Isles of Scilly Wildlife Trust
Trenoweth, St Mary's, Isles of Scilly, TR21 0NS
Tel: 01720 422153
darrenmason@ios-wildlifetrust.org.uk
www.ios-wildlifetrust.org.uk

PRELIMINARY ECOLOGICAL APPRAISAL & PRELIMINARY BAT ROOST ASSESSMENT OF:

THE OLD BOAT SHED
BUZZA LEDGE
HUGH TOWN
ST MARY'S
ISLES OF SCILLY
TR21 0JQ

Client: Paul Osborne on behalf of Tristan Fletcher

Our reference: BS8-2018

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Author: Darren Mason BSc (Hons)

Report peer reviewed: Darren Hart BSc (Hons)

Report signed off: Sarah Mason

REPORT ISSUED IN ELECTRONIC FORMAT ONLY

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Contents

Non-Technical Summary

- On 7TH June 2019, the Isles of Scilly Wildlife Trust (IoSWT) conducted a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of the Old Boat Shed, Hugh Town, St Mary's, Isles of Scilly (BS18-2019). No plans were available for the proposed works for this development.
- This report outlines the findings of the PEA and PRA assessment and provides advice based upon the surveys' conclusions.
- During the PRA an external inspection of the building was undertaken in the majority of areas. However, access to all external areas was not possible. Those external areas which were accessible were evaluated for roost potential and evidence of bats.
- No direct evidence of bats was found (externally) during the PRA however the characteristics of the building suggest a 'low' roost potential with several features identified.
- The relatively easy access into the building for bats suggests that the site could be used as a night roost due to its proximity to good foraging habitat
- The immediate habitat surrounding the proposed development provides suitable foraging habitat, which is linked to the wider countryside and further feeding habitat by other mature gardens and hedgerows (particularly to the north and east).
- No evidence of nesting birds was found on the property.
- No vegetation of conservation interest was found on the site.
- The recommendations of this PEA and PRA are that a single presence and absence survey is carried out, consisting of either one dusk emergence, or one dawn re-entry survey. This must be carried out within the bat active season between May and September.
- Other than bats, if the recommendations given in this report are adhered to, there should be no further ecological constraints to the proposal.
- It must be noted that this report is not enough to support a planning application.

1.0 Introduction

1.1 Survey and reporting

This report details the results of a preliminary ecological appraisal and a preliminary bat roost assessment of The Old Boat Shed. The survey was carried out on the 7th June 2019. At the time, only an external inspection of the building could be undertaken and no plans on the proposed development were made available.

1.2 The application site

The building is located in Hugh Town, St Mary's (National Grid Reference SV9053310416, Figure 1.). The application site comprised a detached, granite single-storey former boat shed (see Photo 1.). The total area of the building is approximately 32m^2. The total footprint of the development site was unable to be calculated.

1.3 Details of proposed works

At the time of the survey no plans were made available on the proposed development.

Figure 1. Location of the old boatshed

Photo 1. Western aspect of boat shed

2.0 Methodology

2.1 Preliminary Ecological Appraisal - Desk Study

A desk study data search was undertaken. This involved carrying out a review of the Local Records Centres (LRC) available records for bat species and publicly available datasets and citations of statutory designated sites of importance for nature conservation for sites within the zone of influence (ZOI) of the survey area (considered to be a maximum of 2km in this case). The desk study was also undertaken to identify habitats and features that are likely to be important for bats and assess their connectivity through the use of aerial photographs.

2.2 Preliminary Bat Roost Assessment

The Preliminary Bat Roost Assessment comprised a survey of the building for bats, signs of bats and features potentially suitable for use by roosting bats, and an assessment of the surrounding habitat in terms of its suitability for commuting and foraging bats.

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he survey consisted of a ground based inspection and a detailed search of the interior and exterior of the building (from ground level), looking for bats and/or evidence of bats including droppings (on walls and windowsills and in roof and loft spaces), rub or scratch marks, staining at potential roosts and exit holes, live or dead bats and features, such as raised or missing tiles, potentially suitable for use by roosting bats. Binoculars, a ladder and a high-powered torch were used as required.

2.3 Classification of building

The building was classified according its suitability for use by roosting bats. The classification was dependent on a number of factors including:

- Bats and/or signs of bats;
- External and internal features potentially suitable for use by roosting bats (e.g. raised or missing tiles, gaps behind fascia boards etc);
- Setting;
- Night time light levels;
- Disturbance levels;
- Proximity of suitable foraging habitat and commuting routes (e.g. ponds, streams, woodland, large gardens, hedgerows).

The categories used to classify buildings and the survey effort required to determine the presence or absence of bats (as per the Bat Conservation Trust's Bat Survey Guidelines[1], referred to by Natural England in their standing advice to planning officers) are described in Table 1 (see below).

2.4 Surveyor details

The survey was undertaken by Darren Mason BSc of the Isles of Scilly Wildlife Trust. Darren has undertaken professional Bat Licence Training to permit him to undertake professional surveys and is currently gathering sufficient 'working hours' to achieve a Natural England Class Level 1 licence.

Table 1 – Description of the categories used to classify a building's bat roost potential and the survey effort required to determine the likely presence or absence of bats

	Roost status	Description	Survey effort required to determine the likely presence or absence of bats
Bat Roost Potential	High	Numerous features potentially suitable for use by roosting bats, optimal or good quality bat foraging habitat nearby and good habitat connectivity. Alternatively, a building with fewer features potentially suitable for use by roosting bats and optimal foraging habitat nearby.	Three dusk emergence and/or pre-dawn re-entry surveys between May and September. Optimum period May – August. Two surveys should be undertaken during the optimal period and at least one survey should be a pre-dawn survey.
	Moderate	More than a few features potentially suitable for use by roosting bats, good foraging habitat nearby and limited habitat connectivity. Alternatively, a building with a few features potentially suitable for use by roosting bats but optimal foraging habitat nearby.	Two or three dusk emergence and/or pre-dawn re-entry surveys between May and September (but only if features will be affected by the proposals).
	Low	Only a few features potentially suitable for use by roosting bats but good bat foraging habitat nearby. Alternatively, a building with more than a few features potentially suitable for use by roosting bats but sub-optimal foraging habitat nearby and limited habitat connectivity.	One or two dusk emergence and/or pre-dawn re-entry surveys between May and September (but only if features will be affected by the proposals).
	Negligible	Very few features potentially suitable for use by roosting bats and / or in an area (such as a densely populated urban area) which has limited habitat connectivity and poor foraging habitat.	No further surveys required.

1 Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust

3.0 Results

Preliminary Ecological Appraisal

3.1 Pre-existing information on bat species

The desk study showed that no species of bat have previously been recorded within the building. But, a data search of LRC records for bats revealed information on 4 species of bat recorded within the 2km ZOI of the site. The species conclusively identified were Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Nathusius Pipistrelle (*Pipistrellus* nathusii) and Brown Long-eared Bat (*Plecotus auritus*). Two known roosts lie within 500m of the proposed development, with a further 10 within 1km.

3.2 Statutory and non-statutory sites

In addition, the desk study revealed the presence of the following statutory designated sites within the 2Km ZOI of the site:

i.) **Peninnis Head SSSI –** Lying 447m south east of the proposed development is Peninnis Head SSSI. The site designated primarily for its maritime heathland, maritime grassland and scrub habitats together with good populations of a number of rare plant and lichen species, in addition to its significant quaternary geomorphology.

ii.) **Lower Moors SSSI –** Situated 462m due east north-east of the boat shed lies Lower Moors SSSI. A topogenous mire that has a range of wetland habitats supporting a diverse range of wetland wildflower species, including the Nationally Scarce Tubular Water-dropwort (*Oenanthe fistulosa*). The site also holds locally important populations of Royal Fern (*Osmunda reglis*) and Southern Marsh Orchid (*Dactylhoriza praetermissa*) and is particularly important feeding for passage and wintering birds including Corncrake (*Crex crex*) and Spotted Crake (*Porzana porzana*).

iii.) **Higher Moors & Porth Hellick Pool SSSI –** 1.6km east north-east of the proposed development is Higher Moors SSSI. A topogenous mire designated for several rare and notable plant species) including; Bog pimpernel (*Anagallis tenella*), Star Sedge (*Carex echinata*) and Marsh St John's-wort (*Hypericum elodes*).

iv.) **Porthloo SSSI –** Situated 1.05km north of the proposed development lies Porthloo SSSI designated for its geology, particularly for its Quaternary sediments in the cliffs that show changes in the climates and environments of the Quaternary period in Scilly.

3.3 Habitats surrounding the application site

The former boat shed lies within the Built-Up Areas Boundaries[2] (2011) published by the Office for National Statistics (Geography). However, the main conurbation of Hugh Town lies to the west and north of the application site. The street lighting throughout the town is intermittent and minimal, consisting primarily of orange sodium lighting, the nearest being approximately 25m away, situated on the northern aspect of Charlie's Cottage. Though intermittent, there is an increase in lighting to the west of the proposed development site (c430m away), on the lower slopes of the Garrison. Approximately 50m to the north east there are a scattering of properties of varying size, some having gardens that contain mature shrubs, specimen trees and low-level hedges. These gardens provide good foraging and commuting habitat further north and east to the old school site a Carn Thomas (c250m away), which consist of a complex of small open field areas bounded primarily by Elm *Ulmus sp.*) copses. This habitat backs onto small enclosed allotments, before reaching the wetland of Lower Moors SSSI. Immediately to the east lies Buzza Hill, an area of open grassland and scrub which adjoins to the south east the Porthcressa allotments consisting of small vegetable plots enclosed by low-level Pittosporum (*Pittosporum tenufolium*) hedges suitable for commuting and foraging activities by bats. Further south east the habitat becomes more open, with many drystone walls surrounding improved pasture or the unimproved grassland at Penninis Head SSSI approximately 450m away. Immediately to the south lies the beach of Porthcressa, with its rocky cliff-outcrops which provides access to the small mature woodland on the east side of the Garrison approximately 500m away. The Garrison itself provides a mosaic of coastal grassland and scrub and small scattered shelterbelts, providing suitable foraging habitat in places.

In summary, the habitat surrounding the proposed development provides good foraging habitat for the following reasons; the combination of mature gardens, allotments, small copses and hedgerows that link the different habitat types together, particularly to the north and east are important as it has been shown that all species of bat require 'edge' habitat like hedgerows and tree-lines to both feed and commute along, as well as using the cover for predator avoidance[3, 4, &5]. This continuity of habitat is important as it also provides an important commuting pathway to Lower Moors SSSI. This wetland SSSI includes open bodies of water, ditch networks and important reed/willow carr fringes has been shown to be the preferred

habitat for species such as Soprano and Nathusius Pipistrelle[3, 4&5]. Soprano Pipistrelle are also known to utilise more built up areas, compared to Common Pipistrelle[6], providing this species with the opportunity to take advantage of better feeding grounds along the eastern edge of the Garrison. Though Common Pipistrelle will feed around street-lighting, to take advantage of the insectivorous prey that congregates around them[7], this has been shown to be dependent on the light emitting from the lamps, with orange sodium light (found here in this instance) having the greatest negative impact on feeding opportunities [8]. However, Common Pipistrelle will take advantage of the strandline along beaches to feed and commute along[9], thereby providing a suitable, alternative foraging and commuting route to the west.

3.4 Habitats within the application site

The old boat shed is a detached building and appears to sit centrally in an open area of vegetation. On the northern boundary of this open area is a low-lying granite stone wall, dominated by Ivy (*Hedera* helix) and a relatively sparse hedge of Pittosporum. Surrounding the building the area appears to be used for the storage of building materials and boat trailers. The vegetation recorded in the grassland immediately surrounding the building included; Fennel (*Foeniculum vulgare*), Alexanders (*Smyrnium olusatrum*), Garden Nasturtium (*Tropaeolum majus*), Bramble (*Rubus* fruticosus) and Cleavers (*Galium aparine*) all are species that are known to attract a wide variety of insects that bats feed upon[10]. Other flowering plants included; Sea Radish (*Raphanus raphanistrum*), Hedge Mustard (*Sisymbrium officinale*), Common Fumitory (*Fumaria officinalis*), Spotted Medick (*Medicago arabica*), Common Vetch (*Vicia sativa*) and Smooth Tare (*Vicia tetrasperma*).

Preliminary Roost Assessment

3.5 External

The old boat shed is a detached single-storey, granite stone built building. The roof is constructed of zinc corrugated sheets, including the ridge sheets. The roof has an east/west aspect with an approximate pitch of 40^0. Zinc corrugated sheets are also used to clad the southern gable end, which a single glazed window is inset into, above the wooden double doors and frames. The northern gable end is mostly obscured by dense ivy, but appears to be granite stone up to its apex. Zinc corrugated sheets also appear to clad at least 50% of the western aspect, where they adjoin a second set of double wooden doors and frames. Above this cladding fascia boards were present. However, this was the only location that fascia occurred.

The remaining western aspect is granite stone, partially obscured by Ivy that surrounds an old electricity meter box. The eastern aspect is built into the slope and comprises solely of granite stone approximately 1 metre high, which is partially obscured by Ivy at its north-eastern corner.

The proposed development has a few features potentially suitable for roosting bats, including:

- A large gap between the fascia and the roof bearer and a gap between the roof bearer and the zinc roof sheeting that would permit access into the interior of the building at the north-west corner (see photo 2.)
- A crevice between the roof bearer and the granite stone block on the northern aspect (see photo 3.)
- A gap between the double doors and the wooden lintel on the southern aspect that would permit access into the interior of the building (see photo 4.)
- Gaps/crevices between the wooden lintel and ridges of corrugated zinc cladding on the southern aspect (see photo 5.)
- A crevice between the zinc cladding and lintel on the south-west corner and a gap above the lintel between the roof joist and cladding that would permit access into the interior of the building (see photo 6.)
- A crevice created by large splits in the left hand wood door frame on western aspect (see photos 7 and 7a.)

Photo 2.

Photo 3.

Photo 4

Photo 5.

Photo 6.

Photo 7

Photo 7a close up of crevice in door frame

3.6 Internal

At the time of the visit no access was possible to the interior of the building as all doors were locked. However, a brief inspection through the window on the southern aspect would describe the interior as relatively open and in conjunction with several potential features which would permit access into the interior of the building; this could provide suitable conditions for a night roost. It has been shown that many species of bat utilise a variety of structures during the night for reasons including predator avoidance, food digestion, energy conservation and social interactions[11]. Night roosts are thought to be particularly important near to foraging sites when foraging conditions are sub-optimal for example during poor weather[12].

4. Assessment and recommendations (excluding bats)

4.1 Protected sites

The proposed development falls into the SSSI Impact Risk Zones of Lower Moors, Higher Moors and Peninnis Head SSSIs. Impact zones are used in the assessment of planning applications for likely impacts on SSSI's, Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites (England).

However, the impact in this zone is for large-scale residential developments and therefore the development is not likely to impact on the surrounding SSSIs.

4.2 Nesting birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Section 1 of this Act makes it an offence to kill, injure or take any wild bird, or intentionally to take damage or destroy the nest of any wild bird while that nest is in use or being built[13]. During this survey, no evidence of nesting birds was found. However, if demolition are to commence between the months of March and August inclusive, then the site would need to be checked first for nesting birds and if, any evidence of breeding activity was found, or nests are identified works that would disturb the adults, the nest or young must be postponed until all young have fledged the nest and it is no longer in use.

5. Assessment and recommendations (bats)

5.1 Survey constraints

The survey was undertaken at a time of year suitable for undertaking preliminary bat roost assessments. However, it was not possible to survey the whole of the north gable end of the building, nor the northern and north east corner of the roof due to a dense covering of ivy. At the time of the survey no access was possible to survey the interior of the building for direct evidence on bats. Also, no plans of the proposed works were provided prior to the survey commencing.

5.2 Further survey requirements

The value of the old boat shed for bats is considered to be 'low' (see Table 1). This assessment is based on the occurrence of the following features within or immediately adjacent to the site:

- The development site has several potential roost sites suitable to a small number of crevice dwelling bats.
- The development site has features that permit easy access into the interior of the building, which could provide an opportunity for bats to use the site as a night roost.
- The development site is surrounded by other dwellings with gardens that have a diverse range of shrubs and trees providing suitable foraging habitat. These gardens are linked to further foraging habitat, particularly to the north, east and west by a mixture of hedgerows, enclosed fields, small blocks of copse and the strandline of Porthcressa beach to the south, for at least 450m in each

direction (Pipistrelle species typically have a minimum foraging distance between .7km and 3km[3&14]).

- Not all aspects of the building could be inspected therefore no evaluation of their roost potential, or a search for direct evidence of bats was possible in these areas.
- No plans were provided by the time of the survey. Therefore it was not possible to make an evaluation of whether the features identified might be affected by any proposed works.

The old boat shed has the potential to host roosting bats, or provide shelter as a night roost for cavity dwelling species such as Common and/or Soprano Pipistrelles. To confirm whether or not the old boat shed hosts roosting bats, further surveys (see section 5.3) carried out during the bat active season would need to be undertaken.

5.3 Presence or absence surveys

The Bat Conservation Trust's Bat Survey Guidelines[1] (referred to by Natural England in their advice to planning officers) state that buildings with 'low' bat suitability require at least one survey visit between May and September. This survey should consist of either a dusk emergence survey or, a separate dawn re-entry survey.

The surveys should take place in optimum weather conditions, in order to maximise the likelihood of recording bats, with dusk air temperatures exceeding 10^0C and not rain or strong wind.
Dusk emergence surveys should commence 15 minutes before sunset and continue for 1.5 – 2 hours after sunset. A pre-dawn re-entry survey should commence 1.5 – 2 hours before sunrise and continue until 15 minutes after sunrise.

Sufficient surveyors should be used on each survey so that all aspects of the building can be viewed at one time, therefore the building should be adequately surveyed by three surveyors. Surveyors should be positioned no more than 50m away from the buildings with an awareness of the likely exit/access points and potential roost locations. Each surveyor should be equipped with a bat detector and recording equipment and should count the number and species of bats and their activity in a defined area.

If no roosts are found during the presence or likely absence surveys, then no further surveys would be required.

5.4 Mitigation

In order to comply with planning policy and wildlife legislation (both domestic and European) it will be necessary to ensure that following the development the "favourable conservation status" of bats will be maintained. This means that, where a roost will be lost, appropriate mitigation needs to be provided.

If roosts are found a detailed roost characterisation survey would be required to establish how bats use the roost, the intensity of use and what features and characteristics of the roost and the surroundings are important. The information gained would allow an accurate assessment of the potential impacts of the development on bats and inform the requirement of a European Protected Species Mitigation licence, to be considered and issued by Natural England prior to the works commencing.

If roosts are found, then a data search will be required to support the European Protected Species Mitigation licence if an application is required. Information should be obtained in relation to bat roost sites or any sites of nature conservation importance designated for their bat interest within or near to the proposed development site. When requesting information, a minimum search radius of 2km from the site should be applied.

6. Summary

The old boat shed has the potential to host roosting bats, or provide shelter as a night roost for cavity dwelling species such as Common and/or Soprano Pipistrelle species of bat, particularly as it surrounded by good foraging habitat, which is linked to the wider countryside for at least 450m to the north, west and east respectively.

To assess whether bats roost in the building a further survey is recommended; either one dusk emergence survey or one dawn re-entry survey carried out between May and September. If bats are found to be roosting in the dwelling then, the status of the roost(s) will need to be identified. Further surveys will then be required to inform a mitigation strategy which would need to be implemented.

Other than bats, if the recommendations given in this report regarding nesting birds are adhered to, there should be no further ecological constraints to the proposals.

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