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**RESULTS OF FURTHER SURVEY WORK ON
THE DOWNS, TRENOWETH, ST MARY'S,
ISLES OF SCILLY**

July to September 2019



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RESULTS OF FURTHER SURVEY WORK ON THE DOWNS, TRENOWETH, ST MARY'S, ISLES OF SCILLY

O.S. Grid Ref: SV 9180 1243

Survey dates: Emergence surveys: 31st July and 7th September 2019
Remote detector survey: 31st July to 14th August 2019

Main surveyor: Simon Barnard BSc (Hons) MSc CEcol MCIEEM
Class Survey Licence Reg. Nos. 2017-32208-CLS-CLS
(Level 3) & 2015-13541-CLS-CLS (Level 4)

Time spent on site: 2 x (2 x 1 ¼ hours)
2 x ¼ hour

Taxonomic groups: Bats

Report author: Simon Barnard BSc (Hons) MSc CEcol MCIEEM

Report compiled by: Simon Barnard BSc (Hons) MSc CEcol MCIEEM


Report completed: 19th September 2019

Filename & issue number: Further Bat Surveys_The Downs, St Marys_Final 1

Report for: Mr Nathan Dean, Duchy of Cornwall

Report No: 18-211T/DofC/The Downs, St Marys/Further bats 1

Document approved by: Adrian Spalding PhD Director

Signature: 

Date: 21st October 2019

1. SUMMARY

Spalding Associates (Environmental) Ltd were instructed by Mr Nathan Dean, of the Duchy of Cornwall, to carry out further bat survey work on The Downs, Trenoweth, St Mary's, Isles of Scilly. The proposal is to replace the roof covering.

This survey work follows on from a Bat and Barn Owl survey, carried out by Spalding Associates in January 2019, during which an accumulation of scattered bat droppings were observed within the roof void on top of the insulation (approximately 40 to 60 droppings), belonging to Common Pipistrelles. In addition, directly above this there were droppings caught in cobwebs below the ridge beam which is where it is near certain the bats roost, see the Bat and Barn Owl survey report for full details.

As a result, further survey work was recommended in the form of a pair of bat emergence or re-entry surveys and the deployment of a remote detector into the roof void for at least 7 consecutive nights. These surveys were designed to determine the species, number of individuals, bat access points and timings of usage. This further survey work can only be carried out during the active bat season, between May and September.

The results of the survey work indicate that the house is used regularly by small numbers of day roosting Common Pipistrelles with up to 4 individuals being seen to emerge. The bats have previously roosted in the roof void and now appear to roost around the edge at the eaves within the soffit boxes and wall tops.

The roosting sites used by the bats will be directly impacted by the works as they will be opened up when the roof is stripped with any bat present being disturbed and potentially being harmed or injured. In addition, if the works resulted in the gaps behind the soffits being filled in this would result in the bats being permanently sealed out of the building and, if inappropriate materials are used (such as breathable roofing membrane which has been shown to cause harm to bats), being harmed.

These works in the absence of appropriate mitigation could result in bats being disturbed, harmed or killed when the works commence, with bat roosts being damaged or permanently destroyed, all of which are offences.

In this instance the aim will be to retain all of the existing roosting sites and access points so that the bats can continue to roost within the roof void. As the site is not a maternity site and as bats on Scilly are unlikely to go into full hibernation, but are more likely to remain in the same building all year around, the works could proceed at any time of year subject to a licence being in place. The stripping of the roof will need to be undertaken under the direct supervision of a suitably licenced ecologist and a temporary roosting site, in the form of a bat box erected onto a nearby tree, will need to be provided for the duration of the works and ideally would be retained onsite into the future as an enhancement.

As it not going to be possible to carry out the works in such a way that offences can be avoided, a Licence from Natural England will need to be obtained prior to works commencing. Due to the small numbers of individuals present and species involved the site should qualify to be covered by the Bat Mitigation Class Licence. The site registration form will need to have been submitted and confirmation of acceptance received from Natural England before the works can lawfully commence.

2. INTRODUCTION AND BACKGROUND

Spalding Associates (Environmental) Ltd were instructed by Mr Nathan Dean, of the Duchy of Cornwall, to carry out further bat survey work on The Downs, Trenoweth, St Marys, Isles of Scilly. The proposal is to replace the roof covering.

This survey work follows on from a Bat and Barn Owl survey, carried out by Spalding Associates in January 2019, during which an accumulation of scattered bat droppings were observed within the roof void on top of the insulation (approximately 40 to 60 droppings), belonging to Common Pipistrelles. In addition, directly above this there were droppings caught in cobwebs below the ridge beam which is where it is near certain the bats roost, see the Bat and Barn Owl survey report for full details.

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3. METHODS

3.1. Emergence surveys

Emergence surveys aim to establish if the building being surveyed is used by roosting bats and if so to establish the levels of use, confirm the species present, identify the number of individuals present and identify the access points. In this instance a pair of emergence surveys using two trained surveyors for each survey was carried out.

An emergence survey involves positioning surveyors, experienced with the use of bat detectors, around the outside of building identified as having the potential to support roosting bats. These surveyors watch the roof line, openings or features identified as having the potential to support roosting bats from a quarter of an hour before sunset until at least one hour afterwards for emerging bats. These surveys were carried out under favourable weather conditions (no precipitation and not during strong winds) and in temperatures above 9°C.

1st Emergence survey

On 31st July 2019, Simon Barnard and Amy Horn-Norris were positioned on opposite corners of the building being surveyed so that all aspects could be watched. The survey was carried out during suitable weather conditions for bat activity; i.e. overcast but dry with a light breeze, 100% cloud cover and a constant temperature of 16°C. The survey started at 20.54 and continued until 22.09 with sunset being at 21.09.

Bat activity was monitored using an two Elekon Batscanner stereos.

2nd Emergence survey

On 17th September, Simon Barnard and Matthew Thurlow were positioned on opposite corners of the building being surveyed so that all aspects could be watched. The survey was carried out

during suitable weather conditions for bat activity; i.e. clear, still and dry with 0% cloud cover and a starting temperature of 19°C. The survey started at 19.20 and continued until 20.35 with sunset being at 19.35.

Bat activity was monitored using two Elekon Batscanner stereos.

3.2. Remote detector survey

A remote detector was deployed into the roof void over the house on 31st July 2019 and collected on the 17th September 2019. In this instance an AnabatTM Express was used and was fully operational for the first 4 days of its deployment.

A remote detector survey involves installing a remote detector into the building to be surveyed and leaving it in place for a pre-decided period of time. During this time the device will log all the bat calls emitted by bats passing within its range allowing the surveyor to assess the levels of use by bats and the species making use of the structure, over the course of the installation. Usually a remote detector is deployed once, in the peak activity period, for 7 consecutive days.

The weather conditions during the survey period were settled being mostly warm, dry and still with mild nights. The average night time temperatures were between 13°C and 18°C.

3.3. Surveyors

3.3.1. Simon Barnard

Simon Barnard is an experienced bat surveyor with more than 12 years' experience of carrying out all aspects of professional bat survey work including activity surveys, call analysis and emergence surveys. He has held a Natural England survey licence for more than 9 years, currently being registered on the Level 3 (CL19) and level 4 (CL20) Class Survey Licence. He has been involved in designing numerous mitigation schemes and obtaining European Protected Species development licences for the full range of species of bats found in Cornwall and is a registered consultant on Natural England's Bat Mitigation Class licence.

3.3.2. Matthew Thurlow

Matthew Thurlow is a trained bat surveyor experienced with the use of remote detectors and undertaking activity surveys and emergence surveys and is training towards his survey licences.

3.3.3. Amy Horn-Norris

Amy Horn-Norris is an experienced bat surveyor with five years' experience carrying out bat activity surveys and emergence surveys.

4. RESULTS

4.1. Building description

The property subject to this survey is a detached two storey stone house which is divided into two dwellings, there is a small flat on the ground floor and a larger dwelling occupying the remainder of the ground and all of the 1st floor. The house is L-shaped with a hipped slate covered roof, clay ridge tiles and deep soffits with cavities and gaps giving access to the roof void, see photos 1 and 2. At the rear of the building is a single storey lean-to containing the kitchen with another small lean-to on the end of the return on the rear of the building.



Photo 1. Showing the front of the house



Photo 2. Showing the rear of the house

The roof void is a single open L-shaped space with the roof being supported on timber trusses. The underside of the roof is unlined with the roof being covered with wet laid scantle slate but has started leaking, see photo 3. In an attempt to prevent water ingress into the property from leaks in the roof the tenants have started tacking modern roofing membrane to the underside of the rafters, see photo 4. This is not ideal as if bats are using the roof space this could obstruct access to roosting sites and bring bats into contact with modern roofing membrane which is known to cause bat fatalities through bats becoming entangled with the microfibres which coat such membranes. The floor is covered with fibreglass insulation and the tenants have now started boarding out the floor.



Photo 3. Showing roof void in return arm



Photo 4. Showing roof void over main part of the house where works have been done

Externally the stone work is well sealed but there appear to be gaps around the soffits, chimney flashings and under some of the ridge tiles all of which could be used for roosting by bats or allow access into the roof void.

The Downs is located within a small collection of stone buildings in the hamlet of Trenoweth on the northern end of the island of St Mary's. The land around this building is used for growing flowers and is divided into small fields by hedges. St Mary's is covered with small fields laid to pasture and used to grow crops, bounded by hedges and hedge banks with small areas of moorland and areas of plantation woodland along with small groups of stone houses and barns. The habitats surrounding the property represent good bat foraging habitat and a number of Common Pipistrelle roosts are known to be present on the island.

4.2. Emergence surveys

1st Emergence survey, 31st July 2019

The first bat activity noted was a pass up the adjacent lane by a single Common Pipistrelle at 21.05 from a bat heading northwards. At 21.33 a single Common Pipistrelle was seen to emerge from the south western corner of the house from behind the soffit board and was followed by a second individual at 21.35. At 21.38 a further Common Pipistrelle was seen to emerge from the eastern side of the house from behind the soffit board and was followed by a second and final individual at 21.39.

In total 4 Common Pipistrelles were seen to emerge from the house during this survey.

2nd Emergence survey, 17th September 2019

The first bat activity noted was a pass up the adjacent lane by a single Common Pipistrelle at 20.05 from a bat heading northwards. At 20.09 a single Common Pipistrelle was seen to emerge from the south western corner of the house from behind the soffit board. At 20.16 a further Common Pipistrelle was seen to emerge from the eastern side of the house from behind the soffit board and was followed by a second and final individual at 20.17.

In total 3 Common Pipistrelles were seen to emerge from the house during this survey.

4.3. Remote detector survey and brief visual inspection

The remote detector was deployed into roof void over the house on 31st July 2019 and recorded for 14 consecutive days. It did not record any bat activity but was fully operation throughout this time. This may be a result of the work carried out inside the roof void to prevent water leaks, namely lining the underside of the roof from inside with breathable roofing membrane.

4.4. Summary of all results

The results of the survey work indicate that the house is used regularly by small numbers of day roosting Common Pipistrelles with up to 4 individuals being seen to emerge. The bats have previously roosted in the roof void and now appear to roost around the edge at the eaves within the soffit boxes and wall tops.

4.5. Status of the roost

4.5.1. Status at the local, county and regional levels

Species	UK Conservation Status	UK distribution (Richardson 2000 & Altringham 2003) Numbers from The state of the UK's bats NBMP Trends 2017	County occurrence Cornwall RDB 2009	Local occurrence
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Common.	Throughout the UK 2,430,000 in UK, 1,280,000 in England. Possible upward trend in Field Count and negative trend in Colony Count to 2017.	Common and widespread.	Common Pipistrelles are the main species on the Isles of Scilly with a main maternity roost and small number of further individuals known to roost across St Mary's.

4.5.2. Status at site level

Common Pipistrelles

During the emergence surveys up to 4 Common Pipistrelles were seen to emerge from features on the house during each emergence survey.

This indicates that the building is regularly used by small numbers day roosting Common Pipistrelles.

Estimated population in any given year: 4 adult Common Pipistrelles.

4.5.3. Roost Status

Based on the building supporting “small numbers of common species. not a maternity roost”, it would be considered as being of low conservation significance*.

* Bat Mitigation Guidelines, p. 39 Fig. 4.

5. PROPOSAL, POTENTIAL IMPACTS ON BATS AND MITIGATION

5.1. Proposal

The proposal is to strip and renew the roof covering over the house.

5.2. Potential impacts

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The roosting sites used by the bats will be directly impacted by the works as they will be opened up when the roof is stripped with any bat present being disturbed and potentially being harmed or injured. In addition, if the works resulted in the gaps behind the soffits being filled in this would result in the bats being permanently sealed out of the building and, if inappropriate materials are used (such as breathable roofing membrane which has been shown to cause harm to bats), being harmed.

These works in the absence of appropriate mitigation could result in bats being disturbed, harmed or killed when the works commence, with bat roosts being damaged or permanently destroyed, all of which are offences.

As it not going to be possible to carry out the works in such a way that offences can be avoided, a Licence from Natural England will need to be obtained prior to works commencing. Due to the small numbers of individuals present and species involved the site should qualify to be covered by the Bat Mitigation Class Licence. The site registration form will need to have been submitted and confirmation of acceptance received from Natural England before the works can lawfully commence.

5.3. Mitigation

The aim of the mitigation should be to minimise the potential impacts of the works on the bats and ensure that adequate and appropriate roosting provisions are maintained/incorporated to allow bats to continue to roost onsite in the same way following the completion of the works as before they commenced, preserving their conservation status.

In this instance the aim will be to retain all of the existing roosting sites and access points so that the bats can continue to roost within the roof void. As the site is not a maternity site and as bats on Scilly are unlikely to go into full hibernation, but are more likely to remain in the same building all year around, the works could proceed at any time of year subject to a licence being in place. The stripping of the roof will need to be undertaken under the direct supervision of a suitably licenced ecologist and a temporary roosting site, in the form of a bat box erected onto a nearby tree, will need to be provided for the duration of the works and ideally would be retained onsite into the future as an enhancement.

5.3.1. Exclusions

No exclusions will be necessary as a careful inspection of the roof void over the building followed by the supervision of the stripping of the roof covering will be carried out by a suitable trained and licenced ecologist at the start of works.

5.3.2. Timing

As the building only supports small numbers of day roosting bats (and is not a maternity site) and as bats on the Scilly's are unlikely to go into full hibernation the works could proceed at any time of year, subject to a licence being in place.

5.3.3. Watching Brief

A careful inspection of the roof void over the building followed by the supervision of the stripping of the roof covering and dismantling of any features in which bats have been found to roost will need to be carried out by a suitable trained and licenced ecologist at the start of works. All of the roof coverings will need to be carefully stripped by hand under the direct supervision of the named ecologist or an accredited agent. As a result, any bats present will be revealed and can be carefully picked up in a gloved hand and safely relocated out of harm's way.

A short briefing will also be given to the builder at the start of works on the status of the building with regards to bats, on what to do if a bat were to be found unexpectedly during the works and on the form of the mitigation to be provided along with a brief inspection of the interior of the building. A temporary roosting site, in the form of a bat box erected onto a nearby tree, will need to be provided for the duration of the works and ideally would be retained onsite into the future as an enhancement

5.3.4. Retention of roosting sites

It should be possible to retain or recreate all of the existing roosting sites. These include the gaps behind the soffit boards. In addition, as access to the roof void will be maintained the underside of the new roof will need to be lined with bitumen type 1F roofing felt and not modern breathable roofing membrane. This is because the modern breathable roofing membrane has been shown to cause bat fatalities and is not permitted for use in bats roosting by Natural England.

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the survey work indicate that the house is used regularly by small numbers of day roosting Common Pipistrelles with up to 4 individuals being seen to emerge. The bats have previously roosted in the roof void and now appear to roost around the edge at the eaves within the soffit boxes and wall tops.

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7. LEGISLATION

Bats in England have been protected under a number of regulations and amendments but the most up-to-date and relevant are:

- The Conservation of Habitats and Species Regulations 2017
- Wildlife and Countryside Act 1981 (Section 9)

The result of Regulations and Acts is that all species of bat and their breeding sites or resting places (roosts) are protected under law. It is an offence to:

- Deliberately capture, injure or kill a bat
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young or significantly affect the local distribution or abundance of the species
- Intentionally or recklessly disturb a bat at a roost
- Intentionally or recklessly obstruct access to a roost whether bats are present or not
- Damage or destroy a roost whether bats are present or not
- Posses, control, transport, sell exchange or offer for sale/exchange any live or dead bat or any part of a bat

Through the Conservation (Natural Habitats &c.) Regulations 1994 (this has been updated and consolidated with subsequent amendments by the Conservation of Habitats and Species Regulations 2017 mentioned above) bats were designated a European protected species as part of Europe wide effort to conserve certain plant and animal species.

Any development which is likely to result in the disturbance of a European protected species, or damage to its habitat usually requires a European protected species licence from Natural England. 'Development' is interpreted broadly to include projects involving demolition of buildings, rebuilding, structural alterations and additions to buildings.