# PRELIMINARY ECOLOGICAL APPRAISAL & PRELIMINARY BAT ROOST ASSESSMENT OF:

# IVYDENE
# HIGHER TOWN
# ST MARTINS
# ISLES OF SCILLY
# TR25 0QL

*Client: RTP Chartered Building Surveyors on behalf of the Duchy of Cornwall*

*Our reference: BS13-2018*

*Report date: 25th March 2019*

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*Report peer reviewed: Darren Hart*

*Report signed off: Sarah Mason*

***REPORT ISSUED IN ELECTRONIC FORMAT ONLY***

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# Contents

## Non-Technical Summary

- On the 25th March 2019, the Isles of Scilly Wildlife Trust (IoSWT) conducted a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Ivydene, Higher Town, St Martin's, Isles of Scilly, TR25 0QL (BS13-2018), for which there is a proposal to demolish the existing 2 out-buildings to the north-east and replace with a new two-storey dwelling; alter the existing house to the north east with a two-storey dormer extension and minor alterations to the south-east facing porch.
- This report outlines the findings of the PEA and PRA assessment and provides advice based upon the surveys' conclusions.
- During the PRA an external/internal inspection of the building was undertaken (where accessible).
- Not all areas could be accessed and evaluated for its roost potential or for evidence of bats.
- Evidence of nesting birds was found in the outbuilding to the east. A single Blackbird's nest was located on the exposed noggins of the exposed timber-framed east aspect. Two Barn Swallow nests were found in the exposed rafters on the 1st floor of the outbuilding. A skeleton of a young Swallow was also found below one of the nests.
- No vegetation of conservation interest was found on the site.
- The characteristics of the building suggest moderate roost potential with several features identified. The mature, diverse gardens provide suitable foraging habitat, which is linked to the wider countryside and further feeding habitat by other mature gardens and hedgerows (particularly to the east and west).
- The easy access into and the open interior of the outbuilding suggest that the building could be used as a night roost due to its proximity to optimal foraging habitat.
- This PEA and PRA has identified that the roost potential for this development is "moderate" and recommends that two further presence and absence surveys are required; one dusk emergence and a separate dawn re-entry survey. These must be carried out within the bat active season between May and September.
- 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.
- It must be noted that this report is not sufficient 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 Ivydene, Higher Town, St Martin's, Isles of Scilly TR25 0QL. The survey, carried out on 25th March 2019, was undertaken in order to inform proposals to demolish the existing 2 out-buildings to the north-east and replace with a new two-storey dwelling and alter the existing house to the north east with a two-storey dormer extension and minor alterations to the south-east facing porch.

## 1.2 The application site

The house is located centrally in Higher Town, St Martin's (National Grid Reference SV9298515446, Figure 1.). The application site is comprised of a single dwelling, part single-storey, with an attached large outbuilding and large water tank to the north-east (Photo 1). The footprint of the building is approximately 316m$^2$ (including out-buildings) and the sites total footprint approximately 3,191m$^2$ (red area, see Figure 1).

*Figure 1. Ivydene location and footprint*

*Photo 1. South-east aspect*

### 1.3 Details of proposed works

It is proposed to demolish the two existing out-buildings to the north-east and replace with a new two-storey dwelling and alter the existing house to the north east with a two-storey dormer extension and minor alterations to the south-east facing porch.

## 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.

The 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 to 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.

## 2.4 Surveyor details

The survey was undertaken by Darren Mason BSc and Darren Hart BSc of the Isles of Scilly Wildlife Trust. Both have undertaken professional Bat Licence Training to permit him to undertake professional surveys and are 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

## 3.1 Preliminary Ecological Appraisal

### 3.1.1 Pre-existing information on bat species

The desk study showed that no species of bat had previously been recorded within the building. A data search of LRC records for bats revealed information on 2 species of bat recorded within the 2km ZOI of the site. The species conclusively identified were Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*), a UK Biodiversity Action Plan (BAP) priority species. No known roosts lie within the 2km ZOI of the proposed development.

### 3.1.2 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. **Plains and Great Bay SSSI –** Lying approximately 480m north-west of Ivydene, Plains and Great Bay SSSI is designated for a variety of habitats, including a well-developed strandline and embryo dunes and associated species. The dune grassland further inland is particularly important for the nationally scarce Orange Bird's-foot (*Ornithopus pinnatus*) and the rare Ramping Fumitory (*Fumaria capreolata*). The heathland is dominated by Common Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and Western Gorse (*Ulex gallii*) and associated lichen flora.

ii. **Chapel Down SSSI –** Situated approximately 780m east-north-east of Ivydene, is Chapel Down SSSI. An important site for its 'waved' maritime heath, dominated by Common and Bell Heather, with scarce records of Bird's-foot-trefoil (*Lotus corniculatus*), Heath Bedstraw (*Galium saxatile*) and the nationally scarce Orange Bird's-foot and rare Hairy Bird's-foot (*Lotus subuliflorus*). On the western edge of the SSSI there is a small population of the locally rare Pignut (*Conopodium majus*).

iii. **White Island SSSI –** Located 1.7km north-east of Ivydene and lying just off the coast of St Martin's is White Island SSSI. Designated primarily for its geological deposits, maritime heathland and supporting lichen communities, maritime grassland and small colonies of breeding seabirds along its isolated cliffs.

iv. **Tean SSSI –** Lying 1.9km due west of Ivydene, Tean SSSI an uninhabited island designated primarily for its dune and scrubby grassland species assemblage including the very rare Dwarf Pansy (*Viola*

*kitaibeliana*), Four-leaved Allseed (*Polycarpon tetraphyllum*), the nationally scarce Balm-leaved Figwort (*Scrophularia scorodonia*) and Orange Bird's-foot.

v. **Eastern Isles SSSI –** Situated off the south-east coast of St Martin's and 1.4km south-east of Ivydene lies this small group of isolated islands. Designated for their wildflower assemblage (111 species in total), archaeology and breeding seabirds including, Lesser Black-backed Gull (*Larus fuscus*), Great Black-backed Gull (*Larus marinus*), Puffin (*Fratercula arctica*), European Shag (*Phalacrocorax arstotelis*) and Fulmar (*Fulmaris glacialis*).

vi. **St Martin's Sedimentary Shore –** Situated approximately 265m to the south-west of Ivydene, lies a 2km stretch of shoreline which is sheltered by strong wave and tidal action that enables species that would normally occur further offshore to occur in this intertidal zone. Species include a variety of bivalve molluscs, most notably the tellin *Angula tenuis*, Rayed Artemis (*Dosinia exoleta*) and the razor shell *Ensis arcuatus*. Burrowing heart urchin (*Echinocardium* cordatum) is common along with a variety of marine worms (*Polychaete*) including *Scololepsis fuliginosa* and *Travesia forbesi*.

### 3.1.3 Habitats surrounding the application site

Ivydene is located within Higher Town, St Martin's, the main conurbation of the island consisting of approximately 50 detached and semi-detached dwellings, gardens and associated outbuildings. Immediately to the north and east of Ivydene there are two large detached properties that are bounded by mature hedgerows, with scattered trees and shrubs of varying age. Immediately to the south (beyond the plot) a small, un-enclosed bulb field opens onto the cricket pitch, before meeting the thin line of dunes, dominated by Marram Grass (*Ammophila* arenaria). Immediately to the south east is a large Elm (*Ulmus* sp.) copse and a pond. Further south east of the development site there are abundant small fields (typical on Scilly) used traditionally to produce Narcissi. All are enclosed by mature hedgerows.

Further to the east (800m), west (800m) and north-west (350m) this mosaic of small enclosed fields, laid to fallow or planted with Narcissi (*Narcissus* sp.) continues. Beyond these field systems and to the north the habitat becomes more open, dominated by improved and semi-improved grassland, contained within small irregular-shaped fields which are enclosed by dry stone walls. These fields, typically grazed by cattle, open onto the exposed coastal headlands of St Martin's northern coastline. This habitat consists of a

mosaic of dwarf-shrub heathland, scattered stands of gorse and semi-natural grassland which continues up to the north-facing cliffs.

In summary, the surrounding mature gardens, the adjacent Elm copse that borders the pond and links to the surrounding hedgerows provides suitable foraging habitat for both species of bat, particularly Soprano pipistrelle which has shown to preferentially feed in and around small woodlands and watercourses[2,3,&4] as well as being able to utilise more built up areas, compared to Common pipistrelle[5]. The habitat remains favourable for up to a further 800m (particularly to the west), as both pipistrelle species are known to regularly utilise 'edge' habitats like hedgerows to both feed from and to commute to other feeding grounds[2,3&4]. Beyond this mosaic of small fields and hedgerows, the habitat connectivity for both species, particularly to the north, breaks down very quickly, as both species prefer not to utilise very open habitats[6]. However, it has been shown that Common pipistrelle will often exploit coastal habitats, particularly the strandline along beaches[7], a habitat which is present to the south and south west of the proposed development and which could easily be reached utilising the hedgerow corridors.

### 3.1.4 Habitats within the application site

Ivydene is a detached property that forms the boundary to the north-west to the adjoining property's mature garden. The remaining northern boundary comprises of a chest-high drystone wall. To the east a mixed hedgerow of Elm (*Ulmus* sp.) and Pittosporum (*Pittosporum tenuifolium*) separates Ivydene from its other neighbour. The garden of Ivydene is comprised of several discrete areas of lawn and shrub beds separated by hedges of various species including Pittosporum, Coprosma (*Coprosma repens*) and a Leyland Cypress (*Cupressus x leylandii*). The shrub beds include species attractive to invertebrates including; Nasturtium (*Tropaeolum* sp.), Alexanders (*Smyrnium olusatrum*), Pride of Madeira (*Echium candicans*), Rose of Sharon (*Hibiscus syriacus*), Bottlebrush (*Callistemon* sp.), Rosemary (*Rosmarinus officinalis*), Bear's breeches (*Acanthus mollis*), Hottentot-fig (*Carpobrotus edulis*) and Portuguese Geranium (*Pelargonium graveolens*). The drystone wall continues along the western boundary, before it is lost within a mature Elm copse that also forms the southern boundary.

In summary, the habitat within the footprint of Ivydene provides many species of shrub that will attract a variety of invertebrates which bats can feed on. The structural diversity provided by the shrubs and

hedgerows within and surrounding the garden and the shelter they bring creates optimal foraging habitat for bats, which is also linked to the wider countryside.

## 3.2 Preliminary Roost Assessment

### 3.2.1 External

Ivydene is a detached property that can be split into 3 distinct compartments; the first being an existing dwelling comprised of a single-storey and two-storey living accommodation having its main aspects facing north-west and south east. The single-storey has a hipped roof at its south-western end and ties into the two-storey open-gable ended dwelling at its north-eastern end, where there is also a chimney stack. The roof of the dwelling consists of fibre cement tiling, with an approximate pitch of $30^0$ with glazed clay capping and ridge tiles. The dwelling is granite built, which is exposed on its north-western aspect, but concrete rendered on its south-eastern aspect. There is a single-storey porch situated centrally on the - east aspect of the two-storey dwelling which is half block, half-glazed, with a roof of corrugated fibre-cement sheets that have a south-west/north-east aspect. The windows, doors, fascia and soffit boards are wooden and all vents, guttering and drainage pipes being UPVC throughout. The south-western aspect of the dwelling was not fully viewable due to the presence of a large, mature Coprosma bush.

The second compartment is a 'T'-shaped part concrete, part timber-framed outbuilding to the north-east of the two-storey dwelling, which it adjoins. The base of the 'T' is a single-storey timber-framed building, with a roof consisting of fibre cement corrugated sheets and an approximate pitch of $15^0$ facing south-east. This roof ties into the main dwelling to the west and the two-storey outbuilding with a covering of concrete render. On its north-east aspect the timber cladding is absent, exposing the membrane and the timber-frame beneath. A bird's nest was sat on top of one of the 'noggins' which was identified as a Blackbird (Turdus merula). Part of the south-eastern aspect of the single-storey building was not fully viewable due to the presence of a large Camelia (*Camelia japonica*). In front and below this building lies a full length, block-built water storage tank with fibre cement corrugated roof sheets. No access was possible into this structure. The two-storey dwelling adjoining this building, which also ties in to the main dwelling is a formed concrete structure, with a roof of cement fibre corrugated sheets, with an approximate pitch of $30^0$. The roof is also capped with fibre cement tiles. At the north-eastern aspect there is an additional outbuilding with a flat roof of corrugated fibre cement sheets. Above this on the first floor there is a double window with no glazing that gives full access to the first-storey of the outbuilding. On the

ground floor there is an old wooden door that has significant damage to the lintel above, which provides access to the interior. The north-western aspect has several windows on the first floor and a single window on the ground floor. All the frames are wooden, but the fascia is mixed, with the north-west aspect wooden and the south-east aspect cement fibre.

The third element is a stand-alone outbuilding further south of the main outbuilding, which is bounded to the north by a mature hedge of Pittosporum, Camelia and Elm. The building comprises of a block-built structure, with a pent style roof that faces south-east with a pitch of approximately $20^0$. Little, or no fascia is present.

The proposed development has several features potentially suitable for roosting bats, along with several features that may provide bats with access into the interior of the building including;

**Single and two-storey dwelling**

- Gap in soffit into the roof-space of the porch on eastern aspect (see photos 2.)
- Gap behind the fascia at eastern end of the south aspect of the 2-storey dwelling (see photo 3.)
- Gap into roof space of single-storey dwelling at the corner where south and west fascia boards meet (see photo 4).
- Gaps along the full length of the northern aspect between the fascia and the granite block-work (see photo 5.)

**Outbuilding**

- Gap into outbuilding between door-frame and first-floor overhang above sliding door on southern aspect (see photo 6.)
- Void where south aspect and west aspect of outbuildings join at junction of soffit and timber-cladding (see photo 7.)
- Void created where eastern aspect of timber-framed part of outbuilding meets main south aspect (see photo 8.)
- Large gap at eastern gable end of outbuilding roof under corrugated sheet and associated gaps between sheets and corrugated capping tiles (see photo 9.)

- Damage to concrete above old timber door on eastern aspect of outbuilding giving direct access in to the building (see photo 10.)
- No glazing in 1st floor window on east aspect of outbuilding (see photo 11.)
- Large gap formed between roof sheet and capping tile of roof on north aspect of outbuilding (see photo 12.)

*Photo 2.*

*Photo 3.*

*Photo 4.*

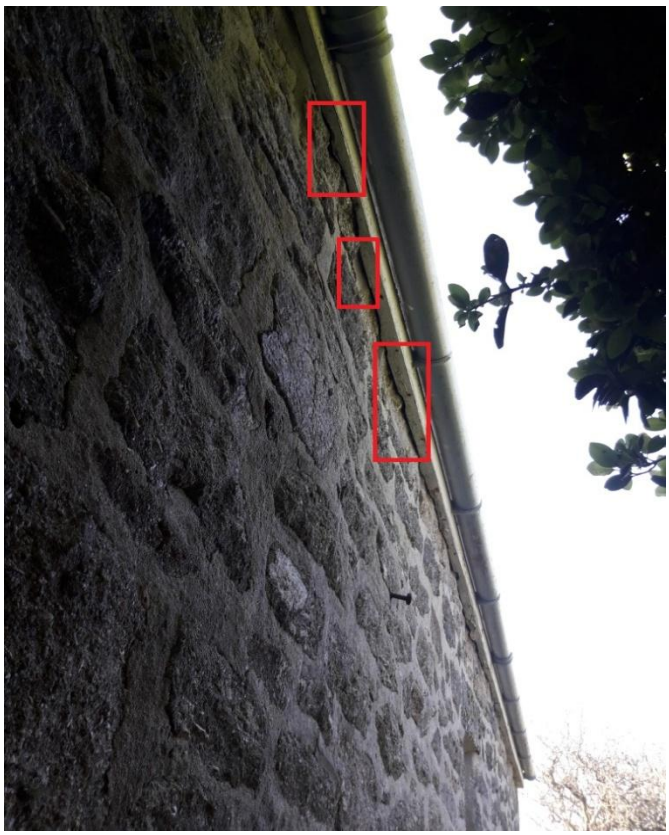

*Photo 5.*

*Photo 6.*

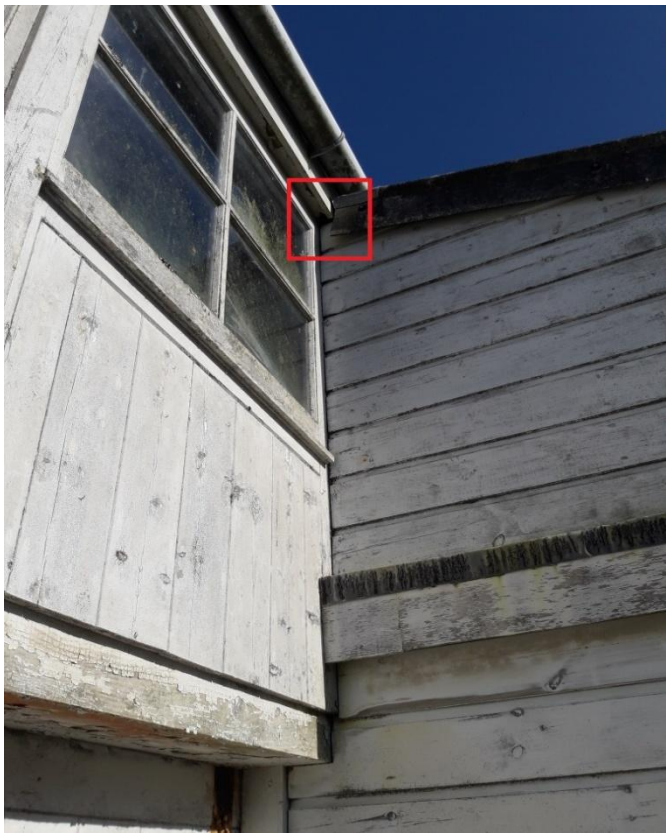

*Photo 7.*

*Photo 8.*

*Photo 9.*

*Photo 10.*

*Photo 11.*

### 3.2.2 Internal

Both the roof-spaces of the former dwelling are of a close-coupled roof construction with purlins (see photo 13.). The only difference noted between the single and two-storey loft space is that the upstairs ceilings of the two-storey section are higher and half-hipped, therefore reducing the size of the loft space along with no roof felt present (see photo 14.) Both loft spaces were insulated and showed clear signs of small mammal activity with numerous droppings from Brown Rat (*Rattus norvegicus*), House Mouse (*Mus musculus*) and Lesser White-toothed Shrew (*Crocidura suaveolens*) see Photo 15. Samples taken from the loft-spaces did not fall into right size category or consistency for bats. Throughout both lofts no obvious claw marks, or staining was identified.

*Photo 12.*

*Photo 13. Single-storey loft space*

*Photo 14. Two-storey loft space*

*Photo 15.*

The interior of the ground floor of the outbuilding was open apart from an open shelving system in the south-east corner and an old sink unit and cabinet centrally (see photo 16.). Towards the western end the interior narrowed due to the partition walling of the adjacent bathroom (on the northern aspect). Opposite was a door into the timber-framed portion of the outbuilding. However, no access was possible into this area to survey as all entrances were locked. Examination of the units, shelving, floors and first floor joists revealed no evidence of bats. To the east of this door access to the first floor was made possible by using ladders.

Like the ground floor the first floor is open with the roof joists and the underside of the roofing sheets exposed (see photo 17.). In the north east corner a variety of wooden boxes were stacked which were examined, along with the floor and along the top of the tie beams for evidence of bats, which none were found. In the apex of the final two common rafters before the open window two Barn Swallow nests and droppings (on the collar beams below) were found (see photo 18.). On the floor below the nest nearest to the window the skeleton of a young Barn Swallow was also noted (see photo 19.)

The easy access and the open nature of the interior of the outbuilding 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 several reasons including predator avoidance, food digestion, energy conservation and social interactions[8]. Night

roosts are thought to be particularly important near to foraging sites when foraging conditions are sub-optimal for example during poor weather[9].

*Photo 17. 1st floor of outbuilding*

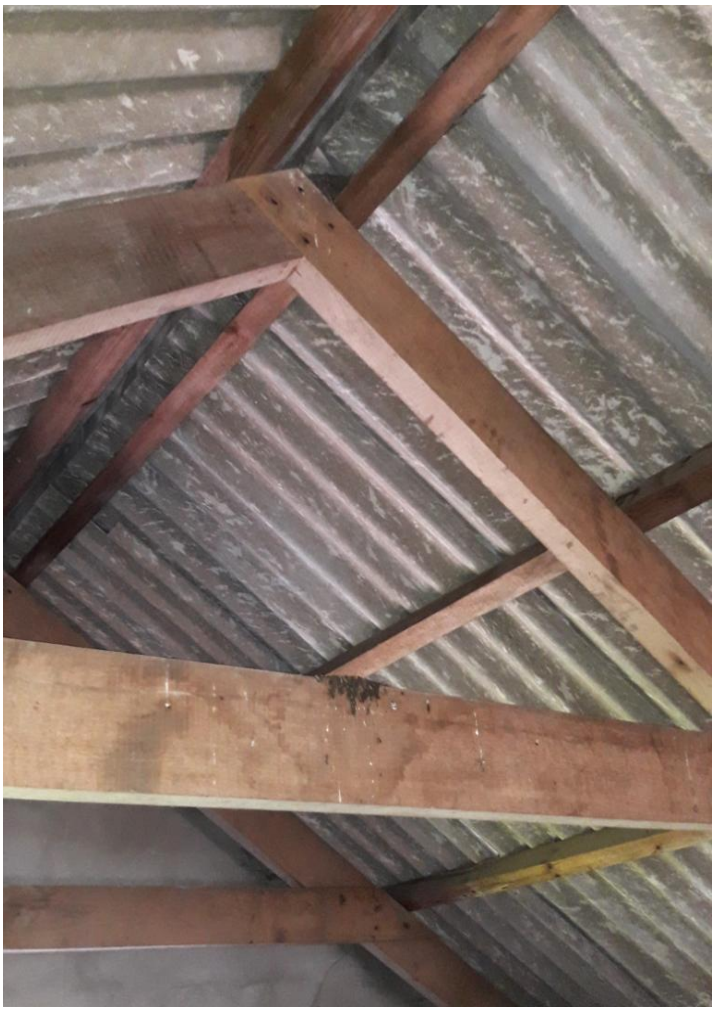

*Photo 18. Barn Swallow nest with dropping below*

*Photo 19. Skeleton of young Swallow*

# 4. Assessment and recommendations (excluding bats)

## 4.1 Protected sites

The proposed development falls into the SSSI Impact Risk Zones of Plains and Great Bay, The Eastern Isles and Chapel Down 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[10]. During this survey, evidence of nesting birds was found. This evidence included two Barn Swallow nests found on roof joists of the first floor of the main outbuilding, with evidence of use from the previous year (accumulation of droppings and the partial remains of a young chick). Outside, on the north-eastern aspect of the single-storey outbuilding a single Blackbirds nest was located on one of the noggins from the exposed timber-frame. If demolition, or building works 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 other 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, no clear view could be made of the south-west aspect of the main dwelling due to a mature shrub of Coprosma. The interior of the single-storey outbuilding was not possible as all entrances were locked. No access to the interior of the single-storey water tank was possible and only a partial view of the south-east aspect of the single-storey outbuilding was possible due to the presence of mature Camelia, Pittosporum trees.

## 5.2 Further survey requirements

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

- The development site, particularly the outbuilding has several potential roost sites suitable to a small number of crevice dwelling bats.
- The garden of the development site is diverse in structure both in terms of height and the species present, providing optimal foraging habitat, particularly for species such as Common Pipistrelle.
- The development site is surrounded by other dwellings with gardens of a similar nature which are connected to the west and east by established hedgerows that lead to either small enclosed fields with further hedgerows as boundaries, 2 small copses and a pond and strandline along the coast to the south. However, this habitat connectivity is limited to approximately 800m to the west and 750m to the east respectively. Pipistrelle species typically have a minimum foraging distance between .7km and 3km[2&11].
- The ease of access and the open nature of the interior of the outbuilding near to optimal foraging sites suggest the site could be used as a night roost.
- Not all aspects of the building could be inspected therefore no evaluation of the roost potential, or a search for evidence of bats was possible.

Ivydene 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 Ivydene 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 'moderate' bat suitability require two separate survey visits between May and September. These surveys should consist of one dusk emergence survey and a separate dawn re-entry survey a minimum of two weeks apart.

The surveys should take place in optimum weather conditions, in order to maximise the likelihood of recording bats, with dusk air temperatures exceeding $10^0$C 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

Ivydene has several features that could potentially play host to a small number of crevice-dwelling species such as Common and/or Soprano Pipistrelle. The easy access into and the open nature of the interior of the outbuilding suggests that the building could be used as a night roost, particularly as it sits within and is surrounded by optimal foraging habitat, which is linked to the wider countryside for at least 800m.

To assess whether bats roost in the building two surveys are recommended; one dusk emergence and one separate 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.

## 7. Bibliography


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