



ecosupport

114 Pine Road

Phase II Bat Survey Results

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Report	Phase II Bat Survey
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1.0 INTRODUCTION

1.1 Background

This document outlines the results of the bat activity works and emergence / re-entry surveys carried out by Ecosupport Ltd over the 2023 active season, completed in support of a planning application for a new development at 114 Pine Road located in Chandlers Ford, Southampton. These surveys were recommended within the Preliminary Ecological Appraisal report prepared by Ecosupport Ltd (2022) based on the presence of suitability for roosting bats within the main dwelling.

1.2 Site Description & Location

The site consists of one dwelling with associated land located at 114 Pine Road, Chandlers Ford, Eastleigh, S053 1JT (Grid reference: SU 42907 22176) (**Fig 1**). The site is bound by Pine Road to the south and residential properties to the east and west. The north of the site is bound by a recreational ground. In the wider landscape the site is located within Chandlers Ford, a residential area predominantly composed of residential properties.

Figure 1. Aerial image of the site with approximate redline boundary (Google Earth 2022).



1.3 Proposed Development

Development plans propose a loft conversion along with new front and rear facing dormer windows.

2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

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

This instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue. The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

2.1.2 The Wildlife and Countryside Act (1981) (as amended)

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

2.1.3 The Countryside and Rights of Way Act (2000)

This Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 NERC Act

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies must have due regard to the conservation of biodiversity with a particular regard to species and habitats considered to be of greatest conservation importance. This means that Planning authorities must consider biodiversity and the list of species and habitats of importance when planning or undertaking activities.

Section 41 of the Act lists species and habitats found in England which are considered to be priority species and were identified as requiring action under the UK Biodiversity Action Plan. The latest update to the list of Section 41 habitats of principal importance under the *UK Post – 2010 Biodiversity Framework* includes 56 listed habitats including arable field margins, traditional orchards, hedgerows and several specific habitats within the categories of coastal, grassland, freshwater, inland rock, marine, wetland and woodland. The latest update to the list of Section 41 species of principal importance was in May 2014 and now includes a list of 943 species covering a range of species including vertebrates, terrestrial and marine invertebrates, plants and fungi.

2.1.5 Protection of Badgers Act

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a sett and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

2.2 Policy

2.2.1 National

Section 15 of the National Planning Policy Framework (NPPF) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;

- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Local – Eastleigh Borough Council

The Eastleigh Borough Local Plan 2016 – 2036 has a number of policies relating to ecology with the relevant ones listed below;

‘General Approach

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:

a. protect, conserve and enhance all:

i. international, national and local nature conservation designations;

and

ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character; and facilitate their adaptation to climate change wherever possible;

b. assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);

c. seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and

d. contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S9).

International Designations

2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest and securing any necessary compensatory measures in the absence of alternative solutions. A ‘project level’ Habitat Regulations Assessment will be required where there are likely significant effects or uncertainty.

Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.

3. The Council will work with PfsH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:

a. implementing:

i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and

ii. the interim and any future New Forest Recreation Mitigation Strategy if required; or alternative agreed site specific measures to address recreational disturbance;

b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;

c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and

d. seek contributions towards measures set out in the Southern Damselfly Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.

National and Local Designations

4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;

d. there is an overall biodiversity net gain; and

e. if there are any residual adverse effects which cannot be avoided, mitigated or compensated, the benefits of the development must clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.

Priority habitats, protected and priority species and the local ecological network

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority

habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:

- a. there are no alternative solutions;*
- b. the adverse effects are unavoidable;*
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;*
- d. there is an overall biodiversity net gain; and*
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.*

Irreplaceable habitats

6. Development will not be permitted if it results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Buffers

7. Buffers free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.

Surveys

8. Development will not be permitted unless it can be demonstrated that:

- a. there have been thorough habitat and species surveys;*
- b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and*
- c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'*

3.0 METHODOLOGY

3.1 Phase II Survey

As per the recommendations within the PEA (Ecosupport 2022), 1 emergence survey was carried out on the main dwelling. The surveys at 114 Pine Road were led by Louise Davies, with assistance from Kat Aburrow, members of staff from Ecosupport. The approximate locations of the surveyors are indicated in **(Figure 2)**. Both heterodyne (Bat Box Duet, Peterson D230 and Elkon Batscanner) and time expansion (Anabat Express, Elekon Batlogger) detectors were used for identifying species calls / analysis of calls via sonogram (where required). The dusk survey began approximately 15 minutes prior to sunset and continued until approximately an hour and 25 minutes after. Survey sheets were used to record the following information:

- Time of call registration
- Species (if possible, to identify using heterodyne detector)
- Location / activity
- Direction of flight (if seen)

Figure 2. Approximate locations of the surveyors (yellow circles) (Google Maps 2022).



3.2 Limitations

The bat surveys took place within the optimal survey window and during suitable weather conditions for bats, with all areas of the building covered during the survey. It is therefore considered there were no limitations during the surveying process.

4.0 RESULTS

The results of the bat surveys along with other relevant information of survey conditions are provided in **Tables 1** and **2** below.

Table 1. Relevant information on survey conditions recorded.

Date	Temp (°C)	Cloud Cover (%)	Wind (beaufort scale)	Sunset / Sunrise Time	Start Time	Finish Time	Additional Information
02/05/2023	13	50	0	20:28	20:13	21:58	Dry

Table 2. Results from the surveys at 114 Pine Road, Chandlers Ford. HNS = Heard Not Seen.

Survey Date	Recorded Bat Roost(s)?	Bat Activity on Site		
02/05/2023	No emergences	Species	First Pass	Last Pass
		Common Pipistrelle	20:33	21:39
		Serotine	20:48	21:27
		Activity during this survey was considered to be moderate with intermittent activity recorded throughout the survey. Minimal activity was recorded towards the latter half of the survey. Species diversity was low with only 2 species recorded.		
		The first registration was from a single Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) foraging at 21:36 to the west of the house. Common Pipistrelle's continued to be observed commuting and foraging occasionally around the site, with the last individual HNS at 21:39.		
		The second species recorded was a Serotine (<i>Eptesicus serotinus</i>), which was HNS at 20:48. The same individual was then recorded commuting north across the site, with the final recording of a Serotine at 21:27.		

5.0 EVALUATION, IMPACTS & RECOMMENDATIONS

5.1 Summary & Evaluation of Results

5.1.1 Foraging and Commuting

Overall, the levels of foraging and commuting bats recorded on site during the surveys was moderate and comprised of common species (Common Pipistrelle, Soprano Pipistrelle) with an individual Serotine (considered to be a 'rarer' species). The majority of the bats were observed foraging along the treelines to the west and south of the site, which are to be retained within current proposals. Given the scale of the development and species recorded on site, it is considered there will be **no adverse impact** on commuting and foraging bats.

5.1.2 Roosting

Based on the results of the PEA and follow up emergence survey, the building on site is not considered to be used by roosting bats and no further survey work in regards to roosting bats within building is considered necessary.

5.1.3 Mitigation / Enhancements

No bats were recorded within the building and therefore no specific mitigation will be required. Below are some general mitigation and enhancements for bats:

5.1.3.1 Sensitive Lighting

Sensitive lighting for bats must be considered. A document (*Guidance Note 08/18 Bats and Artificial Lighting in the UK*) has been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented provided there are no conflicts with any legal limits of illumination (in which case a suitable compromise should be reached).

'Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable

glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.

- Column heights should be carefully considered to minimise light spill. [SEP]
- Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light. [SEP]
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt. [SEP]
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed (**Fig 3**).

Figure 3. (a) Shield ‘barn doors’ (b) cowl hood; (c) shield and; (d) external louvre Images from ILP (2011).



5.1.3.2 Bat Boxes

To provide further roosting opportunities for bats, one Schwegler 2F Bat Box (with double front panel) or CJ Wildlife Large Multi-Chamber Woodstone Bat Box, will be erected on a suitable location around site (**Fig 4**). This box will be erected by or under the supervision of an ecologist to ensure it is erected in an appropriate location.

Figure 4. The Schwegler 2F Bat Box (left) or CJ Wildlife Large Multi-Chamber Woodstone Bat Box (right) to be erected on a suitable location of on site.



6.0 REFERENCES

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