



MR P BUCKNELL

Stakers Farm Barns, North End Road, Yapton

- Bat Emergence / Re-entry Survey Report

Planning Issue

Prepared by	CO
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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Mr P Bucknell to undertake a Bat Emergence / Re-entry Survey (BES) of the barns at Stakers Farm, North End Road, Yapton, West Sussex (*Grid Reference: SU 977 035 – hereafter referred to as 'the site'*).

Three Bat Emergence / Re-entry Surveys were undertaken on 15th June 2017 (*dusk*); 29th June 2017 (*dusk*); and 13th July 2017 (*dawn*). These surveys were recommended as a follow-up to the Bat Roost Assessment (*BRA*) conducted on 31st May 2017 which identified a live bat roosting within the stables.

The emergence / re-entry surveys identified a single common pipistrelle bat (*Pipistrellus pipistrellus*) roosting within *Building No. 04*, beneath a small gap in the ridge tiles. No bats were seen to emerge or re-enter from any other building on site.

The results indicate that the building is utilised as a single male / non-breeding female day bat roost. The survey findings are consistent with the findings of the Day-time Bat Roost Assessment.

The development proposals will result in the removal / disturbance of a bat roost, in contravention of The Conservation of Species and Habitats Regulations 2010 (As Amended). ***Following the granting of full planning permission, it will be necessary to apply for an EPSM licence from Natural England to allow legal damage / destruction of the bat roost. A bat mitigation strategy is included within this report.***

'Low' levels of foraging activity by common pipistrelle bats (*Pipistrellus pipistrellus*) and soprano pipistrelle bats (*Pipistrellus pygmaeus*) were recorded on the site. The proposed development would not eliminate any significant patches of bat foraging habitat and the impact on local bats is predicted to be '*negligible*'.

The favourable conservation status of local bat populations is very unlikely to be detrimentally affected by this development. Habitat enhancements and bat roost provision which may improve the overall quality of the bat habitat are suggested in the following section.

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STAKERS FARM BARN
NORTH END ROAD, YAPTON, WEST SUSSEX
LLD1191.StakersFarm.BES.Rev00.27.07.17

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Mr P Bucknell to undertake a Bat Emergence / Re-entry Survey (BES) of the barns at Stakers Farm, North End Road, Yapton, West Sussex (*Grid Reference: SU 977 035 – hereafter referred to as 'the site'*).
- 1.2 Three Bat Emergence / Re-entry Surveys were undertaken on 15th June 2017 (dusk); 29th June 2017 (dusk); and 13th July 2017 (dawn). These surveys were recommended as a follow-up to the Bat Roost Assessment (*BRA*) conducted on 31th May 2017 which identified a live bat roosting within the stables.
- 1.3 The analysis contained within this report was undertaken and prepared by Catherine O'Reilly (*BSc(Hons); Project Ecologist; NE Class 2 Licence Holder*), The field survey data presented in this report has been collected by Catherine O'Reilly, Louise Mandry (*MRes BSc (Hons) GradCIEEM; Project Ecologist, Lizard Landscape Design and Ecology*) and George Sayer (*MSc, BSc; Assistant Ecologist*). This report has been reviewed by Joe Jackson (*BA (Hons) LA DipLA CMLI; Director; Lizard Landscape Design and Ecology*).

Survey Rationale

- 1.4 A single bat was identified within a ridge tile, to the west of the southern stable (*Building B4*) during the day-time bat roost assessment.
- 1.5 The total site is formed of 4 no. buildings, each of which contained potential bat roosting features such as slipped / lifted roof tiles, gaps in mortar, ill-fitting doors and open eaves.

Site Overview / Context

- 1.6 The development site is located along North End Road, to the north-west of the village of Yapton. The site is approximately 6.00 metres above sea level and measures approximately 895.0m². The site comprises a group of barns and stables belonging to Staker's Farm. The site boundaries are edged by residential properties to the north and east, farm buildings to the west and open grassland to the south.

Surrounding Landscape

- 1.7 The surrounding landscape is formed of the residential area of Yapton village, and arable farmland and paddocks, some of which are tree and hedge-lined. The nearest area of woodland listed on the *National Forest Inventory* is a 0.48-Ha patch of deciduous woodland 73.0 m to the south-east of the site. The surroundings are relatively open with little extensive woodland.

Key Considerations

- 1.8 Development proposals consist of the conversion of the existing buildings to residential dwellings. The new development therefore has the potential to impact bats by damaging or destroying a breeding or resting place and / or intentionally or recklessly disturbing a bat while it is in a place of shelter or protection.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the Bat Emergence / Re-entry Survey has been:

- *To identify all bat roosts found on site;*
- *To establish which species are using the site and for what purpose – roosting / foraging / navigation;*
- *To identify features / habitats / areas on site that are of particular importance to local bats;*
- *To use the information collected to inform an appropriate course of avoidance / mitigation / compensation / enhancement.*

3.0 BAT LEGISLATION AND PLANNING POLICY

3.1 All species of bat and their breeding sites or resting places (*bat roosts*) are protected under *Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended)*. *European Protected Species (EPS)* and their breeding sites or resting places are protected strictly within these regulations. It is an offence for anyone to disturb, deliberately capture, injure or kill a bat. It is an offence to damage or destroy a breeding or resting place of a bat. It is also an offence to have in one's possession or control, any live or dead *European Protected Species*, or deliberately obstruct access to a bat roost.

3.2 Disturbance is defined as acts that are likely to impair the ability of an *EPS* to survive, breed or reproduce, or rear or nurture their young. In the case of hibernating and migratory species, this factor applies to their ability to hibernate or migrate. Disturbance is also an offence if it is likely to significantly affect the local distribution or abundance of the *EPS*.

3.3 A *Natural England European Protected Species (EPS) Licence* is required to permit otherwise unlawful activities and can only be granted for certain purposes under *The Conservation of Habitats and Species Regulations (2010)*. Development activities are included within these licensable activities.

- 3.4 The *National Planning Policy Framework (NPPF)* sets out government policy regarding biodiversity and development. Under the *NPPF* the presence of a protected species is a material consideration when considering planning applications which may, if carried out, result in harm to the habitat or species.
- 3.5 In summary, with regard to ecology and biodiversity, the *NPPF* requires that the planning system and planning policies should:
- *Minimise impacts on biodiversity and provide net gains in biodiversity where possible;*
 - *Explore and encourage opportunities to incorporate biodiversity in and around developments;*
 - *Refuse planning permission if significant harm cannot be avoided, adequately mitigated or, as a last resort, compensated for.*

4.0 METHODOLOGY

- 4.1 Three Bat Emergence / Re-entry Survey visits were undertaken in accordance with guidelines outlined in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (BCT 2016)*. Survey visits were undertaken on 15th June 2017 (*dusk*); 29th June 2017 (*dusk*); and 13th July 2017 (*dawn*). Three bat surveyors were assigned survey points within the site area so as to best observe and record the level of bat usage of the habitat and features believed to be most relevant to the development proposals.
- 4.2 Three survey points were utilised during the survey. **Survey Point P01** was located to the south-western corner of *Building No. 01 and Building No. 02*. **Survey Point P02** was located within the courtyard of the barn complex while **Survey Point P03** was located to the north-western corner of *Building No. 03 and Building No. 04*.

- 4.3 The Dusk Emergence Survey started 15 minutes before dusk and terminated 90 minutes after. The Dawn Re-entry Survey started 90 minutes before sunrise and terminated 15 minutes after. Full survey details are recorded below in *Table No. 01*.

Table No. 01 – Bat Survey Details

Date	15.06.17	29.06.17	13.07.17
Survey Type	Dusk	Dusk	Dawn
Surveyors	Louise Mandry Catherine O'Reilly George Sayer	Louise Mandry Catherine O'Reilly George Sayer	Louise Mandry Catherine O'Reilly George Sayer
Weather conditions	18°C Dry 40% cloud Wind F2	15°C Dry 100% cloud Wind F0	13°C Dry 100% cloud Wind F0
Sunrise / Sunset	21:18	21:20	05:04
Start time	21:00	21:05	03:35
Finish time	22:50	22:50	05:20

- 4.4 Any bats seen entering or emerging from a roost location were recorded in addition to any bats using the site for foraging. Bats were recorded using heterodyne and frequency division bat detectors *Anabat SD2* and *Bat Box Duet*, and sound analysis was undertaken using *AnalookW*.

5.0 RESULTS

- 5.1 A single common pipistrelle bat (*Pipistrellus pipistrellus*) was recorded roosting within *Building No. 04*, beneath a small gap in the ridge tiles. No bats were seen to emerge or re-enter from any other building on site during the bat emergence surveys.

- 5.2 The results indicate that the building is utilised as a single male / non-breeding female day roost. The survey findings are consistent with the findings of the Day-time bat roost assessment undertaken 31st May 2017.
- 5.3 Common pipistrelle bats and Soprano pipistrelle bats (*Pipistrellus pygmaeus*) were observed foraging and commuting in low numbers in the vicinity of the site. The development proposals would not remove any important areas of bat foraging habitat.
- 5.4 Activity focused on the area of grassland to the north and west of the existing barns, with the majority of bats arriving from the north. No particularly important landscape features were identified during the surveys.

Constraints

- 5.5 The survey was undertaken during an appropriate time of the year and during optimal weather conditions. No major constraints which would cast doubt on the results of this survey were encountered.

6.0 EVALUATION

- 6.1 During the bat emergence / re-entry surveys conducted during the summer 2017, a single common pipistrelle bat was recorded roosting beneath roof tiles of Building No. 04. The confirmed bat roost is considered to be a day roost of a single male / non-breeding female. The bat roost supports small numbers of a common species and therefore is considered to be of '*low conservation significance*'. No bats were seen to emerge or re-enter from any other buildings on site during the bat emergence surveys.
- 6.2 The development proposals will result in the removal / disturbance of a bat roost, in contravention of The Conservation of Species and Habitats Regulations 2010 (As Amended). ***Following the granting of full planning permission, it will be necessary to apply for an EPSM licence from Natural England to allow damage / destruction of the roost. A bat mitigation strategy is included within this report at Section 7.0.***

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- 6.3 'Low' levels of foraging activity by common pipistrelle bats (*Pipistrellus pipistrellus*) and soprano pipistrelle bats were recorded on the site. The proposed development would not eliminate any significant patches of bat foraging habitat and the impact on local bats is predicted to be 'negligible'.
- 6.4 The favourable conservation status of local bat populations is very unlikely to be detrimentally affected by this development. Habitat enhancements and bat roost provision which may improve the overall quality of the bat habitat are suggested in the following section.

7.0 BAT MITIGATION STRATEGY

- 7.1 The proposed plans include the conversion of the building to new residential dwellings, therefore a *Natural England European Protected Species (EPS) Licence* is required to permit otherwise unlawful activities in relation to the presence of the confirmed bat roost.
- 7.2 The mitigation strategy will consist of the soft strip of ridge tiles within Building No. 04 and the re-provision of bat roost opportunities in integrated bat boxes situated at appropriate locations on the refurbished building.

Temporary Roost Provision

- 7.3 Three 2F Schwegler Bat Box with Double Front Panel will be installed to a mature tree to provide temporary roost opportunities. The boxes will be fixed at a height of between 3 – 6 metres (m) to the north, south and south-eastern aspects of mature chestnut tree to the south of the existing bat roost. The bat boxes will be installed at least two weeks prior to the commencement of the soft demolition to give bats the opportunity to find them.

Timing of Soft Demolition

- 7.4 The soft demolition should be carried out between September and May to avoid times when bats are known to be present.

Tool Box Talk

- 7.5 Prior to the commencement of the soft demolition, all contractors involved will be given a toolbox talk by a Suitably Qualified Ecologist (SQE) regarding bats and the legislation that protects them and what to do in the event of a bat being discovered.

Soft Demolition

- 7.6 All ridge tiles of Building No. 04 will be lifted slowly by hand in an upward / outward direction under the supervision of a Suitably Qualified Ecologist. During and after the lifting / removal process, the area will be searched for bats and any bats encountered will be safely captured and stored in a cloth bag ready for immediate release into the short-term roost facilities.

Permanent Roost Provision

- 7.7 Long term roost roosting facilities will be created by integrating one bat tube into the fabric of the new refurbished building, and providing 2 no. bat access tiles to allow roosting between tiles and roof membrane.

8.0 HABITAT ENHANCEMENT

- 8.1 The following text provides guidance as to how to improve the development site for bats and is provided for information only. British bats are nocturnal and insectivorous; therefore any habitat enhancement should consider the potential to increase the populations of night-flying insect within the area.

- 8.2 This would involve increasing the amount of native, fragrant, night-blooming plants. It is also best to vary the structure of the flowers present. Flowers with long, narrow petal tubes such as evening primrose would attract moths. Flowers with short florets such as those of the daisy and carrot families would attract many species of flies. Pale flowers are most easily seen in low light conditions and therefore attract insects at dusk. Good examples to include are:
- *Cornflower (Centaurea cyanus)*;
 - *Corn Poppy (Papaver rhoeas)*;
 - *Knapweeds (Centaurea spp.)*;
 - *Common Mallow (Malva sylvestris)*;
 - *Ox-eye Daisy (Leucanthemum vulgare)*;
 - *Evening Primrose (Oenothera biennis)*;
 - *White Campion (Silene latifolia)*.
- 8.3 Establishing compost heaps and log piles within the existing vegetation would also encourage insects to the area and have benefits for local bats. Installation of bug boxes such as the NHBS Insect Tower will provide additional habitat for invertebrates on site. It is further suggested to avoid the use of chemical pesticides within the soft landscape scheme and management as this reduces bats' insect prey. Further information can be obtained from *Encouraging Bats: A Guide for Bat Friendly Gardening and Living (BCT 2011b)*.
- 8.4 The installation of bat boxes on the new development would provide additional roosting opportunities for bats and if required, further detail regarding these will be included in the *Natural England European Protected Species (EPS) licence*.

9.0 REFERENCES

Altringham, J. (2006): British Bats – New Naturalist Series; Harper Collins, London

BCT (2016): Bat Surveys for Professional Ecologists – Good Practice Guidelines; Bat Conservation Trust

BCT (2011): Encouraging Bats – A Guide for Bat Friendly Gardening and Living; Bat Conservation Trust

Mitchell-Jones and McLeish (2004): Bat Workers Manual; 3rd Edition, JNCC

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Appendices:

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Appendix No. 01 – Bat Re-entry Survey Full Results

Stakers Farm Barns, North End Road, Yapton

Client: Mr Piers Bucknell

Surveyor: COR

Visit No.	Date	°C	Weather	Sunset	Start Time	Finish Time
01	15.06.17	18	Dry, 40% cloud, WF2	21:18	21:00	22:50

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
3	1	No	-	-	-
21:55 – C.pip from the north towards the barns 21:57 – C. pip from north around garden 21:55-21:59 – Constant flying up and down the west of the barns 21:59 – S. pip from north 22:02 – C. pip foraging around garden 22:03 – C. pip from barns flying towards the north 22:04 – C. pip circling garden 22:06 – C. pip x2 flying up and down west of barns 22:07 – S. pip foraging 22:08 – C. pip circling garden 22:10 – C. pip flying towards the north 22:11 – C. pip heard not seen 22:13 – C. pip circling garden 22:22 – Distant C. pip 22:27 – C.pip and S. pip circling site					
Summary of Bat Activity					
Where was bat activity?			Garden/surrounding areas		
What was level of activity? (Low) 1-6 (High)			4 – Constant for first 1hr		
Were there any landscape features used by bats?			Western side of Barns		
What were they being used for – transit, foraging?			Transit/Foraging		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: GS

Visit No.	Date	°C	Weather	Suns	Start Time	Finish Time
01	15.06.17	18	Dry, 40% cloud, WF2	21:18	21:00	22:50

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
1	1	No	-	-	-
21:48 – CPip flew south to north past rear of barns 21:56 – CPip flew from barns, to south then east 21:57 – CPip came from north, circled round adjacent barns 22:02 – CPip circled feeding in yard to south 22:10 – CPip flew south to north past back of barns 22:12 – CPip feeding flew in from north 22:16 – CPip flew over from north 22:17 – Feeding CPip flew south to north 22:26 – CPip flew south to north 22:29 – Feeding CPip 22:32 – CPip flew south to north 22:40 – CPip flew north to south 22:47 – Feeding CPip heard					
Summary of Bat Activity					
Where was bat activity?			Alongside barns and in adjacent yard		
What was level of activity? (Low) 1-6 (High)			3 - Moderate		
Were there any landscape features used by bats?			Adjacent yard and grassland		
What were they being used for – transit, foraging?			Transit and light foraging		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: LM

Visit No.	Date	°C	Weather	Suns	Start Time	Finish Time
01	15.06.17	18	Dry, 40% cloud, WF2	21:18	21:00	22:50

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
2	1	Yes	-	-	1
21:55 Bat seen flying from direction of B4 flying south then over B3 to west – no echolocation – emergence.					
22:08 Bat HNS foraging.					
22:22 Bat HNS.					
22:27 CPip flew along east side of B2/3 and headed north over B4.					
22:40 Distant bat heard.					
Summary of Bat Activity					
Where was bat activity?			Bats tended to be flying north.		
What was level of activity? (Low) 1-6 (High)			1 – Low.		
Were there any landscape features used by bats?			No.		
What were they being used for – transit, foraging?			N/A.		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: GS

Visit No.	Date	°C	Weather	Sunrise	Start Time	Finish Time
02	29.06.17	No	-	-	-	01

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
01	01	No	-	-	-
21:43 – Rapid calls 21:45 – faint calls 21:46 – bat flew low over roof to west 21:53 – CPip feeding to west of site 21:55 – Unseen pip heard feeding around adjacent barns then flew away 21:56-21:59 – CPip feeding around adjacent barns 22:01 – Cpip flew west from adjacent barns 22:06 – faint calls 22:08 - SPip call 22:10 - CPip flew south then west, starting feeding 22:11 – Cpip flew north past barns 22:12 - Pip flew south then feeding around barns 22:15 – calls heard 22:23 – feeding buzzes 22:26-22:28 – CPip feeding 22:30 – CPip passed south to north 22:54 – loud call heard					
Summary of Bat Activity					
Where was bat activity?			Over barns, around adjacent barns		
What was level of activity? (Low) 1-6 (High)			4 – moderately high		
Were there any landscape features used by bats?			Adjacent barns		
What were they being used for – transit, foraging?			Transit and foraging		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: LM

Visit No.	Date	°C	Weather	Sunset	Start Time	Finish Time
02	29.06.17			21:20		

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
3	1	No	-	-	-
21:56 - First CPip seen flying south to north and back over B4; 22:00 - CPip flew south to north and bat seen around north end of B4 – flew SW; 22:02 - CPip heard briefly; 22:04 - V. faint bat heard briefly; 22:08 - CPip HNS; 22:08 – 22:10 CPip foraging around SP01.					
Summary of Bat Activity					
Where was bat activity?			Along the west of B4.		
What was level of activity? (Low) 1-6 (High)			Moderately low - 2		
Were there any landscape features used by bats?			Not known.		
What were they being used for – transit, foraging?			N/A.		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: GS

Visit No.	Date	°C	Weather	Sunrise	Start Time	Finish Time
03	13.07.2017	13	Dry, 100% cloud, WF0	05:04	03:35	05:20

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
01	01	No	-	-	-
04:22 – faint calls 04:25 – CPip flew past 04:27 – feeding CPip 04:34 – Cpip flew past					
Summary of Bat Activity					
Where was bat activity?			In adjacent grassland and alongside the barns		
What was level of activity? (Low) 1-6 (High)			2 - low		
Were there any landscape features used by bats?			Grassland		
What were they being used for – transit, foraging?			Transit, some foraging		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: LM

Visit No.	Date	°C	Weather	Sunset	Start Time	Finish Time
03	13.07.2017	13	Dry, 100% cloud, WF0	05:04	03:35	05:20

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
02		No			
03:51 Bat heard briefly.					
Summary of Bat Activity					
Where was bat activity?			N/A.		
What was level of activity? (Low) 1-6 (High)			Low - 1		
Were there any landscape features used by bats?			N/A.		
What were they being used for – transit, foraging?			N/A.		

Appendix No. 01 – Bat Re-entry Survey Full Results

Surveyor: COR

Visit No.	Date	°C	Weather	Sunrise	Start Time	Finish Time
03	13.07.2017	13	Dry, 100% cloud, WF0	05:04	03:35	05:20

Point No.	Figure No.	Emerging Bats?	Species	Peak KHz	No. of Emergences / Re-Entries
03	01	Yes	C.Pip	45	1
04:25 – Distant C. pip 04:27 – C. pip flyover towards the north 04:34 – C. pip circling garden before circling Building No. 04.					
Summary of Bat Activity					
Where was bat activity?		N/A.			
What was level of activity? (Low) 1-6 (High)		2			
Were there any landscape features used by bats?		N/A.			
What were they being used for – transit, foraging?		N/A.			

Appendix No. 02 – Bat Emergence / Re-entry Survey Sonograms

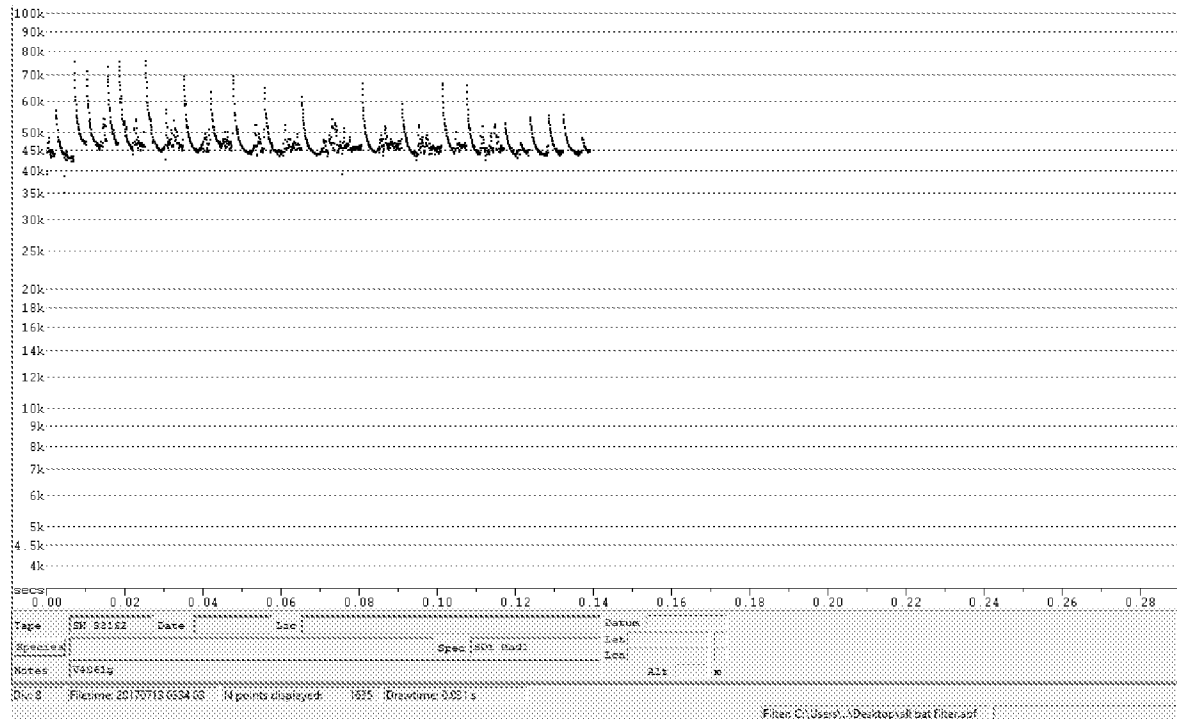


Plate No. 01 –Common Pipistrelle Bat (*Pipistrellus pipistrellus*) recorded 04:34 on 13.07.17

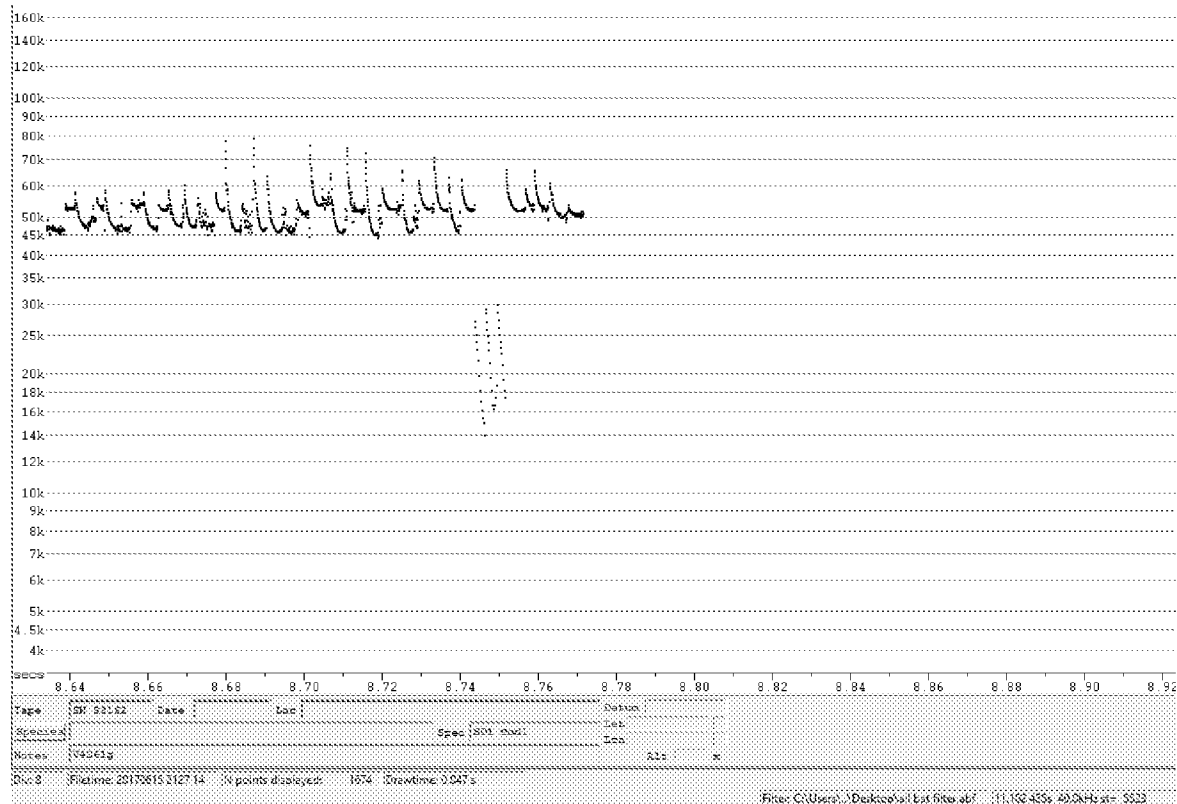


Plate No. 02 –Common and Soprano Pipistrelle Bats (*Pipistrellus pygmaeus*) at 22:27 on 15.06.17