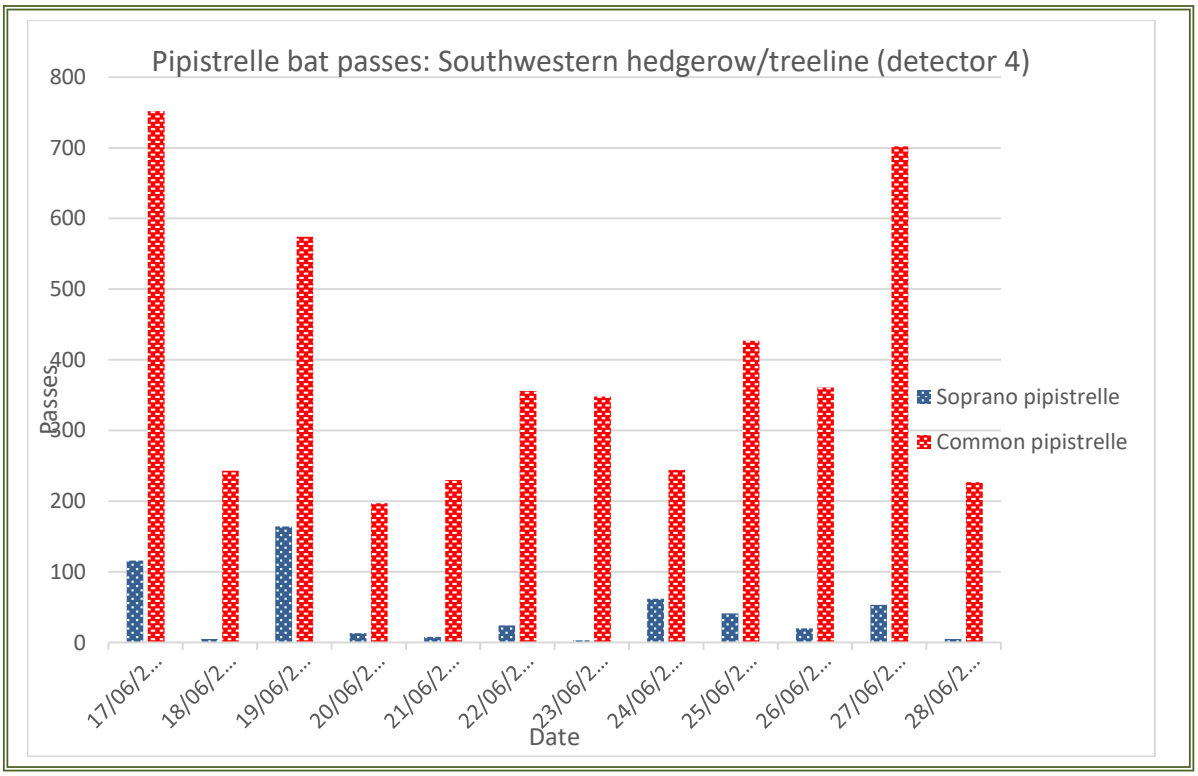
Appendix 3v *Northwestern Hedgerow: Chart to show pipistrelle bat passes (detector 3: 17-29/06/2026)*



Appendix 3vi *Northwestern Hedgerow: Chart to show Myotis, serotine, noctule, and long-eared bat passes (detector 3: 17-29/06/2026)*



Appendix 3vii *Southwestern Hedgerow/tree line: Chart to show pipistrelle bat passes (detector 4: 17-29/06/2026)*



Appendix 3viii *Southwestern Hedgerow: Chart to show Myotis, serotine, noctule, and long-eared bat passes (detector 4: 17-29/06/2026)*

